



IMPROVING THE EDUCATIONAL OUTCOMES OF BOYS

FINAL REPORT

to

ACT Department of Education, Youth and Family Services

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OVERVIEW OF THE STUDY AND KEY FINDINGS AND CONCLUSIONS

The present study encompassed a review of previous research, quantitative analysis of motivational data of 1,930 ACT Year 7 and Year 9 government school students, interviews and focus groups with 97 students, and consultations with teaching and executive school staff as well as with key academics and commentators. These data were aimed at providing insight into and direction for enhancing the educational outcomes of boys.

Review of literature

There are gender differences in achievement, engagement, motivation, and students' orientations to school and schoolwork. Many of these show that boys perform more poorly than girls (eg. in literacy, achievement, retention, school completion, and motivation). There are, however, areas in which boys are not under-performing girls (eg. numeracy).

Boys' educational outcomes can be enhanced within a gender equity framework. This means that many strategies enhancing boys' educational outcomes can also be effective for girls.

A set of core principles guides the design and development of strategies aimed at enhancing student outcomes. It is important to: involve students (with good representation of boys) in the development and implementation of programs, support change through the professional development of teachers, integrate strategies across the curriculum, strive for uniform (targeting boys and girls) strategies wherever possible but recognise situations when this may be less appropriate, and direct significant resources to the teaching, learning, and classroom context.

The teacher and class levels are considered amongst the most critical points at which student outcomes can be improved. This is proposed to be more important than structural intervention such as single-sex schooling. The data suggest that teacher- and classroom-level factors account for more variance in student achievement than school-level factors. Important ways to enhance outcomes through teacher- and classroom-level action involve assisting teachers in: dealing with diversity, promoting active learning, developing students' higher order thinking, creating effective learning zones, promoting mastery and success, providing



effective feedback to students, recognising and creating learning windows, developing good relationships with students, engaging in productive pedagogy, and listening to and valuing student perspectives.

Research shows that school-level action can strongly support teacher- and class-level action to enhance the educational outcomes of all students. Students can benefit from schools effectively modelling principles of gender equity, addressing an anti-academic culture, building a proactive and optimistic school culture, valuing student input into school policy and procedures, celebrating academic excellence and personal bests, developing a staffing structure and mix that sends appropriate messages to students, and developing school-wide pedagogical leadership roles to support strategies in the classroom.

Students value school more and see its relevance to them and to the world more generally when school and what they learn are seen in the context of other processes, agents, and systems outside the school. School and school learning can be contextualised in this way through VET, workplace learning, effective school-industry links, community-based learning, and links with parents/carers and the community.

Research has shown that students can be differentiated in terms of their motivation to strive for success or avoid or accept failure. Our aim as educators is to develop students who are success oriented. These students are high in self-esteem, confident, persistent, value school, and are resilient to setbacks and challenges. Failure avoiders comprise too large a group of students (in schools across Australia) who are grounded in a fear of failure. Fear of failure has links with students' constructions and conceptions of masculinity and impacts negatively on their motivation, orientation towards schoolwork, enjoyment of school, and achievement.

The social context within which boys and girls operate is very influential. A major way in which this context affects boys is through the construction of gender and what it means to be a boy or a girl. Amongst a number of social contexts in which gender construction takes place is the school which operates as an 'agent' of gender construction and also as a 'setting' in which gender construction occurs. It is important to recognise how this construction can sit uncomfortably with boys' success at school.



Literacy consistently emerges as a distinguishing feature of boys' and girls' educational outcomes. Research shows that boys perform more poorly than girls in a number of literacy domains. Addressing the literacy gap requires: careful selection of diverse reading material that is interesting to boys but also provides scope for critical analysis of gender construction (without devaluing youth culture), auditing reading habits within the school and using findings to promote a reading culture, recognising and responding to boys for whom book aversion is a problem, explicitly teaching the many 'tricks' of literacy, supporting and extending the important role of the library, developing strategies to assist students' transition from primary to secondary school, and assisting students to effectively deal with literacy demands across the curriculum.

The integration of ICT into the classroom has the potential to expand students' skills for the world of work and the emerging knowledge-based economy as well as assist students experiencing difficulties academically. ICT needs to be high quality, be based on sound pedagogical principles, cater to diverse groups of students, and be supported by appropriate professional development of teachers.

Analysis of ACT motivation data

Motivation is critical to students' achievement and enjoyment at school. Motivation is multi-faceted comprising factors that enhance motivation – 'motivation boosters' (self-belief, value of schooling, learning focus, planning and monitoring, study management, persistence) and factors that reduce motivation – 'motivation guzzlers' (anxiety, low control, failure avoidance, self-sabotage).

The Student Motivation Scale (Martin, 2001b, in press a, in press c) measures these boosters and guzzlers and was administered to 1,930 Year 7 and Year 9 students from eight government schools in the ACT.

Data show that Year 7 students are significantly higher than Year 9 students on all boosters (self-belief, learning focus, value of school, planning and monitoring, study management, persistence). This is consistent with research elsewhere showing that students' motivation can decline in the middle years of high school. However, Year 7 students are also significantly lower than Year 9 on control and higher in failure avoidance.



Across Years 7 and 9, girls are significantly higher on learning focus, planning and monitoring, and study management. Girls in Years 7 and 9 are also significantly higher in anxiety. In Year 7 only, boys are significantly higher in failure avoidance and self-sabotage and girls are significantly higher in persistence. In Year 9 only, girls are significantly lower in perceived control.

Self-belief and persistence are correlated with literacy and numeracy. However, the strongest effects in literacy and numeracy are found for guzzlers such that low control, failure avoidance, and self-sabotage are negatively correlated with literacy and numeracy. Anxiety is also negatively correlated with numeracy. Correlations between motivation and both literacy and numeracy do not differ markedly between boys and girls.

ESL students are significantly higher than non-ESL students in value of schooling, learning focus, planning and monitoring, and study management. However, they are also lower in perceived control. Gender effects are generally consistent across ESL and non-ESL students. It is uncertain as to how representative this group of ESL students is – not only in terms of the ACT but also in terms of other states and territories in Australia. *It is therefore recommended that generalising to the broader ESL population should be carried out very carefully.*

Lower and middle socioeconomic (SES) students are significantly lower than upper SES students in control and significantly higher in failure avoidance. Middle SES students are significantly higher than upper SES students in self-sabotage. Gender effects are generally consistent across lower, middle, and upper SES student groupings. It is uncertain as to how representative students in these three SES groupings are of SES groupings in the broader population – not only in terms of the ACT but also in terms of other states and territories in Australia. *It is therefore recommended that generalising to SES groupings in the broader population should be carried out very carefully.*

Enhancing motivation boosters involves: promoting success in the classroom, reworking students' notions of success to encompass such elements as improvement and personal bests, challenging students' negative thinking, promoting a focus on mastery and processes more than excessive competitiveness and outcomes, and contextualising students' learning into their lives and interests, their future pathways, the world more generally, and their other school subjects.



Reducing guzzlers involves enhancing students' sense of control through a focus on their effort and strategy, giving them choices over lesson objectives and assessment tasks and criteria, and providing effective and consistent feedback based soundly on students' work. It also involves addressing students' fear of failure through developing a class and school climate of cooperation, allowing students to make and learn from mistakes, and showing students that their worth as a person is independent of their academic achievement.

Academic resilience is introduced as a concept reflecting students' ability to overcome setback and challenge and effectively deal with pressure and stress in the school setting. It is proposed that the well-rounded student is one who is energised and motivated to achieve but is also resilient when the going gets tough. Research has shown that resilient young people have a number of protective factors in their lives and relatively few risk factors. In the academic domain it is proposed that academic resilience is developed through promoting motivation boosters (protective factors) and reducing motivation guzzlers (risk factors).

Interviews and discussion groups with students

This phase of the project explored qualitative data collected from Year 8 and Year 10 high school students from two of the schools that participated in the quantitative study the year earlier. Qualitative data were collected through interviews with pairs of students and also through a number of discussion groups. In total, 97 students participated in interviews and discussion groups. Boys were oversampled such that they represented approximately two-thirds of the total group of participants. The findings to follow relate primarily to data collected from boys.

Interviews and discussion groups focused on ten key issues as follows: the most important reason for being at school, the best thing/s about school, the most difficult thing/s about school, what boys would change about school tomorrow if they had the chance, subject/s in which they do their best work and why this is the case, subject/s in which they are not so engaged and why this is the case, characteristics and practices of teacher/s that bring out boys' best work, friends and their effect on boys' engagement and learning, parents and their effect on boys' engagement and learning, and the relative contribution of teachers, parents, and friends on boys' motivation and engagement.



Boys believe school is important because it is a place where they learn skills for life, skills they need for the world of work, and a place to meet friends and develop social skills. Most boys felt school fulfilled these purposes.

For most boys the best thing about school is the friends they make there. Although less frequently cited, other good things about school include doing outdoor activities, doing out-of-school activities (eg. work placement), support received from teachers and other adults, their electives, the variety that school offers (eg. sport, friends, schoolwork, work experience), and developing new skills and knowledge.

The five most frequently reported difficulties boys experience at school are: repetitive work that leads to boredom, juggling the competing demands in their life (eg. schoolwork, sport, work, friends), meeting the many clashing schoolwork deadlines, difficult schoolwork, and perceptions of poor teaching and poor relationships with teachers. The latter encompassed an inability to communicate information effectively, teachers not listening to students, or not liking and/or not being liked by the teacher.

When boys were asked what they would change about school if they had the chance, the dominant responses revolved around giving them greater choice and a greater sense of control. Choices identified included those relating to school policy (eg. school uniform and what they could and could not bring to school), those relating to greater subject choice, and those relating to choices of material and methods within particular subjects. Other changes included greater variety of subjects and less repetition, streamlined assignment due dates, a clear rationale for rules, and more time to catch up on schoolwork.

Boys reported that they did their best work or were most engaged and motivated in subjects where the teacher made an effort to make them fun and/or interesting, practical and hands-on work were incorporated, interaction occurred amongst students and between students and the teacher, a couple of friends (but not too many) were in the class, the teacher clearly and genuinely respected and affirmed their perspectives and opinions, the content was relevant or time was taken to demonstrate relevance, and boys experienced success.

Boys reported that they were less involved or engaged in subjects where the work was boring or uninteresting, the work was monotonous or repetitive, the teacher did



not take the time to clearly and effectively explain work, or the teaching style was considered old fashioned or excessively didactic (irrespective of the teacher's age).

Boys identified many characteristics and practices of teachers that engaged them most and enhanced their learning. Amongst the most consistently cited factors were: a good relationship between student and teacher, the teacher's enjoyment of teaching and working with young people, the teacher striking a good balance between asserting authority and being relaxed and tolerant, injecting and permitting humour in the classroom, providing boys with choices, making schoolwork interesting and/or relevant, a youthful teaching style (irrespective of the teacher's age), providing variety in content and methods, and respecting boys' opinions and perspectives.

Most boys reported that their collection of friends was quite heterogeneous with some friends being engaged with school and others virtually disaffected by it. Many boys reported that they were able to strike a good balance between both groups or were able to carry on unaffected by their friends' disengagement. A number of boys identified the supportive role their friends played in their life or the friendly, motivating competition in which they engaged at school. However, there were others who had trouble withstanding the negative influence of their friends.

Many boys recognised that their parents needed to push them in their schoolwork but that in most cases they felt their parents got the balance right, knowing when to push and knowing when to hold back. Perhaps not surprisingly, Year 8 students were more inclined than Year 10 students to report that their parents played a significant role in their motivation and learning. Many boys also reported that parents could motivate in one of two ways: encouraging and supportive motivating or punitive and coercive motivating. The vast majority felt the former method of motivating would yield greater interest and engagement in their schoolwork.

Compared with friends, boys felt their parents played a greater role in their motivation, engagement, and learning. Compared with parents and friends, boys felt that teachers played the greatest role in their motivation, engagement, and learning.

Consultations with school staff

This phase of the project explored qualitative data collected from high school teaching and executive staff from the same two schools that participated in the



qualitative phase with students. Qualitative data were collected through 15 interviews with teaching and executive school staff.

Consultations with staff focused on eight key issues as follows: key characteristics and practices in classes where students enjoy learning most, differences between boys and girls in motivation and learning and how this affects teaching practice, differences between boys and girls in school subjects and key skills and ways to overcome these differences, teaching strategies and teachers that engage boys most, learning environments or classroom structures that engage boys most, how staff succeeded in reaching and engaging boys, obstacles in engaging boys and how these were overcome, and views on the boys' education debate.

Classes and subjects that engaged all students were characterised by relevance of content and method, variety in content and method, teacher enthusiasm, and increased opportunities for students to experience success.

The main two aspects of schoolwork that hooked boys in were practical, hands-on work and opportunities for boys to contribute to class rules and decisions about content, teaching methods, and assessment.

The main difference between boys and girls in motivation and learning is boys' reluctance to be seen to be working, learning, or motivated. Boys are less willing to be seen to try hard, stand out from the other students, or be labelled.

In terms of school subjects and core skills, there was a strong view that reading and writing and subjects that required these skills were areas where boys and girls differed most; boys tended to be weaker in these areas than girls. Teachers dealt with these differences in two main ways: providing enhanced opportunities for boys to succeed and making clear the relevance of what they were reading or writing.

Three strategies to effectively engage boys emerged more strongly than any others. These relate to the need for practical, hands-on, and activity-based learning, boys' enjoyment of reward and positive feedback, and boys' appreciation of being given the opportunity and responsibility for making choices.

Small group work consistently emerged as the learning environment or structure most suited to boys.



Teachers and executives cited a good student/teacher relationship as the main reason they had experienced previous success with boys. Good relationships were developed through mutual respect, building trust, getting to know the student, taking opportunities for one-on-one work with students, actively listening to students' perspectives, finding things in common with the student, affirming students as often as possible, and giving students responsibility.

Teachers believe that the main way schools can facilitate their teaching and engagement with boys is through supporting their initiatives aimed at engaging boys. Support would encompass providing financial resources, providing professional development, providing more information about boys' education, greater recognition of their professionalism, and supporting boys-only programs at appropriate times and for appropriate reasons. Executives also recognised a greater need to support teachers professionally.

Teachers reported that one of the biggest obstacles in engaging boys was boys' conceptions of masculinity and what it means to be a boy and a man. This encompassed boys' difficulties with aggression, conflict resolution, and attitudes to learning. A lack of support from home was cited as another obstacle in engaging boys at school. Teachers reported that this encompassed the low value some parents placed on education and the father's lack of involvement in his son's education.

The most frequently cited argument in the boys' education debate with which teachers and executives identified was that boys lack appropriate male role models. This is an interesting finding because it did not emerge as a clear finding in interviews and discussions with boys. When asked about aspects of the boys' education debate with which teachers DID NOT identify, there was objection amongst teachers to the idea of segregating boys and girls by school. Importantly, however, there was some support for appropriate separation of boys from girls for some aspects of some subjects or classes.

Consultations with researchers and key commentators

Researchers and commentators were identified by the researcher or by the Department. They were identified on the basis that they had contributed significantly to the research into boys' education over the past decade or were commentators for



key bodies (eg. ACT Parents & Citizens Council; ACT Education Union). In total, eleven researchers and commentators were interviewed either by phone or face to face.

Pedagogy was consistently identified as the most effective way to address educational outcomes of students. Three aspects of effective pedagogy emerged more strongly than others. These were the need to maximise opportunities for mastery and success, the importance of assigning work that challenges students and is intellectually demanding, and the vital need for developing good relationships with the students.

Ways schools and executive staff could support pedagogy included addressing student harassment (homophobia, misogyny, racism) at a number of levels, recognising and celebrating diverse forms of achievement, enhancing opportunities for teachers' professional development, allowing greater and more genuine involvement of students in school- and class-level decision making, and providing greater scope for teachers to be innovative.

In terms of separating boys and girls for particular aspects of some subjects, the more consistent view was that pedagogy rather than structural issues were most important but that there were aspects of curriculum (eg. sex education) in which separating boys and girls would not be inappropriate. However, such separation should be undertaken with full support from teachers and students, be undertaken only in specific aspects of subjects, be evaluated rigorously to inform future separation and integration practices, and be with a view to integrating students as soon as is appropriate.

Co-educational schools were seen by a number of researchers and commentators to provide good balance and diversity in students' lives and reduced the likelihood that academically unhelpful gender stereotypes would emerge. Merits of single-sex schools included the role they played in providing choice within the Australian education system and the enhanced opportunity to match teaching styles with learning styles. Notwithstanding the respective and relative merits of co-educational and single-sex schools, pedagogy was consistently seen as a more influential factor in students' engagement and achievement.



A generally consistent (but with qualifications and provisos) support for Middle Schooling emerged in interviews. Middle School was seen to be potentially beneficial in that it is a way to more effectively target students and build greater school relevance into their lives, constructions of masculinity form in these years and so tailoring pedagogy at this time could be beneficial, it is an effective way of smoothing the transition from primary to secondary school, it provides enhanced opportunities to get to know and understand students better, and it targets a time in boys' lives when they are increasingly practising masculinity and developing beliefs and practices revolving around homophobia. Again, however, pedagogy was seen as the critical determinant of student achievement and motivation – whether this be in Middle School specifically or high school more generally.

Researchers and commentators agreed that boys derive a great deal of enjoyment and satisfaction from practical activities (but noted that many girls do as well and that some boys do not). Importantly, however, practical activities encompassed a diversity of strategies and rich and authentic assessment tasks that could be comfortably positioned in the traditional curriculum.

Researchers and commentators reported that relevance in the curriculum is best achieved through the links educators draw between curriculum content and aspects of students' lives or the world more generally. It also requires greater injection of authenticity into the curriculum in terms of content, methods, and assessment. Making such links requires educators to stay abreast of popular culture, information technology, world events, and students' lives. Educators' ability to do this effectively is enhanced through professional development and targeted pre-service training.

Researchers and commentators were asked what aspects of the popularised boys' education debate are consistent with their research and/or 'chalk-face' experience and what aspects are not so consistent with their experience. Concepts and arguments in the debate with which most researchers and commentators were in agreement are that there are motivation and performance differences between boys and girls and that specific aspects of boys' engagement and achievement need targeted intervention.

Aspects of the debate that were generally NOT CONSISTENT with researchers' and commentators' experience were that all boys are similar or the same, boys' biological and chemical make-up is the major determinant of their engagement and



achievement at school, and boys and girls are two fundamentally different groups of students. Rather, these researchers and commentators reported that boys are a diverse group, class/teacher effects (not biological) account for most variance in achievement, and there is more overlap in motivation and achievement between boys and girls than there are differences.

In addition to the pedagogical issues presented above, homophobia was the issue most consistently raised (unprompted) by interviewees as something that limited boys' engagement, enjoyment, and achievement at school.

Concluding perspectives

The Report concludes with a set of core messages and themes important to consider in enhancing the educational outcomes of boys and girls. These include (but are not necessarily limited to) the following:

- Recognising and catering for diversity in the student body
- Supporting effective or value-added pedagogy
- Providing variety at a number of levels – in content, teaching methods, learning styles, and assessment
- Building good relationships between teachers and students
- Enhancing teachers' knowledge and communication of curriculum content
- Valuing flexibility and balance in teaching practices, assessment, discipline, and behaviour management
- Maximising opportunities for students to gain mastery and success
- Striving for relevance, purpose, and meaning in the curriculum
- Supporting literacy at all levels
- Recognising the motivational dimensions of students' engagement
- Recognising and sustaining boys' and girls' strengths
- Building academic resilience – students' ability to deal effectively with setback, stress, or pressure in the school setting
- Understanding the construction of gender and its concomitants and consequences
- Increasing opportunities for students' to gain control, choice, and input in decisions that affect them and the school
- Providing enhanced scope for teachers to enjoy teaching and enjoy working with young people.



PART 1. REVIEW OF LITERATURE

This part of the report presents findings on the review of literature. The primary purpose of this review is to present a conceptual background to the issue of boys' education, explore empirical data pertaining to gender differences in Australia, identify strategies that can assist all students in reaching their academic potential at school, and synthesise these elements into a framework for consideration by policy makers and educators. More specifically (and consistent with the Project Brief), it is to provide direction for improving educational outcomes of boys with regards to levels of schooling, retention, engagement with learning, and literacy and numeracy.

PARAMETERS OF THE LITERATURE REVIEW

The scope of research into boys' education is broad, comprising large-scale quantitative studies, qualitative research, analysis of government data, case studies, meta-analyses, and reviews of literature. There is a vast amount of data and research conducted overseas as well as a large corpus of research in Australia. Most research has spanned three decades with the bulk of activity in the 1990s.

Given this breadth of activity, there was a need for the present review to set some parameters at the outset. Accordingly, searches were made of Australian bibliographic databases (eg. Australian Education Index) spanning the 1990s and with particular focus on research from 1995 to date. Searches were also made of international bibliographic databases (eg. ERIC, Psycinfo) spanning the 1990s with particular focus on research from 1998 to date.

Keywords used in searches were: "Boys and . . .

- Achievement
- Learning
- Motivation
- Engagement
- Retention
- Literacy
- Numeracy
- Vocational education
- Technology



- Computers.

The focus of the review of literature was on a number of key areas that have been identified in the literature as salient in boys' education. These include:

- Gender differences in educational outcomes in Australia
- Common assumptions that have been challenged by evidence-based research
- Gender equity
- Perspectives of boys
- Masculinity and gender construction
- Strategies for targeting constructions of masculinity
- Principles for strategies assisting boys
- Teaching and learning in the classroom
- School-level action
- Student links beyond the school
- Student-level action
- Motivation
- Academic resilience
- Fear of failure and masculinity
- Literacy
- Information and communication technology (ICT).

In this report, emphasis is given to *action* and *strategies* used to enhance the educational outcomes of boys – as an applied focus was emphasised in the Project Brief.

One important consideration given to all strategies included in this review is that where possible they must be academically beneficial to both boys and girls. It is the position of this review that an inclusive approach is preferable. Therefore, care has been taken to ensure that as much as possible strategies proposed as being helpful to boys have the potential to assist girls as well. Following from this, a good deal of the report refers to strategies aimed at enhancing all students' educational outcomes and not just boys' educational outcomes.

What must also be recognised is that variation between boys can be large and that dealing with boys as an homogeneous group ignores the fact that differences



amongst boys can be large. Indeed, to the extent that differences between boys and girls are discussed, differences amongst boys and differences amongst girls must also be recognised. Too often we deal with generalities without recognising the diversity in our student body. According to Noble and Bradford, “there are thousands of individuals from both genders who are simply not recognisable from the descriptors we are giving to their gender. Their behaviour, learning style, achievement and demeanour are nothing to do with under-achieving boys or focused, self-managing girls” (2000, p. 5-6). What this underscores is the need for educators to be able to accommodate diversity. Our student body is becoming increasingly heterogeneous and to enhance educational outcomes of all students requires an ability to effectively teach to this diversity.

GENDER DIFFERENCES

Before a conceptual analysis of the issues surrounding boys’ education and analysis of strategies designed to assist boys academically, it is important to set the context for this review and other national treatments of this issue. There is now compelling evidence that there are gender differences in students’ engagement, motivation, achievement, and students’ relationship to schoolwork and school. For the most part, these differences are not in boys’ favour. Notwithstanding this, there are areas of their schooling in which boys are performing better than girls and to this extent, educational outcomes of girls need to be addressed in ways that are mutually beneficial to boys and girls.

In discussing gender differences and indeed the issue of boys’ education more generally, it is important to recognise that for parsimony and ease of reporting there has been a need to generalise to boys as a group. As is discussed below, there is a great deal of diversity amongst boys and the reader is urged to interpret the findings and arguments with consideration for this diversity. For schools and teachers this may mean interpreting findings with due consideration for particular subgroups of boys or for particular boys as individuals.

Achievement. On average, girls outperform boys in a greater number of subjects and there are more girls amongst the higher achieving students (Collins, Kenway, & McLeod, 2000). In recent years the gender gap in achievement has increased (MacCann, 1995). According to MacCann, the increasing gap is due to a shift in boys’ position to the extreme ends of the performance scale. For example, in 1984,



65% and 53% of boys were in the top and lowest Year 12 performance bands respectively. In contrast, in 1994 53% and 64% of boys were in the top and lowest Year 12 performance bands respectively.

Literacy: In Year 3 literacy in 1999, 89.7% of girls attained the minimum national standard compared with 84.9% of boys. (MCEETYA, 2000). The Vocational School English Literacy Survey conducted in 1996 showed that boys perform less well on literacy benchmarks in primary school. In particular, girls outperformed boys in writing, reading, speaking, and listening (DETYA, 2000). Literacy for boys declined between 1975 and 1995 with 70% of boys in 1975 demonstrating mastery of reading compared with 66% in 1995. In contrast, girls' mastery of reading increased from 73% to 74% between 1975 and 1995 (Marks & Ainley, 1997). Results from the Programme for International Student Assessment (PISA) showed that in Australia girls performed significantly better than boys in reading literacy (OECD, 2001). This research also found that girls significantly outscored boys on the reading engagement index as measured by how much they enjoy reading, read for pleasure, visit libraries, and enjoy talking about books.

Numeracy: Australian results from the Third International Mathematics and Science Study found no significant gender differences in maths achievement for middle primary school students (Lokan, Ford, & Greenwood, 1996). Similarly, Marks and Ainley (1997) found no marked overall change for either 14-year old boys or girls in numeracy outcomes between 1975 and 1995 (however, boys increased marginally over this time).

Retention and exclusions: More females complete school and have done so since 1976. In 1999, 78.5% of females completed school compared with 66.4% of males (DETYA, 2000; Horne, 2000). According to Marks and Fleming (1999), the ratio of early school leaving is 3:2 (males:females), although it needs to be noted that many boys leave school to take apprenticeships and when controlling for this factor, the gender gap in early school leaving is smaller. Nationally, there are higher suspension rates for students between 13 and 15 years (44% of all suspensions) with markedly higher rates of suspension for boys (Ainley & Lonsdale, 2000).

Science and maths: In a meta-analysis of gender effects in science, boys were found to have a more positive attitude than girls towards science across all science areas. However, although there were more positive attitudes by boys in general



level science, girls' attitudes were more positive in high-performance level science. Results from the Programme for International Student Assessment (PISA) showed that in Australia as a whole and within each state or territory, there were no significant differences between boys and girls in science performance (OECD, 2001). The same research showed that there were no significant gender differences in mathematics performance in any Australian state or territory. Later in students' lives, within 15 fields of study in higher education classified as maths- and science-related, nine had higher male enrolments, four had higher female enrolments, and two had equal numbers of males and females (Graduate Statistics, 1999). According to Forgasz and Leder, "in contemporary Australia, despite females' readiness to stay at school longer and to gain entry into tertiary studies in higher numbers than males, participation rates in mathematics and science-related courses are higher for males" (2001, p. 62).

Motivation: Research has found differences between boys and girls on dimensions of motivation. For example, Martin (1998, 2001b; see also Garvin & Martin, 1999) has found that boys are significantly lower than girls in persistence, self-regulation, cognitive engagement, mastery orientation, and planning and management. In other domains, however, Martin has found that boys are higher in self-concept in some academic domains (Martin & Debus, 1998), lower in anxiety (Martin, 2001b, in press c), and have more adaptive academic and social coping skills in some domains (Garvin & Martin, 1999).

Attitudes towards school: Boys are more negative about school, see homework as less useful, are less likely to ask for help, and are more reluctant to do extra work. Moreover, teachers believe that boys are less able to concentrate, are less determined to solve difficult problems, and are less productive (MacDonald, Saunders, & Benfield, 1999; see also Rowe, 1997; Rowe & Rowe, 1999).

ADHD: In a meta-analysis of gender differences in ADHD, boys were found to be significantly higher in hyperactivity, inattention, other externalising behaviour, and peer aggression (Gaub & Carlson, 1997; see also Rowe & Rowe, 1999).

SES and achievement: Although it is widely recognised that the achievement of boys is lower than that of girls, more fine-grained analysis reveals that this is the case to a greater extent for some boys more than others. Teese (1995), for



example, found that low SES and NESB boys were over-represented at the lower end of the achievement spectrum.

SES and literacy. The gender gap for literacy is greater for low SES students and low SES boys in particular. Results from the Programme for International Student Assessment (PISA) showed that in Australia boys from low SES backgrounds are almost twice as likely to be in the lowest quarter of reading literacy than girls from similar backgrounds (OECD, 2001).

SES and school completion. Ainley (1998) found that 88.6% boys from professional backgrounds complete school compared with 59.2% of boys from unskilled backgrounds. The corresponding figures for girls are 94.9% and 68.7% respectively. Low SES boys are more likely to leave before Year 12 with rural and remote males also less likely to complete Year 12 (Marks & Ainley, 1997).

ACT DATA

Many of the national level gender-related differences in educational attainment and participation are also reflected in the ACT (ACT Department of Education and Community Services, 2001b), with boys under-performing in a number of areas but also achieving some positive educational outcomes in one or two other areas.

In the ACT Assessment Program in Years 3, 5, 7, and 9, females outperformed males in all literacy strands – with particular advantage in the writing strand (however, boys' literacy improved between 1999 and 2000).

In the ACT Assessment Program males are either equal to or slightly outperform females in numeracy.

Reading Recovery typically has two-thirds representation by boys.

Gender differences in literacy are greater for Indigenous students in Years 3, 5, and 9 with larger differences in Year 9 indicating that relative disadvantage for Indigenous boys may increase in later school years.

Between 1999 and 2000 in the ACT there was an increased percentage of boys and girls achieving national benchmarks in reading in Years 3 and 5, with 93.8% of boys



and 95.9% of girls achieving benchmarks in Year 3 and 89.8% and 91.8% of males and females respectively achieving benchmarks in Year 5.

The ACT retention rate is reported to be 20% higher than the national figure, with a negligible gender gap relative to the rest of the country (DETYA, 2000)

In terms of exclusions from school, boys represented 85% of suspensions in ACT schools in 2000.

In terms of levels of completion disaggregated by gender, there are more girls completing higher levels of Year 12 awards, shown in Table 1.

Table 1. Gender differences in ACT Year 12 awards, 2000

Award	Males	Females
Cohort	49.3%	50.7%
Secondary College Record	54.9%	45.1%
ACT Year 12 Certificate	47.8%	52.2%
Tertiary Entrance Statement	44.2%	55.8%

There are gender differences in achievement, engagement, motivation, and students' orientations to school and schoolwork. Many of these show that boys perform more poorly than girls (eg. in literacy, achievement, retention, school completion, and motivation). There are, however, areas in which boys are not under-performing girls (eg. numeracy).

MYTHS

Against this backdrop of evidence-based research into gender differences, there exist a number of assumptions that are not based on evidence but which carry potency and have the potential to muddy the waters of rigorous investigations into gender and educational outcomes.

Researchers (cited in parentheses below) challenge the following assumptions:



- Boys' and girls' interests are competing and boys' programs undermine the developments in girls' education (O'Doherty, 1994)
- Boys as a group are mainly academically inspired through male teachers, the local sports star is necessarily a good role model for enhancing boys' academic achievement, and fathers must be involved to enhance boys' achievement (Ludowyke & Scanlon, 1997; Pallotta-Chiarolli, 1997; Smart, 2000)
- Boys are a homogeneous group (Gilbert, 2000)
- Boys as a group are mainly interested in being taught to be masculine, necessarily feel the need for male role models, aspire to the 'it's cool to be a fool' mantle, and do not admire achieving students (Trent, 2000)
- Boys are taught too much by female teachers who have fundamentally different teaching styles from male teachers (Galton, Simon, & Croll, 1980).

GENDER EQUITY

When looking at the vast body of research attesting to gender differences in educational outcomes it is tempting to weight the development and implementation of programs significantly in boys' favour. It is unlikely, however, that such a response to gender inequity will result in a system that effectively meets the needs of all students. Indeed, the more that differences are built into the system, the more two separate systems evolve, and the more implementation difficulties arise. Moreover, inappropriate weighting of programs and strategies runs the risk of communicating messages to students that some students are valued more than others. There is, therefore, a need for the development of strategies underpinned by principles of equity.

This report strongly supports the view that boys can be addressed within a gender equity framework. The Gender Equity Taskforce outlined five strategic domains for action in Australian schools, as follows:

- Understanding the process of gender construction
- Curriculum, teaching, and learning
- Violence and school culture
- Post-school pathways



- Supporting change.

Of these, this report places particular importance on gender construction, teaching and learning, and supporting change.

Understanding the *construction of gender* involves: (a) developing and delivering curriculum within compulsory and post-compulsory frameworks that provide opportunities for boys and girls to understand gender construction and (b) increasing knowledge, understanding, and skills of teachers, managers, and parents about gender construction.

Addressing curriculum, teaching, and learning involves: (a) expanding teaching and learning to incorporate the range of boys' and girls' experience, (b) enhancing academic success of all boys and girls, (c) providing girls and boys with a powerful basis for engaging in emerging areas of curriculum (eg. ICT, citizenship, enterprise education), and (d) creating teaching and learning environments for girls and boys that are gender inclusive, respectful, and wide in range of methods of assessment and reporting.

Supporting change in the school requires strategies that (a) assist change through leaders' and managers' commitment to gender equity, (b) extend partnerships with parents, industry, and the wider community, and (c) develop adequate data gathering and information systems to monitor the participation and achievement of boys and girls.

It is against this backdrop of the national gender equity framework that the present research is conducted. Within this framework, enhancing the educational outcomes of boys requires the development of strategies and frameworks that benefit all students. A prime purpose of this report is to show that this is possible and how it can be done.



Boys' educational outcomes can be enhanced within a gender equity framework. This means that strategies enhancing boys' educational outcomes can also be effective for girls. Three areas of action under this framework are: understanding the process of gender construction, enhancing teaching and learning, and assisting schools and teachers to support change.

STRATEGIES AND INITIATIVES IN THE ACT

Consistent with the national gender equity framework, the ACT Department of Education and Community Services (now ACT Department of Education, Youth and Family Services) has developed action plans aimed at enhancing success for all students. Four resources of particular relevance here are the *Within Reach of Us All: Schools Plan 2002-2004*, the *Gender Equity Strategy 1998-2002*, the *Across Curriculum Perspective Statements*, and the *Within Reach of Us All (now Student Support Action Plan 2002-2004)* document.

Within Reach of Us All: ACT Government Schools Plan 2002-2004

The commitments of this plan revolve around caring for students, providing challenging learning, developing local, national, and international citizens, and communicating and engaging with parents and the community. Specific actions in this plan include (but are not restricted to):

- Developing students' critical thinking, problem solving, and lifelong learning
- Developing relevant curriculum and assessment programs
- Enhancing teacher professionalism
- Building ICT skills
- Enhancing VET and enterprise education programs to support the transition to work
- Regularly reporting student achievements to parents and linking parents with the school
- Developing links with the community
- Celebrating school achievements.



The Gender Equity Strategy

The *Gender Equity Strategy* aims to assist schools and teachers to implement strategies to address gender equity and redress possible inequities. The Strategy defines gender equity, describes the Gender Equity Framework developed at the national level, outlines the five strategic directions for schools to act and report on, provides key indicators of a gender-inclusive school, and outlines ways schools and individuals can work towards a gender-inclusive school.

Across Curriculum Perspective Statements

The *Across Curriculum Perspectives Statements* are centrally concerned with excellence in schooling outcomes for boys and girls. The framework for action in this plan encompasses (a) access and participation to all subject areas, learning spaces, and teacher time, (b) celebrating and valuing difference, and (c) challenging social structures. In terms of gender equity, the Statements are underpinned by the imperative that: "strategies address the educational needs of boys and girls by attending to access and participation provisions in all areas of curriculum, by valuing and celebrating the interests, contributions and aspirations of girls and women, as well as boys and men, and by challenging the structures, practices and constructions of gender that are damaging to equality of life for women and men" (ACT Department of Training and Children's, Youth and Family Services Bureau, 1997, p. 16).

Student Support Action Plan

The central commitments of this plan are to:

- Improve literacy and numeracy
- Engage all students in learning
- Create safe and inclusive school cultures
- Establish effective pathways and transitions
- Improve inter-agency collaboration
- Establish partnerships between schools and parents, carers, business, and community.

The Department has outlined a number of key actions aimed at meeting each of these commitments that include (but are not restricted to):



- Reducing class sizes
- Enhancing the teaching of literacy and numeracy
- Appointing literacy and numeracy officers
- Enhancing professional development
- Reviewing communication links with parents and carers
- Developing flexible structures inclusive of students' diverse needs
- Early intervention to assist students with specific needs
- Detailed transitions for students moving between educational settings
- Developing flexible learning pathways plans for Year 9 students.

Taken together, the *ACT Schools Plan*, *Across Curriculum Perspective Statements*, the *Gender Equity Strategy*, and the *Student Support Action Plan* document provide a platform for enhancing the educational outcomes of all students and are consistent with the optimistic and inclusive perspective of the present report.

MASCULINITY AND GENDER CONSTRUCTION

A consistent theme in the education of boys is the influence of gender construction on their attitudes, beliefs, and behaviours not only in the educational setting but also in other salient domains of their lives. Any treatment of boys' education must therefore take account of the social construction of gender and its place in the classroom and school. Indeed, the Gender Equity Taskforce identified the need to understand gender construction when developing an equity framework within Australian schools.

Gender is constructed through complex sets of behaviours, personal qualities, expectations, and attitudes regarded as culturally appropriate or socially acceptable. Emerging research has identified a number of features of gender construction that are relevant to the construction of masculinity. Connell (1998) reports on five, as follows:

- There are multiple masculinities
- There are hierarchies within masculinity. For example, 'hegemonic masculinity' signifies a form of masculinity in a position of authority



- Masculinity is actively constructed – boys and their social contexts are active in constructing an ‘appropriate’ masculinity
- Masculinity is dynamic in the sense that it can change
- Schools are one of the major sites of masculinity formation. They operate in two ways: (a) as an agent supporting the structures and practices of masculinity and (b) as a setting for other agents (eg. students) to construct masculinities.

Connell (1998) reports that schools operate as agents in a number of ways as follows:

- Through power relations (eg. staffing)
- Through division of labour (eg. work specialisations of men and women in relation to sciences and humanities)
- Through symbolisation (eg. areas of the curriculum implicitly or explicitly being defined as masculine or feminine)
- Through boys’ subjects (eg. explicit or implicit demarcation of subjects into those more appropriate to boys)
- Through discipline (eg. higher frequency and harsher punishment of boys)
- Through sport (eg. celebrating and reproducing dominant codes of gender).

According to Connell (1998), students operate as agents through peers who often reinforce heterosexuality and through active construction of masculinity (eg. rule breaking).

Outside the school, boys can draw unbalanced modes of masculinity constructed through the media, sport, and popular culture that result in:

- Restrictive emotionality
- Concern with power and status
- Excessive self-reliance
- Homophobia
- Anti-authoritarian bravado
- Anti-intellectualism
- Non-relational attitudes towards sexuality (Australian Secondary Principals’ Association, 2001).



In an enquiry into boys' education in NSW, it was found that the social construction of masculinity (and femininity) is ultimately not to boys' (or girls') advantage because it can generate an identity that is unattainable. According to O'Doherty: "the attributes, attitudes, and values that are part of society's stereotyped images of 'femininity' and 'masculinity' are for the most part unattainable for many individuals. In seeking to meet these images both girls and boys often suppress their true natures and create barriers to their education and life opportunities" (1994, p. 4).

Ideas about gender held by students and teachers can have marked effects on students' behaviour as well as pedagogy in the classroom (Mills, 2001). For example, students' beliefs and expectations about what it means to be a boy or a girl influences how they behave, subjects they select, how much they study and attend to these subjects, and what they do after they complete (or leave) school (NSW Department of Education and Training, 2000).

Of particular relevance to findings by Teese (1995) and Marks and Ainley (1997) showing that SES interacts with gender to affect achievement is the possibility that gender construction interacts with SES to yield different impacts for boys in low versus high SES groupings. According to Jackson, "in many boys' lives at school, there is a dynamic interaction between their social/economic worlds of failure, dependency and powerlessness and their deep investments in dominant forms of heterosexual forms of masculinities. Sensing some of the despair and pointlessness of the jobless men around them and the fragility of their own lives, they counter 'failure' of their lives by reaching out to alternative sources of power and status . . . and that often means buying into a culture of aggressive, heterosexual manliness which deliberately rejects school learning as an unmanly activity" (1998, p. 89).

It is important that boys understand how masculinity is socially constructed and then look at how this construction can sit 'uncomfortably' with success at school and in particular subject areas. According to Gilbert, boys "deserve to engage with an examination of how they learn about masculinity, in their homes and families, in their peer groups, in the cultural texts that surround them and how they then are encouraged to perform masculinity in school cultures" (1998, p. 22).

Having said this, it is important not to underestimate the challenge involved in encouraging *all* boys to look critically at the construction of masculinity. Many boys are strongly entrenched in educationally unhelpful masculinities and it would be an



act of courage on their part and skill on the teacher's part to get them to step aside from their construction to examine it critically. Moreover, critical analysis of gender construction could be seen as an attempt to devalue youth culture and if this is how boys view it, change is unlikely to occur.

The social context within which boys and girls operate is very influential. A major way in which this context affects boys is through the construction of gender and what it means to be a boy or a girl. Amongst a number of social contexts in which gender construction takes place is the school which operates as an 'agent' of gender construction and also as a 'setting' in which gender construction occurs. It would be useful for boys to understand how and the extent to which masculinity is socially constructed and then look at how this construction can sit uncomfortably with success at school.

PRINCIPLES FOR ASSISTING BOYS (AND ALL STUDENTS)

Before detailing specific strategies aimed at assisting student outcomes, it is first important to identify core principles that guide the formulation of these strategies and enhance the likelihood of their success when implemented.

An important first principle is the need to actively involve young people in the development and implementation of strategies. As Mclean notes: "if we attempt to introduce gender reforms without actively involving young people in all aspects of the project – from design to implementation – they will almost inevitably be seen as yet another example of adult power being exerted over young people, and be dismissed accordingly" (1997, p. 63).

Indeed, the need to involve boys (and all students) in program design and delivery is underscored by students' cynicism of boys' programs reported by Slade. In Slade's large-scale interview study of 1,800 Australian boys, these students saw boys' programs as "being devised and put into place to satisfy the interests and preferences of teachers and a small number of influential parents, or to benefit the image of the school and to extend its influence and control in their lives, rather than an expression of their genuine interest in the well-being of boys in education" (2001, p. 17).



At a school level, there are principles for action that require consideration. Professional development with all school staff should occur before implementing a strategy. It may be sensible for schools to start on a smaller scale with a clearly defined focus and process and not attempt to address all gender-relevant issues at once at the outset. There is then a need for sustained implementation through broader operational structures such as school policy and procedures and active involvement of the whole school community (Ludowyke & Scanlon, 1997). Indeed, Gilbert and Gilbert (1998) found that the most successful programs dealing with boys were part of a wide ranging policy on gender equity and ensured an understanding of social construction of gender that was integrated with the curriculum.

More specific principles to guide teachers at the chalkface are identified by Shores (1995). Eight principles are proposed, as follows:

- Find where boys are at
- Show them clearly where they are at
- Affirm them for where they are and then move them on
- Do not blame students for failing to learn
- Look for areas of connection or similarity with the student
- Understand how the student sees the world
- Ensure that the student always feel safe (not threatened by the material or the presenter)
- Teach consistently with the stated objectives.

A number of commentators argue that separate strategies for boys and girls should be limited. The NSW enquiry into boys' education concluded that in terms of the problems experienced by boys, "to treat these problems separately is to misunderstand their nature: not only are they inter-related, they are also inter-related with the problems girls experience" (O'Doherty, 1994, p. 9). However, there may be appropriate times when boys and girls are separated – such as in aspects of the health curriculum – but this should be undertaken with full support from the school, teachers, and students, be followed by a sound evaluation of yields to inform future separation practices, and carried out with a view to enhancing integrated practices and contexts.



There needs to be appropriate weighting of intervention and programming. Rowe (2000, in Hawkes, 2001) has shown that the bulk (59%) of variance in student achievement is explained by teacher and classroom variables, around one-third (35%) of variance is explained by student characteristics, and six percent is explained by school-level factors. It therefore follows that the bulk of intervention occurs first at the teacher/classroom level (with all the appropriate school-level support required to do this) and then at the student level. Indeed, in a major longitudinal analysis of productive pedagogy in Queensland, Lingard and Ladwig (2001) found that there were more differences in pedagogy between teachers than between schools – again demonstrating that the critical point of action is in the classroom with the teacher. Qualitative work has supported similar conclusions (Martino & Meyenn, in press)

More detailed data analysis by Hill and Rowe (1998) derived the findings in Table 2:

Table 2. Variance in achievement explained by teacher/class and school.

	Teacher/class effect on achievement % variance explained	School effect on achievement % variance explained
English		
Primary school	45.4%	8.6%
Secondary school	37.8%	7.4%
Maths		
Primary school	54.7%	4.1%
Secondary school	52.7%	8.4%

According to Rowe, “the findings of large class/teacher effects and small to insignificant school effects, we suggest – are primarily a reflection in variations in teaching quality, and point to the conclusion that it is primarily through the quality of teaching that ‘effective’ schools make a difference” (2000, p. 29). Indeed, this is supported by a review of literature into boys’ achievement and motivation which found that the role of teachers was amongst the most critical in developing positive attitudes to learning in boys (MacDonald, Saunders, & Benfield, 1999). Rowe (2000) concludes that more attention needs to be directed to the centrality of pedagogy in the classroom context.



A set of core principles guides the design and development of strategies aimed at enhancing student outcomes. It is important to: involve students (especially boys) in the development and implementation of programs, support change through the professional development of teachers, integrate strategies across the curriculum, strive for uniform (targeting boys and girls) strategies wherever possible but recognise situations when this is less appropriate, and direct significant resources to the teaching, learning, and classroom context.

THE ISSUE OF SINGLE-SEX SCHOOLS AND CLASSES

The above discussion raises the question as to the relative weighting of structural and pedagogical intervention. The most frequently debated forms of structural reform surround the issues of single-sex classes and schools. As suggested above, there are times when separation of boys and girls is appropriate but this should be carried out in targeted subjects only, with full support of the school, teachers, and students, be evaluated rigorously, and be undertaken with a view to enhancing integrated environments. The issue of fully segregated classes or schools is perhaps more challenging.

Rowe and Rowe (2002) present data from 270,000 1994-1999 Victorian school students' performance in the VCE showing that in declining order of achievement are girls in single-sex schools, girls in co-educational schools, boys in single-sex schools, and boys in co-educational schools. Most significantly, however, they report, "*it is important not to over-interpret the 'importance' of these gender and gender/class/school-grouping effects, since they pale into significance compared with class/teacher effects*" (p. 5, italics added). This is supported by data presented in the previous section. Another point to note on these data is that the gender gap still exists between single-sex schools.

In addition to this, data presented in the qualitative phase of this report (Parts 3, 4, and 5) indicate that boys enjoy co-educational environments, teachers find boys respond well in co-educational environments, and a number of key researchers and commentators identify the important role of diversity within schools and that this



diversity includes, amongst a number of things, that offered by co-educational contexts. Moreover, motivation and achievement data clearly show that there is a great deal of overlap amongst boys and girls suggesting that inclusive and integrated contexts are not inappropriate for the bulk of the student body.

This is not to suggest that single-sex schools are inappropriate or disadvantageous to students. Rather, the fact that most variance in students' achievement is explained by teacher/classroom factors suggests that it is *pedagogy that counts most* and not so much the structural factors such as the gender (or any other) composition of the school or the class.

TEACHING AND LEARNING IN THE CLASSROOM

Given the fact that teacher and classroom factors explain the bulk of variance in student achievement, an emphasis of the present report is on teaching and learning in the classroom. This is considered one of the most critical points of action for enhancing the outcomes of all students. The following areas (in no particular order) are identified as important to address at the classroom and teacher level: dealing with diversity, promoting active learning, developing higher order thinking, creating effective learning zones, promoting success, providing effective feedback to students, recognising and creating learning windows, developing good relationships, engaging in productive pedagogy, and listening to students.

Dealing with diversity

The student body is becoming increasingly heterogeneous. Differences between students in terms of SES, ethnicity, learning styles, ability, and motivation, to name a few, require educators to develop pedagogy that can accommodate these differences. Increasingly, teachers who can teach to diverse audiences are in a stronger position to enhance the educational outcomes of all students.

At a broad level, various researchers have identified gender differences in learning styles. For example, Ludowyke and Scanlon (1997) suggest that boys perform better on tasks and assessment that are:

- Shorter
- Closed
- Focused on single concepts at a time



- Task and action based
- Experiential
- Information dense.

In contrast, they argue that boys have more difficulty on tasks and assessment that are:

- Extended
- Open-ended
- Multi-concept
- Reflective
- Text based
- Interpersonal.

This report proposes that these preferences will also vary from boy to boy as well as amongst girls. Given this, it is considered important that diverse modes of learning are accommodated in the classroom. The reality is that the need for lifelong learning and an ability to adapt to the changing world of work requires that all students be exposed to diverse modes of learning. As Hawkes reports, “there are clear educational imperatives to use short answer responses, just as there are clear educational imperatives to use longer answers. It is entirely possible to increase the number of short answer tasks, ‘closed’ tasks, and analytical tasks . . . without compromising the integrity of the learning experience” (2001, p. 111).

This need to effectively deal with diversity brings into consideration other techniques, including:

- Specific profiling of students with early intervention for skill deficits
- Balance of individual, group, cooperative, and competitive activities
- Balance between open-, reflective-, language-centred and closed-, process-, action-centred learning
- Range of assessment methods
- Range of personal and public strategies to acknowledge and validate achievement (Ludowyke & Scanlon, 1997).

Selection of specific activities that draw on these principles is best left to the teacher who knows the students, what they are capable of, and what will engage them. One



way to mix modes of learning is to restructure tasks to transform them from something that the student may find difficult to something that they can manage effectively. For example, the common claim that boys have difficulty with open tasks and prefer closed tasks can be challenged by transforming open tasks into closed ones through ‘chunking’. Here, the student carries out the larger task through a series of manageable, definable, and near-discrete smaller tasks. Indeed, “the discerning teacher is often able to disguise an open-ended task by turning it into a series of closed tasks” (Hawkes, 2001, p. 90).

Promoting active learning

There is support in the research and school community for the view that active learning suits boys best. Active learning has merits – it engages quickly, is energising, and can sustain attention. For these reasons, it can benefit all students. Some useful strategies that are action-oriented include:

- The ‘Take 5’ approach – beginning a lesson by asking students to list five things learnt from the previous lesson and then comparing the list with the next student
- Ending a lesson with an activity that sums up a key learning idea – for example, telling a partner the most important thing learnt from the lesson
- Learning through debates, role plays, and research projects
- Visual construction of concepts – for example, mind maps, spidergrams
- Asking students for input into their assessment tasks and criteria (Noble & Bradford, 2000; West, 2001).

Active learning also requires the student to act on content delivered in class or through other mediums. Research shows that acting on information leads to better recall because it requires the individual to understand that information first (Fitz-Gibbon, 1996). Transforming a chapter into a spidergram is one example of students acting on information they have received. Other examples are summaries in students’ own words and notes in text margins.

Cognitive research on memory and attention also provides insight into active teaching and learning. Research into the primacy effect shows that students learn best in the first part of a lesson (Lazear, 1994). This holds two implications for teaching. First, it is critical not to lose valuable time at the start of a lesson on tasks that are not central to the lesson objectives. Too often tasks such as housekeeping

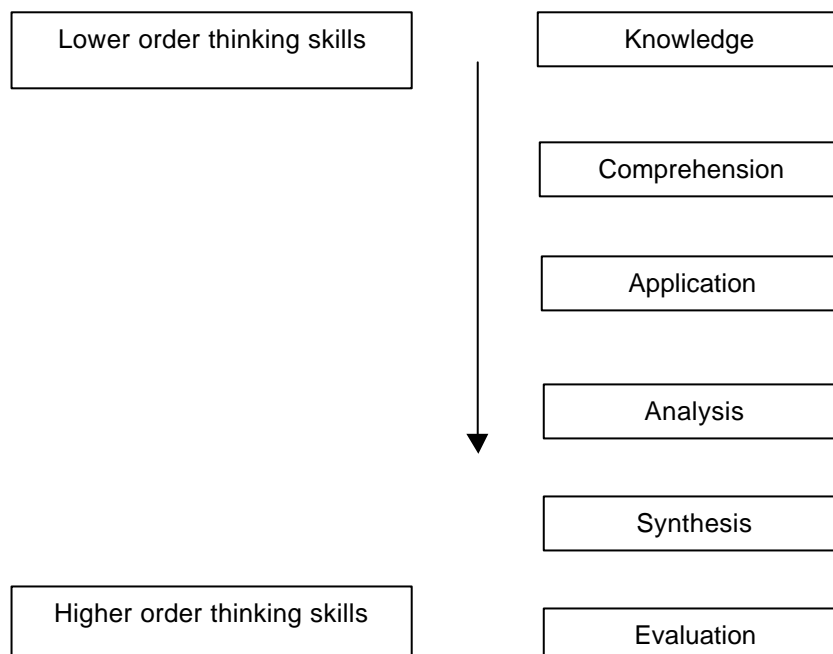


(role call, handing back assignments) absorb the most critical part of the lesson. Second, it is important for the lesson to be 'reinvented' every twenty minutes or so to simulate conditions needed for taking maximum advantage of the primacy effect (Hawkes, 2001).

Developing higher order thinking

A common criticism of boys is that school and learning within it lack relevance and are not useful in their lives. Often this happens at times when there is an imbalance between content and skills with excessive content being seen by boys to be unrelated to their lives and not enough emphasis on skills. The role of schools is not simply to impart content but to develop students who can solve problems, make decisions, and adapt to an ever-changing world of work and relationships. These all require students to develop higher order thinking skills. Sousa (1995) has conceptualised a continuum along which thinking skills can be mapped. Figure 1 shows details.

Figure 1. Continuum of thinking skills



At a practical level, there are many ways to stimulate higher order thinking. Use of questions in the classroom is one effective method. Hawkes (2001) suggests that



the following types of questions used strategically in the lesson can stimulate higher order thinking:

- What would you have done?
- Can we trust the source of this material?
- What do you think caused this?
- What other ways can this be done?

Creating effective learning zones

If there are 25 students in the classroom, there are at least 25 learning zones. A student's learning zone is his/her desk and the three students around him/her. Students tend to choose learning zones that are comfortable. Comfortable zones are those with which the student identifies or has some affinity. Underachievers, for example, can choose learning zones with other underachievers and "these will naturally support each other's lack of effort, initiate each other into the anti-swot club and be unchallenged by any competing values – save that of the teacher" (Noble & Bradford, 2000, p. 95).

Seating can be used to promote more adaptive learning zones. Against a backdrop of a supportive and non-threatening learning environment a verbally confident student can be paired with a reflective student, a student strong in maths can be paired with a student less confident in maths, and a student who presents work well can be paired with a student who is not so careful or creative with presentation. Having said this, there are four key rules to observe when developing seating policy. First, it must be emphasised to students at the outset that the policy is designed to enhance learning (not to manage the class, or separate friends etc.). Second, seating must be arranged in the context of a supportive and cooperative classroom that is not excessively competitive. Third, seating arrangements must be very flexible and changed (quickly) if they do not work. Fourth, excessively incongruent pairings must not be made (eg. do not pair the wild boy with the reflective girl). Ultimately, teachers are the best judges as to whether seating policy is appropriate and if so, which pairings to pursue.

Promoting success

All students enjoy and thrive on success. Success is the most motivating outcome a student can experience. There are many ways to enhance success experiences in the classroom (see Martin, 2001b). Here the focus will be on two. Both revolve



around the central notion that the most potent source of self-belief and which lays the soundest foundations for its sustainability is *real experience of success*. To provide every student with an opportunity to experience real success requires two things.

First, educators and students must learn how to break tasks into components and see each component as an opportunity for success – referred to as ‘chunking’ (Hawkes, 2001; McInerney, 2000; Noble & Bradford, 2000). This not only provides ongoing motivation to complete the task but also increases opportunities for success. That is, rather than the outcome being the only indicant of success in which a student either succeeds or does not, the student has multiple opportunities to succeed. In terms of the lesson, this would reflect the need for lessons to be ‘chunked’ into distinct tasks with regular milestones to meet. In doing so, “the horizon is shortened and the work becomes manageable” (Noble & Bradford, 2000, p. 28). Importantly, delivering lessons in this way is not inimical to the success of girls.

A second way to provide every student with the opportunity to experience real success is to have students expand (or even rework) their definitions of success. Definitions of success that make success accessible to every student cast success in terms of personal bests, skill development, and improvement. This is in stark contrast to the very limited and relatively inaccessible definition that many students hold of success that is cast in terms of topping the class, beating others, and being the smartest (Martin, 1998; Martin, 2001b, in review; Martin & Debus, 1998; Martin, Marsh & Debus, 2001a, 2001b, in press). When students see success in more personal terms rather than relative terms, success immediately becomes accessible to them. Importantly, defining success in this way and academic excellence are not mutually exclusive.

McInerney (2000) has identified nine core steps for teachers in promoting success in students’ work, as follows:

- Begin lesson with quick review of previous learning and outline goals
- Present material in small steps and allow application after each step
- Provide clear and detailed instructions and explanations
- Ask a large number of questions and check for student understanding
- Guide students in initial phases of learning and application



- Provide systematic feedback that is task-based (not performance-based)
- Monitor students as they work
- Provide ample time for completing tasks
- Identify in advance what material/concepts might be difficult.

To promote success in the classroom, Ludowyke and Scanlon (1997) recommend that greater clarity be injected into the classroom and classroom tasks. This involves showing students examples of quality work in their complete form and providing very clear and detailed instructions to students regarding the quality and quantity of work expected.

Providing effective feedback to students

The feedback given to students on their work and assessment tasks is very important. So important is the role of feedback that it can determine whether students are success oriented (motivated to strive for personal bests), failure avoidant, or failure accepting. According to Noble and Bradford, “unfortunately [feedback] has often played the role of confirming students’ more negative suspicions about their abilities . . . the general rule should be that students need to be moved from where they are, not bogged down by repeated failure” (2000, p. 103). Feedback to students is enhanced through:

- Very clear expectations when the assignment or test is administered
- Very clear marking criteria
- Greater focus on content and skill than presentation
- Showing students previously completed examples of good work – eg. assign homework that asks students to review this quality work (“find five good things about this essay”).

According to Hawkes (2001), report cards are an important opportunity for teachers to launch students into future learning. Reports should not solely be a snapshot of past performance. They should also focus on recommendations for further improvement. Reports should also address the ‘so what?’ question – why it is important to learn given material in a particular subject and how the student will benefit from further improvement.



Recognising and creating learning windows

“There are opportunities which emerge when the heavenly constellations are such that an appropriate tide is formed that allows a voyage of learning to be possible. These are magical moments, not to be missed. It is not often in the natural order of things that one finds constructive alignment, a boy, a momentary sense of interest, and someone who can develop that interest” (Hawkes, 2001, p. 89).

There are particular times in a lesson or moments in class or at school or on excursion that are more conducive to engagement and learning than others. These are referred to as ‘learning windows’ (Hawkes, 2001). Learning windows are opportunities where students are fully attentive, interested in learning, and ready to learn. These moments pass and before they pass effective teachers do not miss the opportunity to seize them, expand on them, and fully explore them to the student’s advantage.

The more teachers are able to recognise and seize learning windows the more students are hooked into the lesson or learning activity. Once the ability to recognise learning windows is developed, the teacher is then in a strong position to create learning windows – this is when teaching and learning becomes truly exciting.

Developing good relationships

“Teachers who are able to effectively relate to students, accept student individuality, and teach in an inclusive and democratic environment are more effective as teachers of young adults” (ACT Department of Education and Community Services, 2001b, p. 10).

A central theme around which this report revolves is that the student-teacher relationship is one of the most critical factors influencing students’ engagement at school, a theme consistent with national projects carried out in recent years (eg. *Successful Interventions Project* by DETYA).

Slade (2001) found that boys (explicitly or implicitly) were primarily interested in relationships. In the context of strategies and initiatives revolving around policy, programs, guidelines, and accountability, boys “emphasize people (through personalities) and the importance of establishing and maintaining relationships of trust and respect” (p. 18).



A safe environment in which students are not fearful of making mistakes is an important foundation for developing good relationships with teachers. Making mistakes is humanising and breaks down barriers between student and teacher. It is critical for the teacher and the student to feel safe to make mistakes. A safe environment in which mistakes can be made and learnt from significantly reduces students' fear of failure. When students do not fear failure they are prepared to 'have a go', persist in the face of challenge, and are less likely to engage in self-protective behaviour that can be inimical to success (Martin, 2001b; Martin et al, 2001b).

Developing productive pedagogy

Research has identified some core characteristics of teachers that enhance student engagement and learning. In the most recent comprehensive analysis of teaching, Lingard and Ladwig (2001) identified the essential characteristics of productive pedagogy – teaching that brings out the best in students. Teachers high in productive pedagogy:

- Viewed all students as capable of learning
- Saw themselves as facilitators of learning
- Saw student learning very much as a teacher's responsibility
- Focused on skill development more than transmitting content
- Worked more innovatively with curriculum to create learning windows
- Had higher extra-curricular involvement
- Engaged in professional conversations with colleagues
- Were willing to talk about their failings and made changes to respond to these.

In contrast, teachers low in productive pedagogy:

- Saw students as solely responsible for their own learning
- Believed that factors outside teachers' control determined student outcomes
- Aimed instruction at the middle level and accepted that some students could not learn
- Focused on content more than skills
- Were guarded about their work and tended not to recognise their shortcomings.



Lingard and Ladwig (2001) argue that schools should give much greater emphasis to leadership in pedagogy – not simply leadership in management. Indeed, they found that teachers are very receptive to talking about and developing pedagogy in the school: “There was a sense of relief that the system might be shifting from emphasis on structural change, narrow performance measures, and limited external accountability requirements to the core business of high quality teaching and learning in schools” (Lingard & Ladwig, 2001, p. 15).

Of particular relevance to the teaching community and the classroom, three areas were identified by Lingard and Ladwig (2001) as requiring action. The first relates to increasing productive pedagogy through challenging work and social support. They found that intellectual demand and social support were linked significantly with improved student outcomes. The second relates to enhancing productive assessment. They found that teachers often set assessment that was low in demand, disconnected from the world and intellectually unchallenging. Instead, assessment must capture varied skills, be challenging, and be perceived as relevant. The third relates to professional development that needs to revolve around productive pedagogy, how to use assessment, and how to teach and set appropriate work for students.

Incorporating boys’ perspectives

Increasingly, researchers are building into their recommendations the need for educators to take account of the perspectives of boys (and all students) when developing programs and pedagogy. Researchers are agreed that it is critical to have ‘boys on side’ if strategies aimed at enhancing their educational outcomes are to be successful.

Slade (2001) interviewed a large sample of secondary school boys. They valued school primarily for the social life and saw that school is about gaining credentials more than learning something they can use in life. They believed that work in middle school is boring, repetitive, and irrelevant. They saw the transition between Years 10 and 11 as an enormous one with Year 11 seen as extremely difficult. They also believed that girls got a better deal from teachers with more positive attention, better marks for similar work, more help, and more freedom and respect. Significantly, most boys saw low achievement as due to “bad teachers”.



Slade went on to discuss boys' views on good teachers: "A uniformly repeated view is that a 'good teacher' can make a bad lot tolerable and make achievement both desirable and possible" (2001, p. 14). Boys' views on the features of good teachers are that such teachers:

- Listen
- Respect them
- Are relaxed, enjoy the day, and can laugh at their own mistakes
- Are flexible, adjusting rules and expectations to meet the needs of individuals and their circumstances
- Explain work carefully and make it interesting
- Do not humiliate them in front of the class
- Show no favouritism
- Give them a chance to make mistakes and learn from them
- Affirm all students.

It is important that any critiques of gender and masculinity in the classroom are interesting and relevant to boys. For this reason, then, it is also important to know and understand their views. An analysis of gender construction with boys must also make clear how it will benefit their lives and the way they view themselves. According to Gilbert and Gilbert, "we will need to be able to present a critique of masculinity in terms which will not only interest boys, but which will also appeal to their social commitments and their sense of personal welfare . . . this commitment will be most effective if it is incorporated into their sense of who they are, and if they can see how it might be applied in a way that makes their lives more rewarding" (1998, p. 247).



The teacher and class levels are considered amongst the most critical points at which student outcomes can be improved. Important ways to enhance outcomes through teacher- and classroom-level action involve assisting teachers in: dealing with diversity, promoting active learning, developing students' higher order thinking, creating effective learning zones, promoting success, providing effective feedback to students, recognising and creating learning windows, developing good relationships, engaging in productive pedagogy, and listening to students and incorporating their perspectives into teaching and learning.

SCHOOL-LEVEL ACTION

Although teacher- and class-level factors account for most of the variance in students' achievement, school-level factors impact at the class level and are also important in their own right. School-level factors involve issues surrounding the nature of gender construction, gender equity, staffing structure and mix, school culture, school effectiveness, whole-school student input, and pedagogical leadership.

Gender construction and gender equity

Browne (1995) identifies school-level aspects of gender construction as being influential in the achievement and ambitions of students. These involve school-wide action addressing dimensions of homophobia, bullying, violence, and a 'cool to be a fool' culture. It also involves using power in schools in a way that students learn to see that issues and conflict can be resolved in respectful ways.

Two critical means of engaging a whole-school approach to gender equity and appropriate gender construction is (a) having school leadership affirm gender equity principles and (b) modelling gender equity principles in relationships between staff and between staff and students (Martinez, 1994). According to Collins, Batton, Ainley, and Getty, a whole school approach to gender equity requires "systematic, whole-school work, requiring focused attention and team work by staff while a system is being set up, and mindful professional judgement thereafter" (1996, p. 173).



At a school level, gender-relevant programs are important and Connell is careful to separate these from gender-specific programs – a more prevalent approach such as the development of boys’ programs. Gender-relevant programs involve boys and girls through a gender-inclusive (not gender neutral, which avoids any gender distinctions) curriculum: “Given the multiplicity of masculinities, a gender-inclusive curriculum means taking the standpoint of other masculinities, as well as other femininities” (Connell, 1998, p. 225). Understanding the construction of gender and challenging dominant forms of masculinity also requires schools to challenge gender stereotypes across the curriculum and to also encourage wider choice of subjects by boys (Browne, 1995).

School culture and school effectiveness

A problem in some schools is the development of anti-swot cultures. These predominantly operate amongst (but are not restricted to) boys. Strategies for combating an anti-swot culture include:

- Zero-tolerance of anti-swot attitudes or behaviours (eg. clear policy on anti-swot remarks in class)
- Teachers showing students that they themselves are learning on an ongoing basis through reading, conferences, and professional development
- The school promoting itself to students, parents, and the community as a learning organisation
- Pro-learning awareness-raising resources (eg. leaflets, flyers, posters) developed by the students themselves
- Conference organised and run by the students to develop ways to challenge the school’s anti-swot culture (Noble & Bradford, 2000).

In the past few years, there has been an emerging body of research identifying features of effective schools and school cultures. Australian research has identified elements of effective schools that enhance students’ engagement with and achievement at school (Hill & Rowe, 1996). These include:

- A focus on learning
- Purposeful teaching
- Monitoring of individual students’ progress



- Active involvement of students
- Use of a variety of teaching methods
- Role modelling.

Overseas, elements of effective schools have also been identified as follows:

- A strong learning culture
- High expectations of students and teachers
- A shared vision for the whole school community
- Teamwork amongst staff and students
- Recognition of the rights and responsibilities of students (Mortimore & Mortimore, 1999).

Student input and student recognition

Input by students at the whole-school level is considered important (Browne, 1995). Students are able to provide valuable input into school policy (eg. discipline, uniform, mission etc.). Some schools conduct surveys of students on a variety of issues relevant to school policy and procedures.

There also needs to be whole-school recognition and celebration of academic development, skill and knowledge building, and personal academic bests. This must include not only students who excel in exams and assignments but also those who make significant improvements and reach personal bests.

In addition to end-of-term marks, students may also receive an improvement or development index that becomes just as highly regarded and valued as the marks themselves. This index must be standardised so that all students know exactly what a score tells them. Thus, in report cards students would receive two scores for a given subject, each equally diagnostic and informative and each equally valued.

School staffing

In a review of boys' education in NSW, O'Doherty (1994) recommended that a senior gender education staff member be appointed in the Department, a school executive be responsible for implementing gender equity principles within the school, and each co-educational school appoint a boys program coordinator and a girls program coordinator. It was also noted that too often the school staffing



structure reflects the gender inequities in the wider community and that more senior representation of female teachers needs to take place where possible. In support of this view, the Australian Secondary Principals' Association reported, "men tend to be clustered into roles that emphasize authority and discipline whilst women predominate in areas of nurturance and support. Schools are often giving boys and girls mixed messages about appropriate gender attitudes and behaviour" (2001, p. 12).

One criticism of equal opportunity in the past is that it has dichotomised the world of gender and operated on the basis of simplified polarities of female and male roles (Jackson, 1998). According to Kenway, equal opportunity has not been "sufficiently nuanced to be read as meaningful in the context of people's experience" (1995, p. 77). As a result, boys and girls have not been able to assimilate this model into the reality of the multiple masculinities, femininities, and their overlap in their own lives. In response to this, Jackson argues that there is a need for a gender equity model "that can speak directly and recognizably to both girls' and boys' messy, awkward, lived experiences . . . moving it from the confusing, dichotomised world of gender absolutism towards a world where more of us can personally engage in its dynamically changing, contradictory relations" (1998, p. 91-92).

Pedagogical leadership

Lingard and Ladwig (2001) argue that within schools there is not enough emphasis on pedagogical leadership or a focus on developing a learning climate across the whole school. They suggest that pedagogical leadership needs to be promoted in schools so that the school sees pedagogical leadership as contributing a vital role in the school's enhancement, as does managerial leadership. On this matter, Lingard and Ladwig conclude, "without sufficient financial and emotional reinvestment in teacher professionalism, in the development of a learning community, and in improved classroom practices of pedagogy and assessment, a managerial approach does not generate improved student outcomes. A codifying of school managers and leaders is necessary for them to be focused directly on pedagogic leadership across a school" (2001, p. 18).



Research shows that school-level action can strongly support teacher- and class-level action in enhancing educational outcomes of all students. Students can benefit from schools effectively modelling principles of gender equity, addressing an anti-academic culture, building a proactive and optimistic school culture, valuing student input into school policy and procedures, celebrating academic excellence, personal bests, and improvement, developing a staffing structure and mix that sends appropriate messages to students, and developing school-wide pedagogical leadership roles to support strategies in the classroom.

LINKING SCHOOLS WITH THE 'OUTSIDE WORLD'

In dealing with the issue of effective schools, it is apparent that schools that link students with the world beyond the classroom walls more effectively position their students for transition to further education and training or stable full-time employment. Such initiatives involve a number of elements including workplace learning, vocational education and training, school-industry links, and community based learning. Effective schools also have positive links with students' parents/carers.

VET in schools

Effective vocational education and training (VET) programs engage students and assist their transition into further education and training or the labour market. One criticism by boys about their education is that school lacks relevance and meaning in their lives. This reduces their valuing of school and Martin (2001b) has shown that students who do not value school are less engaged and achieve at significantly lower levels.

Recent research has shown that a key means to enhance relevance for many boys is to introduce more vocational education (without compromising the academic curriculum for boys who prefer the academic curriculum) and provide clearer pathways and bridges to further education, training, and employment. The House of Representatives Standing Committee on Employment, Education and Training Committee (1997) found that introducing vocational education to at-risk students early in secondary school had the effect of increasing their willingness to stay at



school, increasing their self-esteem, and led to full-time employment after completing school.

Consensus in the research literature on VET and its functions is that:

- Many young people would benefit from a broadening of the school curriculum to include more vocational education
- There is a need for high quality coordination of all VET stakeholders
- Close links with local industry are important
- VET needs to be delivered effectively and in consultation with industry
- VET needs to be extended to junior secondary school
- The status of VET in schools needs to be improved (Keys Young, 2000).

Vocational education and training, then, is an important activity schools can implement (or refine and progress) to not only extend all boys' educational experience but to act as an intervention for at-risk boys. Indeed, VET in school is an opportunity to cater for diverse groups of students (Polesel, Teese, O'Brien, & Unger, 1999).

Facilitating conditions for successful VET are that it:

- Is conducted by staff who receive appropriate training or professional development
- Occurs early in students' high school years (at least in middle school)
- Links students' interests and abilities to particular career pathways
- Links directly, where possible, with the wider curriculum
- Encourages students to reflect and think more about the experience and knowledge gained and how the relevant skills can be applied to other areas
- Occurs over longer rather than shorter duration throughout students' high school years (Byrne & Beavers, 1993; Evans & Poole, 1992; House of Representatives Standing Committee on Employment, Education and Training Committee, 1997).

It is important to ensure that VET in schools is not at the expense of core education and school activities but to also ensure that VET is not positioned in a way that is seen as tokenistic. Rather, it needs to be positioned to add value to young people's education and also improve the quality of young job candidates. It is also important



to recognise at a whole-school level that VET is not a form of streaming – perpetuating the inequities that exist outside the school. Rather, it needs to be promoted and implemented as a choice for positive engagement that leads somewhere rather than as a means to opt out of the academic curriculum (Keys Young, 2000).

It may be that VET is appropriate for some students more than others. The fact that such a high uptake of VET in recent years has been matched by declining educational outcomes of boys suggests that it is not a panacea. Indeed, it may be most effective in case-management that specifically targets at-risk boys otherwise difficult to engage.

Workplace learning and school-industry links

Successful workplace learning by schools has been found to depend on a number of factors (Cumming & Carbines, 1997, in House of Representatives Standing Committee on Employment, Education and Training Committee, 1997), including:

- School leadership
- Dedicated teachers
- A dedicated coordinator
- Effective school-industry links
- Equal acceptance of general and vocational education
- Parent and community support
- Networking with other schools' expertise.

Of these factors, dedication of the teachers and a coordinator is particularly important. School effectiveness is underpinned by its teachers (Rowe, 2000) and this is particularly the case in relation to workplace learning in schools (Keys Young, 2000).

Malley, Frigo, and Robinson (1999) identified a number of features of successful school-industry programs through their in-depth case studies of 16 schools undertaking school-industry programs. Their findings were that successful links were derived through:



- Schools responding well to change, often a result of a visionary staff member who went beyond what was comfortable and conventional to embrace what was new and challenging
- Effective leadership in which a critical person initiated and maintained structured workplace learning
- Schools recognising that a general education incorporating workplace learning worked well
- Schools delivering a high level of service to both students and employers
- Good program management. This involved a variety of measures ranging from built-in provisions to help students stay abreast in their academic work to sharing the costs of running and coordinating the workplace learning with other schools.

What also emerged from their research was that although a number of critical features underpinning effective school-industry links could be identified, there was no one best model. Rather, schools effectively responded to and managed change and challenge in different ways.

Community-based learning

When senior school students receive vocational-based instruction, there is also a place for junior or middle school students to begin to gain skills in activities outside the school. Community-based learning (CBL) is one such approach aiming to improve student learning and achievement through community and social development (Cumming, 1998, 1999). A number of principles of successful practice for CBL have been identified (Cumming, 1999). These involve:

- Engaging students and other stakeholders through
 - encouraging them to take responsibility for the program and outcomes
 - fostering collaboration
 - ensuring ample preparation of stakeholders for the program
- Establishing collaborative leadership through
 - a future orientation and a focus on shaping the future
 - collective action and management
 - acting as advocates (eg. by embracing the media)
- Reflecting on structured learning experiences through
 - encouraging reflection on the purpose of the activities



- encouraging reflection using a variety of approaches (eg. writing, talking, performing)
- reflecting on a regular and continuous basis.

Parents/carers and home

Students' parents/carers and their home environment are repeatedly raised as factors that have a significant influence on educational outcomes including achievement, engagement, motivation, retention and completion, and literacy and numeracy. Recommendations around this issue are underpinned by the need to involve parents/carers as active participants in their children's education (O'Doherty, 1994).

Although literacy is addressed in more detail below, the significant role of parents/carers in this area is noted here. Research shows that literacy is the area with the potential for the greatest yields as a result of parent/carer participation. When parents/carers read to their children at a young age, read themselves, and discuss with their children what they are reading, students have more positive attitudes towards reading and receive higher teacher ratings on reading measures (Rowe, 1991). The school can play a role in promoting a reading environment at home. For example, two ways to do this are sending booklists home at Christmas time for parents/carers to buy their children and being clear to parents/carers about how reading to their children and reading themselves assists their children (Millard, 1997). Importantly, however, schools need to be sensitive to parents/carers with low literacy and perhaps offer an informal program to assist them (Noble & Bradford, 2000).

Take-home reading schemes can be another means of linking the school and home with a view to enhancing students' literacy. These schemes involve:

- Establishing the student's reading age
- Selecting books with the student's help
- Grading books and placing each grade in a separate box
- Inviting students to select a book from the appropriate box
- Developing a contract with parents/carers that the student will read for, say, 20 minutes each night
- Keeping a borrowing record that the teacher monitors



- Injecting appropriate feedback and rewards for boys' and parents'/carers' participation (Hawkes, 2001).

Students value school more and see its relevance to them and to the world more generally when school and what they learn are seen in the context of other processes, agents, and systems outside the school. School and school learning can be contextualised in this way through VET, workplace learning, effective school-industry links, community-based learning, and links with parents/carers and the community.

STUDENT-LEVEL ACTION

Various student-level strategies are effective in enhancing educational outcomes of boys. Perhaps one of the most critical student-level variables is motivation – this is treated separately in Part 2 of this report. The present section considers other programs that develop cross-age tutoring, support peer mentoring, and tackle negative peer group influence.

Mentoring

Mentoring harnesses boys' tendency to respect and admire older students. According to MacCallum and Beltman (2000), mentoring is centrally concerned with three central messages: (a) "I am here for you", (b) "I believe in you", and (c) "I will do my best to help you achieve". A number of mentoring strategies have been recommended by West (2001; see also Noble & Bradford, 2000). These include:

- Paired writing sessions
- Secondary school students adopting primary school students (eg. older boys listen to younger boys read)
- Primary school activity days (eg. secondary students teach some useful skills for doing better in primary school)
- Former students visiting the school (eg. to encourage reading, or to show post-school pathways following academic engagement)
- Underachievers choosing a teacher mentor to talk to
- Year 12 boys mentoring younger underachievers



- Industrial pairings through partnerships with local businesses.

If mentoring is to be considered, there are some important issues to consider before instigating the program. First, there needs to be very clear guidelines and parameters set for the mentoring relationship. Second, mentors and target students need to be paired very carefully – if the pairing is not to students' academic advantage it is best not to pair them at all (if the mentoring is specifically designed to address academic issues). Third, legal duty of care issues must be resolved at the outset as well as thorough checks of mentors' backgrounds if industry or community pairings are to take place. Fourth, mentoring should not promote unrealistic expectations or initiate disadvantageous pairings that lead to one more failure for students who may already have a history of failure. Fifth, mentoring within the school must not be seen solely as social time (although there can be a strategic social support role). Finally, the school at all levels must explicitly value the mentor program if it is put into action (MacCallum & Beltman, 2000; Noble & Bradford, 2000).

Role models

There are many male and female role models in the community that can demonstrate diverse modes of masculinity and femininity and who can also be show-cased as learners (some of whom may have struggled at school) and for whom learning has yielded diverse and positive outcomes. There are, of course, role models within the school also – students and staff. For example, celebrating older students as learners has the effect of academic modelling and also enhancing older students' self-esteem and motivation. As with mentoring, careful selection of role models is needed. For example, if selecting sports stars (one popular choice of role models) care needs to be taken to ensure that academic pathways (irrespective of their own attainment or achievement) are valued by them or that they are utilised as an academic support (eg. listening to students read).

Goal and target setting

Goal setting has been found to enhance persistence, problem solving, and motivation. Goal setting is quite simple to teach students and there are many goal setting strategies. Noble and Bradford (2000) identify the SMART system of goal setting. This involves setting goals and targets that are:



- S – Specific
- M – Measurable
- A – Achievable
- R – Realistic
- T – Time-limited

They report that too often students’ targets and goals are ‘sloppy’ or ‘soft’ and that it is important to refine their targets to SMART ones. Table 3 demonstrates:

Table 3. Sloppy, soft, and SMART targets

Sloppy target	Soft target	SMART target
I must improve my English	I must improve my spelling	I will learn six spelling words each week and test myself on them at home on Tuesdays and Thursdays for the next two months
I must be better behaved	I must improve my behaviour in History and French	I will sit away from Andy in History and Jo in French; I will not talk while the teacher is talking
I must do better in Science	I must improve my practical work in Science	I will carefully plan and prepare for each practical; I will ask questions if I’m unsure what to do; I will write up the practical on the same day that I do it

Peers

The peer group can affect gender construction, anti-swot perspectives, and school culture (Power, Whitty, Edwards, & Wigfall, 1997). According to Martin (2001a), there are three levels at which peer pressure can be addressed: the individual student level, the inter-student relationship level, and the class level.

At the individual student level it is important to develop areas for self-esteem enhancement in the student’s *academic* life. This involves maximising opportunities



for success in schoolwork. This can be achieved by breaking tasks into smaller components that increase opportunities for success – so even if the final answer is not correct, the student experiences some success along the way. Building opportunities for success also entails reworking students' notions of success from ones that typically involve being the best or the top of the class to ones where success is seen in terms of personal bests, improvement, and skill development. When students experience real success in these ways – they come to define their self-worth in sound motivational terms rather than in terms of anti-academic peer acceptance.

The second way to deal with peer pressure is to develop more proactive and success-oriented relationships amongst students. An effective means of doing this is to develop cross-age tutoring/mentoring where younger students come to aspire to engagement and personal improvement rather than under-achievement. As discussed above, however, pairing of students with mentors must be carried out carefully.

The third way to deal with peer pressure is at the class level. For the most part, this involves developing social and cooperative classroom goals as well as an environment in which skill building and personal bests are valued. There are many techniques to build social and cooperative goals – group work and cooperative learning are two popular ones (see Killen, 1998 for effective strategies to do this). These build an atmosphere of inclusion, engagement, and involvement and sow the seeds for a new peer group – one that is conducive to learning and achievement. This contrasts with classrooms where students are disaffected and which sow the seeds for identification with anti-academic peers.

This report outlines a number of other ways to address negative peer influences as they pertain to educational outcomes. These include:

- Careful consideration of learning zones in the classroom
- Whole-school approaches to creating learning environments and challenging anti-swot cultures
- Whole-school approaches to addressing gender construction
- Paying particular attention to students at times of transition.



There are student-level strategies that enhance students' educational outcomes and also enhance the culture of the school as a whole. Appropriate mentoring and role models provide an opportunity for students to develop confidence, good relationships, and optimistic academic aspirations. Goal and target setting at the student level is a strategy that can support mentoring and role modelling and develop students' persistence, problem solving, and ability to overcome challenge. Addressing negative peer influence is also important at the student level, achieved through enhancing students' academic success, developing positive relationships amongst students, and cooperative and group learning.

MOTIVATION

This report gives some emphasis to the role of student motivation in enhancing engagement and achievement. This issue receives full attention in Part 2 below which presents findings of a survey exercise measuring ACT students' motivation and also discusses strategies educators can use to enhance student motivation in the classroom.

FEAR OF FAILURE AND MASCULINITY

From a need achievement theory perspective, students vary in terms of their motive to avoid failure and approach success (Atkinson 1957; McClelland, 1965). Based on a need achievement model of motivation, students can be characterised in terms of three typologies: those that are success oriented, those that are failure avoidant, and those that are failure accepting.

Success-oriented students tend to be optimistic, adopt a proactive and positive orientation to tasks, and respond to setback with optimism and energy (Covington & Omelich, 1991; Martin, 1998; Martin et al, 2001a).

Failure-avoidant students are the classic failure fearers. They tend to be anxious (Alpert & Haber, 1960), motivated by a fear of failure, live in self-doubt, and are uncertain about their ability to avoid failure or achieve success (Covington & Omelich, 1991). Although these students often work hard and achieve, they tend to



be adversely affected by setback as it tends to confirm their doubts about their ability and their uncertain control (Covington & Omelich, 1991; Martin, 1998; Martin et al, 2001a; in press). In essence, they lack resilience.

Failure-accepting students (sometimes referred to as learned helpless) have given up to the point of not even trying to avoid failure. These students are generally disengaged from tasks and display a helpless pattern of motivation (Abramson, Seligman, & Teasdale, 1978; see also Covington, 1992, 1997). These students lack both motivation and resilience.

From a motivation perspective, an important aim is to develop students into success strivers and shift them from failure avoidance and failure acceptance. A model developed by Martin (2001b, in press a, in press c) encompasses the factors that underpin success orientation. Four factors in his model that are particularly congruent with success orientation are self-belief, learning focus, value of school, and perceived control. Most importantly, it is these factors that are the conduits for intervention aimed at promoting success orientation (Martin, 2001b). Ways to do this are discussed in Part 2.

The issue of fear of failure is particularly pertinent to boys and their construction of gender. For boys, fear of failure operates across a number of domains. It relates to fear of not living up to popular images of masculinity, fear of being labelled a sissy or seen as feminine in any way (O'Doherty, 1994), fear of powerlessness (McClean, 1997), and fear of having their sexuality questioned. In the learning domain, boys have been found to be unwilling to attempt new learning when they are uncertain of success and are less likely to re-attempt something that they had previously been unsuccessful at (Ludowyke & Scanlon, 1997). According to O'Doherty, "many of the problems boys experience during their education can be traced to their frustration and feelings of inadequacy in attempting to live up to what they believe their peers and society generally expect of them as males" (1994, p. 22).

Boys' fear of failure can also have the effect of exaggerating their masculinity – referred to by Jackson as 'hyper-masculinity' – and lead to defensive manoeuvring in the classroom and in assessment situations. Such defensive manoeuvring can take the form of defensive pessimism (setting unrealistically low expectations), self-sabotage (setting obstacles in the path to success), and even failure acceptance (Martin et al, 2001a; in press). As Jackson comments, "insecure boys, who are very



much aware of their vulnerability, strive to display a hyper-masculine performance that will not only defend themselves from the fantasized 'weakness' but also gain the approval of the peer group . . . as a result, not working hard at school can be seen as a defensive strategy by some boys to distance themselves from an academic world that is perceived as dangerously 'weak'" (1998, p. 89).

Research has shown that students can be differentiated in terms of their motivation to strive for success or avoid or accept failure. Our aim as educators is to develop students who are success oriented. These students are high in self-esteem, confident, persistent, value school, and are resilient to setbacks and challenges. Failure avoiders comprise a large group of students who are grounded in a fear of failure. Fear of failure has links with students' constructions and conceptions of masculinity and impacts negatively on their motivation, orientation towards schoolwork, enjoyment of school, and achievement.

LITERACY

Although literacy has been raised a number of times in this report, it has not yet received focused consideration. Literacy is consistently drawn into the debate about boys' education. There are clear gender differences in literacy. As described earlier, Year 3 literacy benchmarking in 1999 saw 89.7% of girls attain the minimum national standard compared with 84.9% of boys (MCEETYA, 2000). The Vocational School English Literacy Survey conducted in 1996 showed that girls outperformed boys in writing, reading, speaking, and listening (DETYA, 2000). Literacy for boys declined between 1975 and 1995 with 70% of boys in 1975 demonstrating mastery of reading compared with 66% in 1995. In contrast, girls' mastery of reading increased from 73% to 74% between 1975 and 1995 (Marks & Ainley, 1997).

Book selection

A number of commentators report that there are differences in preferences for books between boys and girls as well as differences in the ways that books are read. For example, it has been reported that boys tend to prefer to read action, fantasy, adventure, and 'blood and thunder' texts and read more for information whereas girls tend to enjoy books that depict the dissection of relationships (Millard, 1997).



On these bases, some have suggested that books more appropriate to boys' interests need to be selected. Others, however, have argued that this simply reinforces dominant masculinities. One suggestion is that when texts are selected that have the potential for reinforcing dominant masculinities, this be seized as an opportunity for critical dissection of masculinity and an analysis of how gender is constructed – using the text as a prime example of gender construction (Millard, 1997). Thus, schools ought to provide a broad range of texts and the inclusion of 'boy-friendly texts' "be to show how masculinity is constructed by the narratives, rather than a simple acceptance of the 'heroic' image" (Millard, 1997, p. 161).

What Millard describes here is a form of 'critical literacy'. This has been found to be effective in enhancing literacy in students and also equips boys with the interpretative skills they need to examine dominant cultural practices associated with masculinity (Ludowyke & Scanlon, 1997). Critical literacy "translates into boys actively connecting with the written material by asking critical questions about the accuracy, relevance, bias, truth, defects and politics of a piece of writing" (Hawkes, 2001, p. 110).

However, as indicated earlier in the report, it is important not to underestimate the challenge involved in critical analysis of gender construction. Some boys are strongly entrenched in their educationally unhelpful masculinity and other boys may see such critical analysis as an attempt to devalue youth culture. Moreover, getting some boys to read anything may be a major breakthrough and critical literacy may need to be seen as a more distal goal if this is the case.

Developing a reading culture at school

Before implementing a reading strategy at the school, it is important to know what reading habits are occurring, their frequency, their level, and amongst which types of students. A school-wide reading questionnaire may be a good means of benchmarking reading in the school. Promoting reading following this can occur through read-a-thons, carefully matching students to books, and having students use technology to draft their own stories (Millard, 1997).

Sanderson (1995) identifies a number of strategies to promote a reading culture in schools:



- Students seeing teachers reading for pleasure
- Teachers talking about their process as a reader – eg. how they choose and read books
- Selecting books that will appeal to students – not necessarily books teachers read as youngsters or award winning books
- Reading aloud to students – injecting drama, being a mediator between the book and the students
- Involving parents by compiling a good book list for them to buy from or developing a ‘take-home’ reading program
- Organising reading peer groups – so that students can enthuse each other
- Engaging in ‘critical literacy’ by challenging limited male stereotypes – showing students that books are not gender neutral – rather, they actively construct gender
- Encouraging books that expand students’ versions of masculinity.

There is also a need to strike a balance between reading enjoyment and reading skill. An excessive emphasis on the technical may discourage some readers. For some students, a primary concern with grammar and phonics can result in the story being lost (Hawkes, 2001).

In its submission to the Standing Committee Inquiry into boys’ education, the ACT Department of Education and Community Services (2001b) identified the following strategies to enhance literacy in the Territory:

- Paired reading
- Reading aloud
- Cross-age and cross-gender tutoring
- Monitoring and tracking
- Strategic analysis of student literacy performance
- Parental involvement.

Book aversion

When describing the relationship many boys have with books and reading, a number of authors seem to be referring to something of an aversion to books. Indeed, it has been found that one of the main factors contributing to poor literacy is a reluctance to read (Bray, Gardner, & Parsons, 1997). Hawkes (2001) identifies a series of actions to deal with book aversion amongst students:



- First eliminate the need for glasses, dyslexia, or developmental delay
- Always focus on successes in reading
- In the early stages of a student’s literacy journey keep critical comment to a minimum
- Avoid public readings until the student is a better reader
- Avoid comparisons of the student with other students
- Wherever possible, try to “smuggle” reading into students’ lives – eg. use magazines as a scaffold to books
- Extend literacy and literary assessment methods to include diverse assessment using short answers, multiple choice, longer answers, and creative writing.

Book aversion also requires careful selection of books that will engage students. No student can dismiss a good story: “Despite the feigned bravado and the overt display of emotional sterility, boys cannot entirely rid themselves of their humanity, of their capacity to feel, of their capacity to be greatly moved . . . Literature can be found which can stir a boy’s emotions, which can encourage a boy to be emotive and feeling in his own writing . . . The hunt is worth it” (Hawkes, 2001, p. 119).

Teaching the ‘tricks’ of literacy

Literacy is a skill that students can learn. For example, students can be explicitly taught the ‘tricks’ of effective writing. Educators can teach students to:

- Argue both sides of an issue in an essay
- Capture the reader with a strong opening paragraph
- Use grabbing opening words for paragraphs
- Define key words and what the question is asking at the outset of an essay
- Develop an essay body that is logical
- Select and use quotes effectively
- Write an effective conclusion that incorporates higher order thinking
- Avoid sweeping generalisations (Hawkes, 2001).

These are all skills that can be taught and learnt. There need not be any mystery about the requirements and processes underpinning literacy.



The school library

The school library can be a very crucial rallying point for enhancing literacy. With this in mind, it has been suggested that students should be given greater responsibility in the library. For example, they could be responsible for inducting younger students to the library, explaining its functions and organisation. Students can also be drawn closer to the library through recommending books to be purchased and displayed (inside the cover the book can have a certificate, “Chosen by . . .”).

The library should also be promoted as having a wider resource role. For example, its critical role in ICT can draw boys in and also break the stereotype of the library as purely bookish (Noble & Bradford, 2000). A national poll of school students in the United Kingdom found that two-thirds would be encouraged to go to the library if they could access the Internet and CD-ROMS when there (Gordon & Griffith, 1997). McGuinn (2000) suggests that ICT be incorporated into the library as much as possible. This involves computerised catalogues, asking boys to create a PowerPoint induction presentation for new students to the school, and providing Internet training to older students who can then run workshops for younger students in the library.

Frater (1997) identified five common strengths in effective school libraries, as follows:

- An energetic librarian
- Close liaison between the librarian, the English department, and the special needs team
- A library training program for students (that also develops research skills)
- A well-judged quality selection of stock
- Involvement of the library in school-wide curriculum developments.

The library can be the instigator of other initiatives, including:

- The site for literary lunches - students bring their lunch into the library to hear a reading
- Organising excursions to bookshops for students to select books
- Inviting authors or poets to speak to students and read from their work (these people need to be inspiring and good communicators).



Transition points

The transition between primary and secondary school is a critical time. Secondary school has very different literacy requirements and expectations than primary school. According to Frater, “most subjects immediately make heavy new demands on the new pupils’ literacy. They provide a diet of reading material that differs quite sharply from the staple of primary years: it is predominantly narrative; it is formal in style; it seldom uses dialogue; and it does not always, or even commonly, follow simple chronological order. Moreover, most subject departments require pupils to write in these unfamiliar genres with little instruction. In short, stiff new challenges face [even] the pupil whose literacy is secure” (1997, p. 16).

Feeder primary schools can liaise with secondary schools to understand what expectations and texts secondary school holds for their students soon to graduate. More specifically, the secondary English department can link with feeder schools to discuss upcoming demands and challenges and determine ways the primary schools can prepare students for these (Noble & Bradford, 2000).

Another strategy to assist transition is to have students in Year 6 order a book of their choosing and have it waiting for them in the secondary school library when they begin Year 7 (Noble & Bradford, 2000). This immediately hooks them into the library and also positions books as an important focus for assisting their transition.

Literacy in other domains

It has been noted that there are increasing literacy demands in mathematics and science disciplines. As Rowe reports, “due to shifts in pedagogical emphasis from math to numeracy by mathematics educators, the demand for verbal reasoning and written communication skills continues to be a feature of curricula content and assessment” (2000, p. 21).

Literacy, then, is not confined to English or the humanities. There are many concepts that require semantic understanding to effectively operate in the mathematical or scientific setting. As Noble and Bradford describe, “mass, weight, pitch, orbit, revolve, conduct and insulate, along with hundreds of others, have general as well as scientific meanings and it is unreasonable to expect people to learn these by osmosis” (2000, p. 128).



Other literacy strategies

Other literacy strategies include:

- Problem solving approaches to engage students and which do not ‘talk down’ to underperforming students in literacy
- Modelled, shared and interactive writing and reading, including think-aloud strategies in which the teacher models the strategies of expert readers and writers
- Using authentic challenging texts, including novels, short stories, non-fiction texts, media articles and Internet sites, and then supporting students as they read and write
- Metacognition activities to ensure students reflect on their learning, particularly the strategies they are using to read, spell, and write
- Promoting student ownership of their reading choices through connecting their reading and material to their concerns, experiences, and future lives (Wilhelm, Baker, & Dube, 2000).

Literacy consistently emerges as a distinguishing feature of boys’ and girls’ educational outcomes. Research shows that boys perform more poorly than girls in a number of literacy domains. Addressing the literacy gap requires: careful selection of diverse reading material that is interesting to boys and also provides scope for critical analysis of gender construction (without devaluing youth culture), auditing reading habits within the school and using findings to promote a reading culture, recognising and responding to boys for whom book aversion is a problem, explicitly teaching the many ‘tricks’ of literacy, supporting and extending the important role of the library, developing strategies to assist students’ transition from primary to secondary school, and assisting students to effectively deal with literacy demands across the curriculum.

INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)

In the last decade there has been increasing recognition of the potential for ICT to assist all school students in terms of learning outcomes, motivation, and self-esteem. Indeed, ICT not only has the potential to enhance achievement and



motivation at school but also to better prepare students for the world of work and their ability to operate in the knowledge- and information-based economy (Meredyth, Russell, Blackwood, Thomas, & Wise, 1999). As Kress states, “the new economy demands new kinds of thinking, dispositions to flexibility and innovativeness, new kinds of hand/eye/brain coordination in the visual analysis of quite extraordinary complexity. The new world of communication is vastly more diverse and demanding than that implied in the currently advocated, traditional literacy agendas” (1998, p. 4-5).

Benefits of ICT

There has also been increasing recognition of the potential for ICT to assist boys in terms of learning outcomes, motivation, and self-esteem (Hawkes, 2001). Australian and overseas research has shown that ICT in the classroom can assist a diversity of at-risk groups in which boys are highly represented. These include:

- Students with literacy problems (Higgins & Raskind, 1997)
- Students with learning difficulties or learning disabilities (Ashton, 1999)
- Low achievers or those at-risk of failure (Chen & Looi, 1999; Lewis, 1999)
- Students with attention-deficit/hyperactivity disorder (Smith & Irvine, 1999)
- Students with behaviour disorders (Schery & O'Connor, 1997).

Through the introduction of ICT to these students' lives, researchers have found:

- Enhanced motivation, self-confidence, and attitudes to learning (Gan, 1999)
- Improved instruction (Hughes & Maccini, 1997)
- Enhanced achievement (Elliott & Hall, 1997)
- Greater interest in school work (Diggs, 1997)
- Improved reading comprehension (Higgins & Raskind, 1997).

ICT also has the potential to offer students more expanded opportunities for ‘written communication’. This may be particularly useful for students who do not have strong written skills. For these students, “writing can seem a daunting prospect . . . it is so often associated in their minds with slow, painstaking, contemplative words such as ‘reflection’, ‘drafting’, ‘revision’, ‘refinement’. As far as they are concerned, its function in school seems to be to provide a public record of their failure – an opportunity to make mistakes” (McGuinn, 2000, p. 53). For these at-risk students the



use of ICT with an emphasis on functional communication may be a useful 'leg-up' into the world of writing.

ICT also enables students to present their work more clearly and legibly, provides immediate feedback which is reinforcing, requires students to transform information, provides opportunities to be creative with presentation (eg. through graphics), allows self-paced learning, and develops collaboration (physically or virtually). Essentially, ICT is focused on skill building. Through computers "the vast amount of information acquisition is now no longer the challenge, but rather it is the synthesis of that information that is the challenge. This means that the use of ICT can assist boys to move away from minds filled with knowledge with a limited shelf life, to minds which are adept at critical and creative thinking" (Hawkes, 2001, p. 64).

Leading ICT practice

Education Network Australia (EdNA) has developed a taxonomy of 'leading practice' for the use of ICT in classrooms. This taxonomy suggests that effective use of ICT:

- Interests and motivates students for greater learning and promotes independent thought
- Is interactive, relevant and inclusive
- Is based on sound pedagogical principles
- Caters for a wide range of learning abilities and styles
- Develops students' IT and ICT abilities
- Enhances life long learning skills such as critical thinking, problem solving, research, and analytical skills
- Involves both teachers and students in learning and facilitation
- Is dependent on teachers' ICT professional development in ICT use.

Challenges in implementing ICT

ICT, however, is not a panacea. There are challenges to the effective implementation of ICT including:

- Access difficulties for students (either at school or at home)
- Students' apprehensions and anxieties in relation to ICT
- Poor quality software
- Access difficulties for teachers



- Teacher anxieties and apprehensions in relation to ICT in the classroom
- A lack of time for teachers to learn and experiment with ICT
- Inadequate professional development of teachers (Zammit, 1992).

ICT and literacy

The use of ICT in students' lives and their literacy is not unconnected. Computers, for example, require students to read on-screen, read sometimes-complex texts to update hardware and software, and read instructions to graduate to more difficult levels of tasks and games. Millard argues that technology can be used to expand opportunities for talking, reading, and writing: "It involves keeping up what has always been central to English teaching: the ability to make use of the pupils' current social interests by helping them to make connections between their lived experience and other modes of thought and expression" (1997, p. 155).

The integration of ICT into the classroom has the potential to expand students' skills for the world of work and the emerging knowledge-based economy as well as assist students experiencing difficulties academically. ICT needs to be high quality, be based on sound pedagogical principles, cater to diverse groups of students, and be supported by appropriate professional development of teachers.



PART 2. STUDENT MOTIVATION IN THE ACT

INTRODUCTION

In this report, emphasis is given to the role of motivation in student outcomes. Motivation can be conceptualised as students' energy and drive to learn, work effectively, and achieve to their potential at school and the behaviours that follow from this energy and drive. Motivation plays a large part in students' interest in and enjoyment of school and study. Motivation also underpins students' achievement (Marsh, Martin, & Debus, 2001; Martin, 1998, 2001b, in press a; in press c, in review; Martin & Debus, 1998; Martin & Marsh, in press; Martin et al, 2001a, 2001b, in press; Meece, Wigfield, & Eccles, 1990; Pintrich & DeGroot, 1990; Schunk, 1990).

Students at all points on the academic spectrum benefit from adaptive motivation. Underachievers benefit through elevated chances of success. Students who achieve to their potential benefit through maintenance of their strengths. Disruptive students benefit through greater engagement in school and their studies. Educators benefit through enhanced opportunities for learning and development in the classroom. Motivation is, therefore, relevant to all students (boys and girls) and educators.

The aim of this component of the research is to describe a model of student motivation and present the findings of a data collection exercise in which ACT students' motivation was measured using the Student Motivation Scale (Martin, 2001b, in press a, in press c). Results from statistical analysis of this data are then presented along with variation in motivation as a function of gender, year level, ethnicity, and socio-economic status.

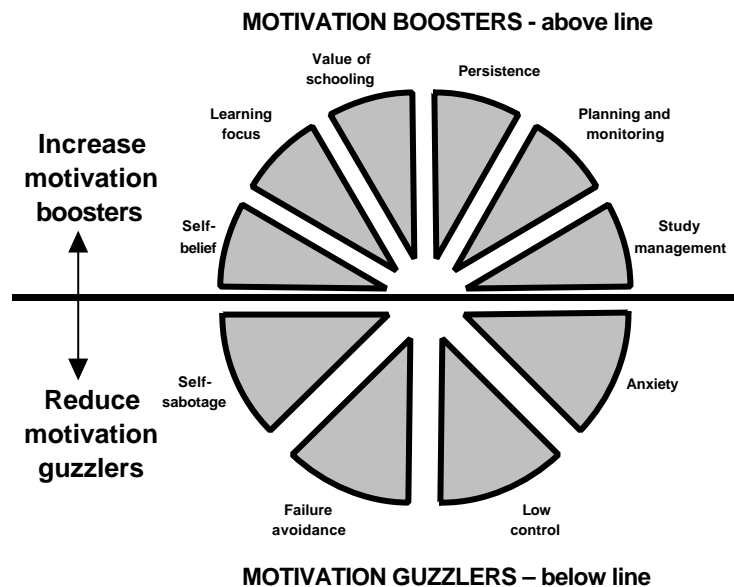
THE STUDENT MOTIVATION WHEEL

Martin (2001b, in press a, in press c) has developed a model of motivation, the Student Motivation Wheel, that reflects the thoughts, feelings, and behaviours underpinning academic engagement at school. The model separates motivation into factors that enhance motivation and those that reduce motivation. These are called *boosters* and *guzzlers* respectively. Boosters and guzzlers are then separated into thoughts (and/or feelings) and behaviours. Thus there are booster thoughts and



booster behaviours as well as guzzler thoughts and guzzler behaviours. Figure 2 shows this model and the specific facets of motivation that comprise it.

Figure 2. Martin’s (2001b, in press a, in press c) model of motivation



Booster thoughts include self-belief, learning focus, and value of schooling; booster behaviours are persistence, study management, and planning and monitoring; guzzler thoughts/feelings are anxiety and low control; and, guzzler behaviours are failure avoidance and self-sabotage.

The strength of the Student Motivation Wheel is that it can be easily communicated by educators to students and following from this, is readily understandable by students. The educator and student can easily separate thinking from behaviour and the ‘helpful’ (boosters) motivation from the ‘unhelpful’ (guzzlers). Thus, this model is an easy way for students to understand their motivation and an easy way for educators and counsellors to explain it to them. When students understand motivation and the dimensions that comprise it, intervention is more meaningful to them, and as a consequence, is likely to be more successful.



Motivation is critical to students' achievement and enjoyment at school. Motivation is multi-faceted, comprising factors that enhance motivation – 'motivation boosters' (self-belief, value of schooling, learning focus, planning and monitoring, study management, persistence) and factors that reduce motivation – 'motivation guzzlers' (anxiety, low control, failure avoidance, self-sabotage).

METHOD

Sample and procedure

Respondents were 1,930 students from Year 7 and Year 9 in eight government ACT high schools. Of students for whom gender and year-level data were available (N=1,721), 54% were from Year 7 and 46% from Year 9; 50% were males and 50% females. A total of 177 were identified as ESL and 13 students were identified as Indigenous.

Year-level, gender, literacy and numeracy, ethnicity, and SES data were not available for some students because these students did not record their student identification numbers on the survey or recorded their identification numbers incorrectly. Hence, sample numbers vary from analysis to analysis depending on the available pool of complete data. For example, data on gender and year were unavailable for 209 students.

Teachers administered the Student Motivation Scale to students during class. The rating scale was first explained and a sample item presented. Students were then asked to complete the Student Motivation Scale on their own and to return the completed instrument to the teacher at the end of class. Students recorded their identification numbers on the cover page and these were then linked to data held by the Department on their gender, age, ethnicity, literacy and numeracy, and SES.

Materials

The Student Motivation Scale is an instrument that measures high school students' motivation. It assesses motivation through six boosters and four guzzlers.



Boosters

Each booster falls into one of two groups: booster thoughts and booster behaviours. Booster thoughts include self-belief, learning focus, and value of schooling. Booster behaviours include persistence, planning and monitoring, and study management.

Self-belief (eg. "If I try hard, I believe I can do my schoolwork well"): Self-belief is students' belief and confidence in their ability to understand or to do well in their schoolwork, to meet challenges they face, and to perform to the best of their ability.

Value of schooling (eg. "Learning at school is important to me"): Value of schooling is how much students believe what they learn at school is useful, important, and relevant to them or to the world in general. If students value schooling they tend to believe that what they learn can be used in other parts of their life, believe that it is important to learn at school, and feel that what they learn at school is relevant to current events in the world.

Learning focus (eg. "I feel very pleased with myself when I really understand what I'm taught at school"): Learning focus is being focused on learning, solving problems, and developing skills. The goal of a learning focus is to be the best student one can be. If students are learning focused they tend to work hard, want to learn more, enjoy learning new things, enjoy solving problems by working hard, and do a good job for its own satisfaction and not just for rewards.

Planning and monitoring (eg. "Before I start an assignment I plan out how I am going to do it"): Planning and monitoring is how much students plan their schoolwork, assignments, and study and how much they keep track of their progress as they are doing them.

Study management (eg. "When I study, I usually study in places where I can concentrate"): Study management refers to the way students use their study time, organise their study timetable, and choose and arrange where they study.

Persistence (eg. "If I can't understand my schoolwork at first, I keep going over it until I understand it"): Persistence is how much students keep trying to work out an answer or to understand a problem even when that problem is difficult or is challenging. If students are persistent they tend to keep going over schoolwork until they understand



it, spend time trying to understand things that do not make sense straightaway, and keep working at a task even when it is difficult.

Guzzlers

Each guzzler falls into one of two groups: guzzler thoughts/feelings and guzzler behaviours. Guzzler thoughts/feelings include anxiety and low control. Guzzler behaviours are failure avoidance and self-sabotage.

Anxiety (eg. "When exams and assignments are coming up, I worry a lot"): Anxiety has two parts: feeling nervous and worrying. Feeling nervous is the uneasy or sick feeling students get when they think about their schoolwork, assignments, or exams. Worrying is their fear about not doing very well in their schoolwork, assignments, or exams.

Low control (eg. "I'm often unsure how I can avoid doing poorly at school"): Students are low in control when they are unsure about how to do well or how to avoid doing poorly. If students are low in control they tend to be unsure about how to do well, be unsure about how to avoid doing poorly, and can feel helpless when doing their schoolwork.

Failure avoidance (eg. "Often the main reason I work at school is because I don't want to disappoint my parents"): Students have an avoidance focus when the main reason they do their schoolwork is to avoid doing poorly or to avoid being seen to do poorly. If students have an avoidance focus they tend to do their schoolwork mainly to avoid getting bad marks, do their schoolwork mainly to avoid people thinking they cannot do it, and do their schoolwork mainly because they do not want to disappoint their parents or teachers.

Self-sabotage (eg. "I sometimes don't study very hard before exams so I have an excuse if I don't do as well as I hoped"): Students self-sabotage when they do things that reduce their chances of success at school. Examples are putting off doing an assignment or wasting time while they are meant to be doing their schoolwork or studying for an exam. If students self-sabotage they do not try hard at assignments or difficult schoolwork, do not study very hard before tests or exams, and do other things when they should be doing their schoolwork or studying.



Measurement and statistical analysis

Each booster and guzzler is comprised of four items. To each item, students rated themselves on a scale of 1 ('Strongly Disagree') to 7 ('Strongly Agree'). Each student's answers to the four items on each motivation area were then aggregated and converted to a score out of 100. Hence, each student was assigned ten scores out of 100. All mean scores presented in this report are rounded to whole numbers.

If a student answered less than one third of the instrument, he or she was dropped from further analyses. In total, twenty-five students were dropped from analyses, yielding an effective sample size of 1,930 students.

Data were analysed using LISREL 8.3 and SPSS for Windows. Analyses included confirmatory factor analysis, tests of reliability, independent samples t-tests, one- and two-way ANOVAs, and Pearson product moment correlations.

RESULTS

Confirmatory factor analysis

Before aggregating items to form 10 motivation subscale scores, confirmatory factor analysis (CFA) was carried out to justify forming these subscales. CFA was conducted using LISREL 8.3 (Joreskog & Sorbom, 1999). A detailed presentation of the conduct of CFA is beyond the scope of the present report and is available elsewhere (e.g., Bollen, 1989; Joreskog & Sorbom, 1989; Pedhazur & Schmelkin, 1991). Maximum likelihood was the method of estimation used for the models. The raw data were used as input to PRELIS 2 (Joreskog & Sorbom, 1999) and a covariance matrix was produced which was subsequently analysed using LISREL. In terms of goodness of fit indices, the Comparative Fit Index (CFI) is emphasised as simulation studies have shown that it is relatively independent of sample size and also imposes an appropriate penalty for inclusion of additional variables in a given model (Marsh, Balla, & Hau, 1996). Following Marsh et al (1996), the Relative Noncentrality Index (RNI) and Root Mean Square Error of Approximation (RMSEA) are also emphasised as measures of goodness of fit. CFI and RNI values above .90 and RMSEA below .05 are typically considered to indicate acceptable fit of the data to the model.

The CFA yielded an acceptable fit to the data (RNI=.92, CFI=.91, RMSEA=.046). Factor loadings are presented in Table 4. Taken together, the loadings are high.



Table 4. Factor loadings for the Student Motivation Scale

	Self belief (SB)	Value school (VS)	Learning focus (LF)	Plan & Monitor (PM)	Study manage (SM)	Persist (P)	Anxiety (ANX)	Low control (LC)	Failure Avoid (FA)	Self- sabotage (SS)
SB1	.67									
SB2	.68									
SB3	.69									
SB4	.70									
VS1		.56								
VS2		.72								
VS3		.65								
VS4		.73								
LF1			.67							
LF2			.70							
LF3			.77							
LF4			.75							
PM1				.76						
PM2				.82						
PM3				.63						
PM4				.66						
SM1					.72					
SM2					.62					
SM3					.81					
SM4					.72					
P1						.55				
P2						.68				
P3						.76				
P4						.80				
ANX1							.73			
ANX2							.70			
ANX3							.67			
ANX4							.68			
LC1								.66		
LC2								.77		
LC3								.78		
LC4								.74		
AV1									.78	
AV2									.85	
AV3									.50	
AV4									.66	
SS1										.56
SS2										.75
SS3										.81
SS4										.74



Descriptive statistics and reliability

Given the strong factor structure, it was considered appropriate to aggregate items to form subscales. Subscales were formed by generating the mean of the set of four items for each booster and guzzler. This mean was then converted to a score out of 100. All scores /100 in this report are presented as rounded whole numbers.

Descriptive and reliability statistics for each booster and guzzler are presented in Table 5. Results show that all boosters and guzzlers are reliable. Distributional data also show that each booster and guzzler is approximately normally distributed.

In terms of boosters, students score highest on booster thoughts (self-belief, value of schooling, learning focus). However, they are not so strong in translating these adaptive thoughts into adaptive behaviour, scoring relatively lower in planning and monitoring (particularly), study management, and persistence. In terms of guzzlers, we see that students’ anxiety is of most concern.

Table 5. Descriptive statistics and Cronbach’s alphas

	Mean				Cronbach’s
	/100	SD	Skew	Kurtosis	alpha
Boosters					
Self-belief	79	14.9	-.95	1.40	.78
Value of schooling	78	15.5	-1.01	1.27	.77
Learning focus	78	15.3	-.87	.92	.82
Planning and monitoring	56	19.1	-.08	-.43	.81
Study management	67	18.7	-.56	-.04	.81
Persistence	70	16.2	-.63	.29	.79
Guzzlers					
Anxiety	60	20.9	-.11	-.68	.79
Low control	51	19.2	.03	-.62	.83
Failure avoidance	51	20.6	.21	-.61	.79
Self-sabotage	41	18.9	.56	-.21	.81

The relationships amongst all boosters and guzzlers were examined using Pearson product moment correlations. Results are shown in Table 6. Predictably, all boosters were highly positively correlated and all guzzlers were highly positively correlated. The mean correlation amongst boosters was $r=.51$. The mean correlation amongst



guzzlers was $r=.42$. The mean correlation between boosters and guzzlers was $r=.03$.

Table 6. Inter-scale correlations

	SB	LF	VS	PM	SM	P	A	LC	FA	SS
Self-belief (SB)	-									
Learning focus (LF)	.57	-								
Value of school (VS)	.61	.66	-							
Plan & monitor (PM)	.37	.41	.44	-						
Study manage (SM)	.48	.51	.50	.60	-					
Persistence (P)	.52	.47	.52	.49	.54	-				
Anxiety (A)	.08	.26	.17	.22	.19	.10	-			
Low control (LC)	-.13	.06	.02	.10	-.01	-.09	.49	-		
Failure avoid (FA)	.03	.14	.11	.21	.09	.06	.44	.50	-	
Self-sabotage (SS)	-.25	-.13	-.16	-.01	-.15	-.21	.24	.47	.39	-

Year-level effects

At the outset it was unclear whether to conduct separate analyses for each year group or to pool all Year 7 and Year 9 data. To guide decision making, it was considered important to explore year-level effects in motivation.

Year-level effects on each facet of motivation were explored using a series of independent samples t-tests. Results are shown in Table 7. Clearly, there are differences between Year 7 and Year 9 students such that Year 7 students are significantly higher on all boosters but also significantly lower in control and higher in failure avoidance. These results suggest that where relevant subsequent analyses should not only be conducted across the sample as a whole but also by year group.



Table 7. Year-level motivation effects

	Year 7 Mean	Year 9 Mean	t	Effect
Boosters				
Self-belief	81	77	5.65***	7>9
Value of schooling	82	75	9.86***	7>9
Learning focus	80	76	5.13***	7>9
Planning and monitoring	59	52	6.63***	7>9
Study management	70	64	6.87***	7>9
Persistence	72	66	8.08***	7>9
Guzzlers				
Anxiety	60	60	.19	-
Low control	53	49	4.02***	7>9
Failure avoidance	53	48	4.48***	7>9
Self-sabotage	40	40	.19	-

*** p<0.001

Year 7 students are significantly higher than Year 9 students on all six boosters. However, Year 7 students are also significantly lower than Year 9 on control and higher in failure avoidance.

Gender effects

Gender effects in motivation were first explored separately for each year group and then for the sample as a whole using a series of independent samples t-tests. In Table 8 are gender effects on each facet of motivation. In both Year 7 and Year 9, girls are significantly higher in learning focus, planning and monitoring, and study management. In both year groups girls are also significantly higher in anxiety. In Year 7 only, girls are significantly higher in persistence and boys are significantly higher in both failure avoidance and self-sabotage. In Year 9 only, girls are lower in perceived control.



Table 8. Gender effects on motivation

	Year 7				Year 9				Year 7 and Year 9			
	Female Mean	Male Mean	t	Effect	Female Mean	Male Mean	t	Effect	Female Mean	Male Mean	t	Effect
Boosters												
Self-belief	81	80	.58	-	77	77	.18	-	79	79	.31	-
Value of schooling	82	81	1.12	-	75	75	.14	-	79	78	.92	-
Learning focus	81	79	2.69**	G>B	78	75	3.15**	G>B	80	77	4.13***	G>B
Planning and monitoring	62	55	5.30***	G>B	54	51	2.42*	G>B	58	53	5.46***	G>B
Study management	74	67	6.13***	G>B	66	62	2.60*	G>B	70	65	6.20***	G>B
Persistence	75	67	4.90***	G>B	67	66	.65	-	71	68	3.79***	G>B
Guzzlers												
Anxiety	63	56	4.66***	G>B	64	55	6.73***	G>B	64	56	7.95***	G>B
Low control	53	53	.05	-	51	47	2.50*	G>B	52	50	1.72	-
Failure avoidance	51	54	2.45*	B>G	49	47	1.52	-	50	51	.84	-
Self-sabotage	38	43	3.74***	B>G	41	40	.68	-	39	41	2.35*	B>G

* p<0.05 ** p<0.01 *** p<0.001



Interaction of gender and year level

The table above implies that gender effects can differ from Year 7 to Year 9, indicating an interaction between year level and gender. The possibility of an interaction was therefore explored using a series of 2 (Year 7, Year 9) x 2 (girls, boys) ANOVAs on each of the ten facets of motivation. Significant interaction effects emerged on:

- Study management, $F(1,1682)=4.26$, $p<0.05$, such that gender effects in Year 7 were larger than gender effects in Year 9 (see Table 8).
- Persistence, $F(1,1682)=6.10$, $p<0.05$, such that gender effects in Year 7 were larger than gender effects in Year 9 (see Table 8).
- Failure avoidance, $F(1,1682)=6.93$, $p<0.01$, such that Year 7 boys were higher than Year 7 girls whereas in Year 9 girls were slightly (and non-significantly) higher than boys (see Table 8).
- Self-sabotage, ($F1, 1682$)= 7.24 , $p<0.01$, such that Year 7 boys were higher than Year 7 girls whereas in Year 9 girls were slightly (and non-significantly) higher than boys (see Table 8).

Across Years 7 and 9, girls are significantly higher on learning focus, planning and monitoring, and study management. Girls in Years 7 and 9 are also significantly higher in anxiety. In Year 7 only, boys are significantly higher in failure avoidance and self-sabotage and girls are significantly higher in persistence. In Year 9 only, girls are significantly lower in perceived control.

Correlations between motivation and literacy and numeracy

Relationships between each facet of motivation and students' 2001 literacy and numeracy were explored. In the first set of analyses, data for boys and girls were pooled (Table 9). In the second set of analyses, data for girls and boys were analysed separately (Table 10).

Literacy scores were computed by generating the mean of students' standardized scores on reading, spelling, spelling in writing, writing content, and writing language.



Numeracy scores were computed by finding the mean of students' standardized scores on measurement, number, and space.

Taken as a whole:

- Self-belief is correlated with literacy and numeracy (more so for Year 9 students)
- Persistence is correlated with literacy and numeracy (more so for Year 9 students)
- The strongest effects are found for guzzlers such that low control, failure avoidance, and self-sabotage are negatively correlated with literacy and numeracy
- Anxiety is negatively correlated with numeracy
- Relationships between motivation and both literacy and numeracy do not differ markedly between boys and girls.

Although small, there is a negative relationship between planning and numeracy. This may be because planning as measured by the Student Motivation Scale is related to assignments, study, and homework involving more extended and carefully thought out tasks than briefer numeracy testing.

Self-belief and persistence are correlated with literacy and numeracy. The strongest effects are found for guzzlers such that low control, failure avoidance, and self-sabotage are negatively correlated to literacy and numeracy. Anxiety is negatively correlated with numeracy. Correlations between motivation and both literacy and numeracy do not differ markedly between boys and girls.



Table 9. Correlation by year level between each facet of motivation and 2001 literacy and numeracy

	Year 7		Year 9		Total Sample	
	Literacy	Numeracy	Literacy	Numeracy	Literacy	Numeracy
Boosters						
Self-belief	.08*	.09**	.21***	.22***	.13***	.15***
Value of schooling	-.01	-.02	.08*	.07	.02	.01
Learning focus	-.01	-.09**	.13***	.04	.05	-.03
Planning and monitoring	-.01	-.09**	.01	-.12**	-.02	-.11**
Study management	.02	-.07*	.10**	.01	.04	-.04
Persistence	.07*	.07*	.12**	.15***	.08**	.10***
Guzzlers						
Anxiety	-.09**	-.19***	.07	-.11**	-.02	-.15***
Low control	-.26***	-.35***	-.27***	-.37***	-.27***	-.36***
Failure avoidance	-.21***	-.19***	-.13**	-.20***	-.18***	-.20***
Self-sabotage	-.26***	-.25***	-.34***	-.35***	-.29***	-.29***

* p<0.05 ** p<0.01 *** p<0.001



Table 10. Correlations by gender between each facet of motivation and 2001 literacy and numeracy

	Girls		Boys	
	Literacy	Numeracy	Literacy	Numeracy
Boosters				
Self-belief	.17***	.17***	.11**	.13***
Value of schooling	.04	.06	-.01	-.04
Learning focus	.03	.01	.02	-.06
Planning and monitoring	-.03	-.05	-.07*	-.16***
Study management	.01	-.01	.01	-.06
Persistence	.07	.12**	.06	.08*
Guzzlers				
Anxiety	-.05	-.10**	-.08*	-.19***
Low control	-.32***	-.34***	-.26***	-.38***
Failure avoidance	-.18***	-.15***	-.18***	-.25***
Self-sabotage	-.32***	-.32***	-.26***	-.28***

* p<0.05 ** p<0.01 *** p<0.001

The role of ethnicity

A total of 177 (14%) students were identified as ESL.

A series of 2 (ESL, non-ESL) x 2 (girls, boys) ANOVAs was performed on each of the ten motivation facets to determine the effect of ethnicity and its interaction with gender. Data for Year 7 and 9 students were pooled as the ESL sample size was considered too small to disaggregate further by year level. No significant interactions emerged, indicating that gender effects are generally consistent across ESL and non-ESL student groups.

Given that no interaction with gender was found, the independent effect of ethnicity was explored using a series of independent samples t-tests. Table 11 presents findings. In terms of boosters, data shows that ESL students are significantly higher than non-ESL students in value of schooling, learning focus, planning and monitoring, and study management. However, ESL students are also significantly lower in perceived control. It is uncertain as to how representative this group of ESL students is – not only in terms of the ACT but also in terms of other states and



territories in Australia. *It is therefore recommended that generalising to the broader ESL population should be carried out very carefully.*

Table 11. Ethnicity effects for Year 7 and Year 9 students

	ESL Mean	Non-ESL Mean	t	Effect
Boosters				
Self-belief	80	78	1.44	-
Value of schooling	81	77	2.49*	ESL>NESL
Learning focus	81	77	2.65**	ESL>NESL
Planning and monitoring	58	55	2.33*	ESL>NESL
Study management	70	66	2.72**	ESL>NESL
Persistence	71	69	1.69	-
Guzzlers				
Anxiety	60	59	.86	-
Low control	54	50	2.63**	ESL>NESL
Failure avoidance	20	20	1.39	-
Self-sabotage	43	40	1.92	-

* p<0.05 ** p<0.01

Note. It is unclear how representative this sample of ESL students is and so generalising from these findings should be carried out with care.

Only 13 Indigenous students were identified in the sample and this is considered too small a sample size with which to conduct meaningful and generalisable analyses.

ESL students are significantly higher than non-ESL students in value of schooling, learning focus, planning and monitoring, and study management. However, they are also lower in perceived control. Gender effects are generally consistent across ESL and non-ESL students. It is uncertain as to how representative this group of ESL students is – not only in terms of the ACT but also in terms of other states and territories in Australia. *It is therefore recommended that generalising to the broader ESL population should be carried out very carefully.*



The role of socio-economic status

Socio-economic status (SES) was determined through an index of relative socioeconomic disadvantage (IRSED). Students were grouped as follows:

- Lower 25% = IRSED below 1058
- Middle 50% = IRSED between 1058 and 1134
- Upper 25% = IRSED above 1134

A series of 2 (girls, boys) x 3 (lower 25%, middle 50%, upper 25%) ANOVAs were performed on each of the ten motivation facets to determine the effect of SES and its interaction with gender (no interaction with year-level was hypothesised and so was not tested). No significant interactions emerged, indicating that gender effects are generally consistent across SES groups.

Given that no interaction with gender was found, the independent effect of SES was explored using a series of one-way ANOVAs. Significant effects were followed up by post-hoc comparisons using the Student Newman Keuls test. Table 12 presents findings. These findings show that lower and middle SES students are significantly lower than upper SES students in control and higher in failure avoidance. Middle SES students are also significantly higher than upper SES students in self-sabotage.

It is uncertain as to how representative students in these three SES groupings are of SES groupings in the broader population – not only in terms of the ACT but also in terms of other states and territories in Australia. *It is therefore recommended that generalising to SES groupings in the broader population should be carried out very carefully.*



Table 12. SES effects for Year 7 and Year 9 students

	Lower 25% Mean	Middle 50% Mean	Upper 25% Mean	F	Effect
Boosters					
Self-belief	79	78	79	.93	-
Value of schooling	79	78	78	.45	-
Learning focus	80	78	78	2.63	-
Planning and monitoring	57	55	55	1.74	-
Study management	68	67	68	.66	-
Persistence	71	69	70	2.26	-
Guzzlers					
Anxiety	59	59	58	.28	-
Low control	53	51	48	5.83**	L, M>U
Failure avoidance	51	51	48	4.31*	L, M>U
Self-sabotage	40	41	38	3.36*	M>U

* p<0.05 ** p<0.01

Note. It is unclear how representative students in these SES groupings are of SES groupings in the broader population and so generalising from these findings should be carried out with care.

Lower and middle SES students are significantly lower than upper SES students in control and significantly higher in failure avoidance. Middle SES students are significantly higher than upper SES students in self-sabotage. Gender effects are generally consistent across lower, middle, and upper SES student groupings. It is uncertain as to how representative students in these three SES groupings are of SES groupings in the broader population – not only in terms of the ACT but also in terms of other states and territories in Australia. *It is therefore recommended that generalising to SES groupings in the broader population should be carried out very carefully.*

SUMMARY OF MOTIVATION FINDINGS

The data point to a number of gender, year-level, ethnicity, and SES effects. Taken together, results show that:



- The factor structure of the Student Motivation Scale is clear
- Each subscale representing the proposed facets of motivation is reliable
- In terms of boosters, students are higher on booster thoughts (self-belief, learning focus, value of schooling) and lower in booster behaviours (planning and monitoring, study management, persistence)
- In terms of guzzlers, anxiety is highest
- Year 7 students are significantly higher than Year 9 students on every booster
- Year 7 students are significantly lower than Year 9 students in control and higher in failure avoidance
- In both Year 7 and Year 9, girls are significantly higher in learning focus, planning and monitoring, and study management
- In both year groups girls are also significantly higher in anxiety.
- In Year 7 only, girls are significantly higher in persistence and boys are significantly higher in both failure avoidance and self-sabotage.
- In Year 9 only, girls are lower in perceived control.
- Self-belief and persistence are correlated with literacy and numeracy (more so for Year 9 students)
- The strongest effects in literacy and numeracy are found for guzzlers such that low control, failure avoidance, and self-sabotage are negatively correlated with literacy and numeracy
- Anxiety is negatively correlated with numeracy
- Correlations between motivation and both literacy and numeracy do not differ markedly between boys and girls
- ESL students are significantly higher than non-ESL students in value of schooling, learning focus, planning and monitoring, and study management. Gender effects are generally consistent across ESL and non-ESL students. *However, as discussed earlier, it is recommended that generalising to the broader ESL population should be carried out very carefully*
- Lower and middle SES students are significantly lower than upper SES students in control and higher in failure avoidance. Middle SES students are also significantly higher than upper SES students in self-sabotage. Gender effects are generally consistent across SES student groupings. *However, as discussed earlier, it is recommended that generalising to SES groupings in the broader population should be carried out very carefully.*



Summary gender and year-level motivations findings are presented in the table below.

Table 13. Summary statistically significant gender and year-level motivation findings

	Statistically Significant Gender Effects	Statistically Significant Year-Level Effects
Boosters		
Self-belief	Not significant	Year 7 > Year 9
Value of schooling	Not significant	Year 7 > Year 9
Learning focus	Girls > Boys	Year 7 > Year 9
Planning and monitoring	Girls > Boys	Year 7 > Year 9
Study management	Girls > Boys*	Year 7 > Year 9
Persistence	Girls > Boys*	Year 7 > Year 9
Guzzlers		
Anxiety	Girls > Boys	Not significant
Low control	Not significant	Year 7 > Year 9
Failure avoidance	Not significant	Year 7 > Year 9
Self-sabotage	Boys > Girls*	Not significant

* The difference between boys and girls was larger for Year 7 than Year 9

MOTIVATION FINDINGS OF NOTE

It was found that relative to booster behaviours, booster thoughts are a strength amongst students. These data show that students are relatively high in self-belief, value of schooling, and adopt a mastery and learning approach to their studies. However, work is needed to further translate these adaptive thoughts and orientations into adaptive behaviour in the form of greater study management, planning, monitoring, and persistence. Some strategies to do this are discussed below.

Anxiety is the highest of the guzzlers and this is consistent with findings elsewhere (Martin, 2001b, in press a). In many respects, anxiety is a hallmark of the competitive education system Australia-wide. In this sense, then, at least some level of anxiety is unavoidable. Indeed, a certain level of anxiety can be arousing and can lead to peak performance. However, excessive anxiety can be counterproductive and to the extent that this is the case, it needs to be reduced. This too is discussed below.



A dominant finding was that Year 7 students are higher than Year 9 students on all boosters. This is consistent with research elsewhere showing that students' motivation can decline in the middle years of high school. Here and elsewhere younger high school students are markedly more positively oriented to their studies than their middle high counterparts in terms of their self-belief, focus on learning, value of school, planning, monitoring, study management, and persistence. This represents a significant window of opportunity through which to launch students into their middle high schooling. The question, then, is what happens to students between Year 7 and Year 9? What is it about the demands placed upon students, their developmental level, how they are assessed, how teachers respond to them, the way curriculum is delivered, and life events that renders students significantly lower on all boosters by the end of Year 9? These questions are not unique to the ACT – they are relevant at a national level also.

Taken as a whole, girls are significantly higher than boys in learning focus, planning and monitoring, study management, and persistence. However, they are also significantly higher in anxiety. Boys are significantly higher in self-sabotage – a finding primarily evident in Year 7. These generally confirm data presented in the review of literature and provide a very clear insight into some of the factors that may be contributing to boys' lower levels of achievement. Although girls score significantly higher in anxiety, it seems that this anxiety is played out through greater diligence and persistence than through withdrawal, underperformance, and failure acceptance.

Although self-belief and persistence are significantly correlated with literacy and achievement, they do not share as much variance with these outcomes as do the guzzlers low control, failure avoidance, and self-sabotage: These guzzlers play a markedly greater role in students' literacy and numeracy than the boosters. It seems that in terms of core skills such as literacy and numeracy it is critical to address the maladaptive dimensions of students' motivation. Interestingly, Martin (2001b) has shown that the boosters play a strong role in academic achievement (maths, English etc) and this may imply that some facets of motivation are more relevant to academic achievement while others are more relevant to core skills such as literacy and numeracy.

It is significant to note that although there are a number of marked mean-level differences between boys and girls on boosters and guzzlers, relationships between



these facets of motivation and both literacy and numeracy are not markedly different between boys and girls. Hence, as a general rule these boosters and guzzlers are equally important for boys and girls in contributing to their performance.

It is interesting that ESL students score significantly higher than non-ESL students on a number of boosters. This is consistent with findings in previous work which shows more positive orientations towards education amongst students of non-English speaking backgrounds. For example, it has been found that young people from non-English speaking backgrounds are more likely to complete school and go into higher education (Marks & Ainley, 1999). It has been suggested that these students' families may instill a greater valuing of education (consistent with high scores on value of schooling here). Also, there are some families who arrive in Australia with high standards of education and strong financial resources behind them. However, this is more the case for some immigrants than it is for others (and particularly compared to refugees) and for this reason, one should be very careful in generalising to the broader ESL population. Significantly, gender did not interact with ethnicity in the present study indicating that gender effects are consistent across ethnic and mainstream student groups.

Lower and middle SES students are significantly lower than upper SES students in control and higher in failure avoidance. This is broadly consistent with previous research into the effects of SES, showing less adaptive educational outcomes for students from lower SES backgrounds (Ainley, 1998; Marks & Ainley, 1997; Teese, 1995). However, contrary to Teese (1995), gender effects on motivation are generally consistent across SES student groupings. As noted earlier, however, it is recommended that care be taken when generalising to SES groupings in the broader population.

STRATEGIES TO ENHANCE STUDENTS' MOTIVATION

At a meta-level, intervention designed to enhance students' motivation involves improving students':

- Approach to their schoolwork
- Beliefs about themselves
- Attitudes towards learning, achievement, and school
- Study skills



- Reasons for learning.

Also at a meta-level, intervention involves addressing:

- Educators' messages to students
- Educators' expectations for students
- How learning is structured and paced
- Feedback to students on their work
- Classroom goals and assessment.

To enhance students' motivation, however, we must move beyond the meta-level to address the specific ways in which motivation is enacted in students' lives and in the classroom. The proposed model of motivation by Martin (2001b, in press a, in press c) holds that educators are to do one or more of the following: keep high boosters high, keep low guzzlers low, increase low boosters, and reduce high guzzlers.

Enhancing students' self-belief

Self-belief is perhaps the most critical booster to develop in students. It is a strong predictor of achievement and enjoyment at school (Bandura, 1986, 1997; Marsh, 1990; Martin & Debus, 1998). Developing students' self-belief involves restructuring learning so as to maximise opportunities for success and addressing students' beliefs about themselves and their academic capacities. Strategies include:

- Breaking schoolwork into smaller, bite-sized components (chunking) so that students can experience small successes along the way (thus building confidence and intrinsic motivation)
- Individualising tasks so that challenges match students' capacities
- Expanding students' views of success to include outcomes such as personal bests and improvement
- Challenging students' negative thinking by encouraging students to:
 - Observe their automatic thoughts when they receive a mark or are assigned schoolwork
 - Look for the evidence that challenges their negative thinking,
 - Challenge their negative thoughts with this evidence (Beck, 1976; Meichenbaum, 1974).



Enhancing students' belief in the value of school

Underpinning students' belief in the value of school is the issue of relevance and meaning. Maximising the relevance and meaning of school requires educators to:

- Link what is taught with world events, students' lives or interests, what they may do when they leave school, and perhaps what they learn in other school subjects
- Show how school not only teaches students facts but also teaches them how to think and analyse and that these help them in many walks of life including their social and personal lives, in the workplace, and on the sporting field
- Act as role models showing that they value what they are teaching (McInerney, 2000).

Enhancing students' learning focus, planning, study management, & persistence

Enhancing students' motivation in these respects essentially involves promoting a focus on mastery and the *processes* involved in attaining mastery (Nicholls, 1989; Qin, Johnson, & Johnson, 1995). In practical terms, this is achieved by:

- Promoting a focus on personal bests, competing with one's previous performance more than competing with others
- Showing students how effort and strategy are key means of improvement and accomplishment (Craven, Marsh & Debus, 1991; Martin et al, 2001b)
- Encouraging students to set *effective* goals (ie. specific, measurable, achievable, realistic, and time-bound), and showing them how to work towards these
- Making it clear to students how to break schoolwork into components (chunking), plan how to do each component, how to review their progress, and overcome obstacles they may experience in working towards their goals (McInerney, 2000)
- Reducing students' tendency to compare themselves with others
- Using time more effectively (eg. through prioritising)
- Developing strategies for checking schoolwork as it is done
- Drawing lessons from previous challenges they have successfully overcome to use next time they are faced with difficulty or challenge in their schoolwork.



In essence, these strategies encourage students to focus on the task at hand and this reduces cognitive interference in the form of concern (or fear) about how they are being evaluated or their performance relative to other students in the class.

Enhancing students' sense of control over their studies

A perception of low control over outcomes underpins much maladaptive motivation in students' academic lives (Covington, 1992; Martin et al, 2001b). Students who believe they have little control over maintaining success or avoiding failure are at risk of counterproductive manoeuvring in the form of self-sabotage or even helplessness (Martin et al, 2001a, 2001b, in press). Students develop a sense of control when they see the connection between their effort and strategy and academic outcomes. Ways to build students' sense of control include:

- Directing their attention to the controllable factors in their academic lives. These primarily revolve around effort (how much work they do) and strategy (how they do that work)
- Showing them how hard work and effective study strategies impact on achievement
- Reviewing study skills in class
- Giving students some choice (within sensible parameters) over lesson objectives, assessment tasks, criteria for marking, and due dates for assignments (McInerney, 2000)
- Providing feedback in effective and consistent ways
- Provide task-based feedback on students' work that makes it very clear how they can improve (Craven et al, 1991; Martin et al, 2001b)
- Administering rewards (or punishment) that are directly contingent on what students do – often inconsistent reward contingencies create confusion and uncertainty in students' minds as to what they did to receive that reward (Thompson, 1994).

Reducing students' failure avoidance, self-sabotage, and anxiety

Strategies to deal with failure avoidance, anxiety, and self-sabotage are underpinned by need achievement and self-worth motivation theories (Atkinson 1957; Covington, 1992; McClelland, 1965). We are able to draw on these theories to show students how to address motivational gaps and sustain motivational strengths. The primary factor that underpins these three guzzlers is a fear of failure (Covington,



1992). To reduce these guzzlers in students' lives, then, requires that students' fear of failure is addressed.

Ways to reduce students' fear of failure include:

- Promoting a classroom climate of cooperation, self-improvement, and personal bests (Qin et al, 1995)
- Showing students that mistakes can be a springboard for success and do not reflect on students' worth as a person (Covington, 1992)
- Repositioning success so that it is seen more in terms of personal progress and improvement than outperforming others (Covington, 1992)
- Encouraging students to see that effort leads to improvement and that increased effort makes one a better student and does not imply they lack ability
- Enhancing students' control as discussed above (Martin et al, 2001b)
- Building success into students' lives as much as is feasible through:
 - Reworking the definition of success so that it encompasses improvement and personal progress (which is attainable by every student)
 - Chunking tasks into smaller components to maximise opportunities for success along the way (McInerney, 2000).

Enhancing motivation boosters involves: promoting success in the classroom, reworking students' notions of success to encompass such elements as improvement and personal bests, challenging students' negative thinking, promoting a focus on mastery and processes more than excessive competitiveness and outcomes, and contextualising students' learning into their lives and interests, their future pathways, the world more generally, and their other school subjects.

Reducing guzzlers involves enhancing students' sense of control through a focus on their effort and strategy, giving them choices over lesson objectives and assessment tasks and criteria, and providing effective and consistent feedback based soundly on students' work. It also involves addressing students' fear of failure through developing a class and school climate of cooperation, allowing students to make and learn from mistakes, and showing students that their worth as a person is independent of their academic achievement.



Drawing more than driving students

Covington (1992) has defined students in terms of those that are *drawn* to success and those who are *driven* to avoid failure. Our aim as educators is to create learning environments in which students are drawn more than driven. Covington and Roberts (1994) argue that the very nature and bases of learning must be changed so that motives become goals and draw more than drive the student (see also Covington, 1992). Such a program would encourage students to gain knowledge for mastery's sake rather than for the sake of performance, encourage students to serve the interests of the group, and to give expression to their creativity and curiosity.

Changing the reward system has also been proposed as a way in which the purpose of learning can be altered. Covington and Roberts suggest that reward should be based on students meeting personal standards more than outperforming others. In a sense, then, the student is encouraged to become success oriented rather than failure avoiding or failure accepting. When students are success oriented they are then in a stronger position to learn and as Covington and Roberts note, perform well in high-pressure or competitive scenarios (see also Elliot & Harackiewicz, 1994; Epstein & Harackiewicz, 1992; Harackiewicz & Elliot, 1993; Harackiewicz & Manderlink, 1984). The precise means by which these pedagogical recommendations are put into practice need careful consideration. For example, students' performance standards should increase along with their aspirations and so there always exists a challenge to be surmounted (Covington & Beery, 1976). This could involve encouraging students to view their education in terms of 'personal bests' much along the lines of sportspeople at even the most elite levels.

Academic Resilience

It may be, however, that an energy and drive to learn, work effectively, and achieve to one's potential is not sufficient to deal with academic setbacks or excessive study pressure and stress. Without some level of resilience to these types of adversities, the motivated student's gains may well be lost. This issue of resilience brings into consideration a number of questions. Why are some (often motivated) students debilitated by setbacks, poor performance, stress, and study pressure while others pick themselves up, recover, and move on? Why do some students get caught in a downward spiral of underachievement while others respond proactively to poor performance and break this downward spiral? Why do some students crumble under



the pressure of school while others are energised and embrace the challenges before them?

One suggestion by Martin (2001b, in press a) is that the answer lies in academic resilience. In a general sense, resilience has been defined as the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances (Howard & Johnson, 2000).

In the academic context, resilience is defined as students' ability to deal effectively with academic setbacks, stress, and study pressure. Surprisingly, academic resilience has not received a great deal of attention in the research literature. In the few papers that do deal with the issue, most are focused on ethnic minority groups and extreme underachievers (eg. see Catterall, 1998; Finn & Rock, 1997; Gonzalez & Padilla, 1997; Overstreet & Braun, 1999).

However, it is argued here that academic resilience is relevant to all students. This is because at some stage in every student's school life, he or she will experience some level of poor performance or stress or pressure that must be dealt with. The question is whether this student deals with it in a proactive and adaptive fashion or whether he or she deals with it counterproductively or not at all. For a large part, we cannot eliminate setback from students' lives, and for better or for worse, stress and pressure are a reality of our competitive school system. Essentially, students are stuck with the constant possibility of setback, stress, and pressure. The question lies in how students deal with these.

Although there has not been a great deal of research on academic resilience, there has been substantial focus on resilience in terms of broader life events (eg. resilience to disadvantaged backgrounds, poor parenting, family break-up, mental illness, drug addiction etc.) in Australia (Fuller, 2000; National Crime Prevention, 1999; Shochet & Osgarby, 1999) and overseas (Davis & Paster, 2000; Gilligan, 1999; Lindstroem, 2001; Luthar & Cicchetti, 2000; Luthar, Cicchetti, & Becker, 2000; Masten, 2001; Slap, 2001). This research has shown that resilient young people have a number of protective factors in their lives. Protective factors (a) reduce the impact of negative events, (b) help individuals avoid or resist problematic pathways, and (c) promote positive and successful pathways.



School is an important place where resilience in young people can be enhanced (Cunningham, Brandon, & Frydenberg, 1999; Frydenberg, 1999; Fuller, 2001; Fuller, McGraw, & Goodyear, 1999; Howard & Johnson, 2000; Longaretti, 2001; Parker & Hendy, 2001; Speirs & Martin, 1999). However, studies of resilience as it pertains to school are still couched in terms of a young person's mental health and wellbeing and not in terms of their academic development.

If we are to pursue academic resilience along the same lines as the larger body of research into general resilience, we can propose that enhancing academic resilience requires us to enhance the protective factors in students' lives and reduce the risk factors. In the school setting, it is proposed that there are a number of student-level protective and risk factors that contribute to academic resilience and that these are boosters and guzzlers respectively.

Through the evidence and theory discussed above, it can be inferred that students high on boosters and low on guzzlers are resilient to academic setback and deal with schoolwork pressures and stress effectively. Students low on boosters and high on guzzlers are not so resilient to academic setback and do not deal with schoolwork pressures and stress so effectively. If this is the case, it follows that the educational strategies described above aimed at increasing boosters and reducing guzzlers, also apply to academic resilience.

Academic resilience is introduced as a concept reflecting students' ability to overcome setback and challenge and effectively deal with pressure and stress in the school setting. It is proposed that the well-rounded student is one who is energised and motivated to achieve but is also resilient when the going gets tough. Research has shown that resilient young people have a number of protective factors in their lives and relatively few risk factors. In the academic domain it is proposed that academic resilience is developed through promoting protective factors (the motivation boosters described above) and reducing the risk factors (the motivation guzzlers described above).



PART 3. INTERVIEWS AND DISCUSSION GROUPS WITH STUDENTS

Part 2 of the report dealt with quantitative data collected from eight ACT high schools. This phase of the project explores qualitative data collected from high school students from two of the schools that participated in the quantitative study.

Qualitative data were collected through interviews with pairs of students and also through a number of discussion groups. As data emerging from both methods were largely parallel, the data were analysed together and are presented jointly in this chapter.

ISSUES UNDER FOCUS

Interviews and discussion groups focused on ten key issues as follows:

- The most important reason for being at school
- The best thing/s about school
- The most difficult thing/s about school
- What boys would change about school tomorrow if they had the chance
- Subject/s in which they do their best work and why this is the case
- Subject/s in which they are not so engaged and why this is the case
- Characteristics and practices of teacher/s that bring out boys' best work
- Friends and their effect on boys' engagement and learning
- Parents and their effect on boys' engagement and learning
- The relative contribution of teachers, parents, and friends on boys' motivation and engagement.

The interview guide is attached in Appendix A and the discussion guide is attached in Appendix B.

Of particular importance in this qualitative phase was the extent to which gender would emerge *unprompted* as a factor in students' reports of engagement, motivation, and learning. For this reason, questions did not directly ask students about the education of boys. Instead, boys were given scope to express themselves *as students* and if gender at any stage emerged, this would be regarded as an important finding in itself. In contrast, data collected from teaching and executive



school staff (presented in the next chapter) directly addressed the issue of boys' education.

METHOD AND PROCEDURE

Sample

Boys and girls were sampled from Year 8 and Year 10 in two ACT high schools. These two year groups were selected because they were the sample pool that had been administered the Student Motivation Scale in the previous year. School coordinators were asked to select boys and girls that would reflect the diversity of student engagement at the school. In total, 97 students participated in interviews or discussion groups. Table 14 below shows the gender, year, and school breakdown.

Table 14. Sample for qualitative student study

		Year 8		Year 10	
		Boys	Girls	Boys	Girls
SCHOOL 1	Interview Pair	4	4	7	4
	Discussion Group	12	4	11	4
SCHOOL 2	Interview Pair	4	4	6	4
	Discussion Group	12	4	9	4

Twenty pairs of students were interviewed. Each pair comprised only boys or only girls. In Year 8, two pairs comprised boys and two pairs comprised girls. In Year 10, four pairs comprised boys and two pairs comprised girls. The duration of each interview ranged between twenty and thirty minutes. Each interview was audio-taped.

Eight discussion groups were conducted and most comprised eight students. Four groups comprised Year 8 students and two of these were boys-only groups and two were mixed sex groups (four boys and four girls). Four groups comprised Year 10 students and two of these were boys-only groups and two were mixed sex groups (four boys and four girls). The duration of the discussion ranged between about thirty and 45 minutes. Each discussion group was audio-taped.



Data analysis

The data analysis in this phase of the project revolved around the boys' responses. It is for this reason that boys were over-sampled (67% of participants in interviews and discussion groups were boys). It is fully recognised that a more general study of student outcomes would obviously include an equitable balance of boys' and girls' views. However, as this study focuses primarily on educational outcomes of boys, the data presented below refer primarily to boys. Notwithstanding this, where girls' voices complement, contrast, or juxtapose boys' voices in illustrative ways, relevant data are reported.

Issues in qualitative research

The major strength of qualitative research is that it permits the researcher to explore in depth issues central to the research. It enables more detailed probing and provides an opportunity to 'drill down' into issues in a way that is not possible in structured quantitative survey methods. It is also a means of accessing a range of views on a particular issue in a more relaxed and personalised context that gives greater scope for participants to be open and frank about their views.

There are, however, some issues to consider when interpreting the findings of qualitative research. First, because of the typically small samples used in qualitative research, care must be taken in generalising to a wider population. Second, given the typically smaller samples used in qualitative research, it may not be the case that the full range of views of the target population will emerge. Third, also given the smaller sample sizes, it may be that some views emerge more strongly than would be the case in the wider population. Fourth, it must be recognised that self-reported behaviour or intentions do not always reflect or predict actual behaviour, so care must be taken when inferring from self-reports to actual behaviour. Notwithstanding these points, as noted above, qualitative research offers opportunities not possible in large-scale quantitative research and it is for this reason that this methodology has been included in the research project.

In interpreting the data it is also important to recognise that students were sampled from co-educational schools.



RESULTS

The most important reason for being at school

When asked about the most important reason for being at school, the most frequent response was that school was a place to learn. The learning that students saw as important varied. The more frequent responses revolved around school developing their:

- Skills for life: “To have more of an understanding of life in general and what it’s going to be like when you’re actually in the world” (Year 10 Boy)
- Skills for work: “Showing more of the connection with what you’ll be using it for in outside life such as working” (Year 10 Boy)
- Social skills: “I think a lot of high school is basically just social skills, just being able to interact with different types of people” (Year 10 Boy)
- Pathways to a better life and better jobs: “So you don't muck up life and you can get a good job and you can be smart enough to help out” (Year 8 Boy); “Well I reckon it's just good knowing that you’re working to get yourself a decent job and a decent lifestyle and things; like if you didn't come to school, you'd be nowhere” (Year 10 Boy)

Most boys were of the view that school succeeded in fulfilling these purposes. There were some, however that had difficulty connecting what they learnt at school with what they did beyond their school years:

“In maths you’re taught things that you supposedly will use in later life, but you have no understanding of what they are actually going to be used for” (Year 10 Boy)

Boys believe school is important because it is a place where they learn skills for life, skills they need for the world of work, and a place to meet friends and develop social skills. Most boys felt school fulfilled these purposes.



The best thing/s about school

With few exceptions, friends are the best aspect of school:

“Seeing friends, being able to go out and have fun at recess and lunch” (Year 8 Boy).

Girls reported much the same.

Other features of school that make school an enjoyable place to be include:

- Doing outdoor activities
- Doing out-of-school activities (“I did work experience a couple of weeks ago. I thought it was good. I was at an auto electrician so I got to get my hands dirty, install some bits and take some bits out” – Year 10 Boy)
- The support boys receive from teachers (“You know you're not going to drag yourself all the way by yourself, there will be teachers there all the way to support you as well as your friends and stuff” – Year 10 Boy)
- Their electives (“If you choose something then you want to do it” – Year 10 Boy)
- The variety of the school experience (friends, schoolwork, sport, work experience)
- Developing new skills and knowledge (“You know when you go to school every day you're going to learn something new” – Year 8 Boy).

For most boys the best thing about school is the friends they make there. Although less frequently cited, other good things about school include doing outdoor activities, doing out-of-school activities (eg. work placement), support received from teachers and other adults, their electives, the variety that school offers (eg. sport, friends, schoolwork, work experience), and developing new skills and knowledge.



The most difficult thing/s about school

There were primarily five aspects of school that students found most difficult to cope with.

Repetitive schoolwork was the first. Students (boys and girls) experienced frustration in covering old ground in particular subjects and this led to boredom.

“It's like we've stepped back, like our education had just gone up and then it's just like it's back to Year 6 stuff” (Year 8 Boy)

The second difficulty was juggling the many demands in their lives. Many reported that in addition to schoolwork pressures, they had to deal with sporting commitments, work commitments, and also find time to socialise. For some, schoolwork came last amongst these and for others it was their highest priority.

Students also experienced difficulty meeting the many and clashing deadlines in school.

“I think if there was some way they could co-ordinate the homework so you didn't get a whole massive bit at once” (Year 10 Boy)

Difficult schoolwork was the fourth challenge students had trouble dealing with.

“It just leaves you really stressed out after every class. Even when you're not in class, just thinking about the class leaves you really stressed” (Year 10 Boy)

Finally, perceptions of poor teaching and poor relationships with teachers were other significant difficulties cited by students. This was evidenced by:

- Students' frustration with teaching style (“A teacher that knows the facts but can't actually teach them to other people or doesn't allow group work and just makes you sit and write off the board” – Year 8 Boy)



- Teachers not listening to them (“When you try to get something across to the teacher but they don't listen and you keep trying to tell them and you get into trouble “ – Year 8 Boy)
- Not liking or being liked by the teacher (“You just don't like the teacher and you get the feeling they don't like you and you just don't want to ask them about anything because you don't really want to talk to them” – Year 8 Boy).

In addition to these frequently reported difficulties, a few other boys identified the following as difficult aspects of school:

- Favouritism of teachers to some students (“Favouritism makes me feel that I'm not good enough and that I shouldn't try at all and sometimes I stop trying” – Year 10 Boy)
- Being seen as a nerd (“I feel like a nerd because I answer a few questions in class. I've started to think I probably shouldn't answer all the questions, let someone else do it” – Year 10 Boy)
- Students disrupting class (“It's really hard to learn when you've got fools in your class and you can't learn. It's like it would be good to be in a classroom where you have 50 kids that just want to learn, not just muck up in class. It slows your learning down” – Year 8 Boy)
- The teacher not trusting them or treating them as children
- Bullies.

In one respect, boys' and girls' responses differed on the issue of the most difficult aspects of school. Boys' responses were more oriented towards difficulty in schoolwork, difficulty in keeping up with schoolwork pressures and deadlines, and difficulties with teachers. Girls' responses revolved more around trouble with friends and other related social difficulties.



The five most frequently reported difficulties boys experience at school are: repetitive work that leads to boredom, juggling the competing demands in their life (eg. schoolwork, sport, work, friends), meeting the many clashing schoolwork deadlines, difficult schoolwork, and perceptions of poor teaching and poor relationships with teachers. The latter encompassed an inability to communicate information effectively, teachers not listening to students, or not liking and/or not being liked by the teacher.

What boys would change about school tomorrow if they had the chance

Students were asked what they would change about school tomorrow if they had the chance. The dominant response by boys (and girls) was that they be given more choices in things that affect them. This ranged from school policy through to subject choices, and choices over schoolwork within those subjects:

“Just more say in what's going on in the school with the students, because they make up 95% of the school and the teachers are a tiny percentage. We have to go there every day and do as much work as the teachers, we should get more say” (Year 10 Boy)

“If you're forced to do something, then you just don't like it. You don't want to do things because you're being forced, but if you have choices, then you choose the one that you want to do . . . You should take responsibility for your actions, so if you make the wrong choice, you say OK I made the wrong choice and if you can, try to go back to the other choice” (Year 10 Boy)

Other changes boys would make include:

- Variety within subjects (“More varied classes where instead of just doing maths you can choose what type of maths, like in science you can choose physics or chemistry or whatever” – Year 10 Boy)



- Streamlined due dates for assignments (“If the teachers could organise it so they all don't give out assignments at the one time” – Year 8 Boy)
- Fewer rules and a clear rationale for rules (“I'd probably like less rules. Some of the rules I can't see the point of. Like not being able to bring stuff to school. Now you can't bring skateboards, bikes and Discmans and stuff. These are things we do at lunch, like skateboard and stuff. There isn't much else you can do except talk and kick a ball around and you can't really use the oval because it's all soggy and disgusting” – Year 8 Boy)
- More challenge and less boredom (“Probably do less boring stuff and more fun activities where you actually get to learn from them” – Year 8 Boy)
- More free hours to catch up on schoolwork.

When boys were asked what they would change about school if they had the chance, the dominant responses revolved around giving them greater choice and a greater sense of control. Choices identified included those relating to school policy (eg. school uniform and what they could and could not bring to school), those relating to greater subject choice, and those relating to choices of material and methods within particular subjects. Other changes included greater variety of subjects and less repetition, streamlined assignment due dates, a clear rationale for rules, and more time to catch up on schoolwork.

Boys' best work

Boys enjoyed talking about their best work and the factors that contributed to this. They were able to identify many reasons why in some subjects they did better work or were more engaged. Of these reasons, ten emerged more consistently than others. They are as follows:

- The subjects are fun or the teacher made an effort to make them fun (“Some teachers make things fun and interact a bit better with the students and get



you doing things and talking around the class, whereas some just tell you things and write it on the board and you copy it” – Year 10 Boy)

- The subjects involved interesting content and activities or the teacher made an effort to make them interesting
- The subjects were able to incorporate practical or hands-on activities (“I think the practical side of it is more of a learning experience than just sitting down and writing about it because you really don't get a feel for it” – Year 10 Boy; “I think I understand better when we do activities like collect leaves and put them under the microscope, rather than our teacher explaining when you collect leaves and put them under the microscope . . . practical work is more fun for me” – Year 8 Boy)
- Interaction was possible – this involved interaction amongst the students as well as interaction between students and the teacher (“Interactive work; I like working with people and groups. Working on your own gets a bit boring sometimes” – Year 8 Boy)
- Friends were in the same class – although a number indicated that the class should not comprise too many friends so as not to distract them (“Sort of the feeling when you're in a class with your friends in it, you socialise and also get work done most of the time, but in a class when there is no one around you just sit there alone and scribble on your book and it's just not that interesting” – Year 10 Boy)
- The teacher respected them and their perspectives (“He doesn't make himself above anyone else, doesn't talk down to anyone” – Year 8 Boy)
- The content was relevant or time was taken to demonstrate its relevance
- There was variety in content and teaching methods
- There was frequent experience of success (“Yeah you get good marks and you want to try harder because you know you can get good marks; it sort of motivates you and helps your self esteem” – Year 10 Boy; “If you know you're capable of doing it, it's nice to be able to get through that subject. If



you're not capable of something, well of course you're not going to feel too flash about doing that subject” – Year 8 Boy)

- Students had a good relationship with the teacher where the teacher respected and affirmed them, listened to them, and got to know them (“Probably your relationships with teachers. It helps if you know them and they know you. But if it's the first time you've had them, it can start off a bit sketchy, but then as you get to know them, they become more like a friend” – Year 10 Boy; “The teacher doesn't yell. All the classes I like, I've never heard the teacher yell or get angry” – Year 10 Boy; “The teachers just feel more human. You can relate to them more” – Year 10 Boy)

Although not so frequently cited, the following were also factors that contributed to boys' best work:

- The teacher ensuring that all students understand or gain mastery (“My teacher explains everything so everybody knows exactly how to do the work” – Year 8 Boy; “You can give rough drafts in and she can check it and tell you what's wrong and you can correct it and finish” – Year 10 Boy)
- The provision of challenging schoolwork (“If it's not a challenge it's not really learning, you're just learning the same thing over and over again” – Year 8 Boy)
- The teacher having a good knowledge and understanding of the material to be taught.

Boys reported that they did their best work or were most engaged and motivated in subjects where the teacher made an effort to make them fun and/or interesting, practical and hands-on work were incorporated, interaction occurred amongst students and between students and the teacher, a couple of friends (but not too many) were in the class, the teacher clearly and genuinely respected and affirmed their perspectives and opinions, the content was relevant or time was taken to demonstrate relevance, and boys experienced success.



When boys are not so engaged or motivated

There were four more frequently cited reasons for why boys were not so engaged or motivated in some subjects.

The first was that the work in some subjects was considered to be boring and not interesting to them:

“Boredom. If you're not interested, then you don't learn and do as well as you should, whereas if you're interested in that subject then you'll say 'I like this and I'm going to study for it'” (Year 10 Boy)

Related to this was students' view that the work could be quite monotonous:

“Some of the work is a bit monotonous, a bit boring after a while”
(Year 10 Boy)

Another reason why students were not so engaged in some subjects was that the work they did in these subjects could be quite repetitious:

“I find that I'm learning an incredibly small amount in Year 10 except in my elective subjects, but in English and Science it's just a repetition of Year 9, Year 8 and Year 7” (Year 10 Boy).

The third reason cited by students for why they were not so engaged in some subjects was that the teacher did not explain work carefully to them or rushed the lesson leaving some boys behind. In some cases when boys ask for clarification they feel the teacher does not have enough time to explain it to them:

“They don't explain anything and you can't understand anything”
(Year 10 Boy)

“Basically because some teachers rush stuff heaps. Like they try to do a week's amount of work in one lesson. If I can't do a problem, I go back the next day and the teacher doesn't have time in the class to go through it and I get behind in it” (Year 10 Boy)



The fourth reason boys felt that they were not so engaged in particular subjects was that they considered the teaching style was “old fashioned”, the style was too didactic, or there was no variety in the method:

“Just a lot of teachers seem to be using teaching methods which are really old, just ordering students to do things, just expecting them to comply instantly” (Year 10 Boy)

“A couple of our teachers had us writing notes, like full boards of writing, and at the end of the day we'd just have full pages of writing which don't mean anything to us” (Year 10 Boy)

In one or two instances, boys reported that class disrupters made it difficult to engage with the material:

“Sometimes it can be hard trying to learn because people slow it down by disrupting that session . . . they spend all their time trying to settle down a class that's disrupting everyone” (Year 8 Boy)

Boys reported that they were less involved or engaged in subjects where the work was boring or uninteresting, the work was monotonous or repetitive, the teacher did not take the time to clearly and effectively explain work, or the teaching style was considered old fashioned or didactic (irrespective of the teacher's age).

Characteristics and practices of teacher/s that bring out boys' best work

There were some clear and consistent characteristics and practices of teachers that brought out the best in boys and which engaged and motivated them most. It is significant to note that every student (boys and girls) was able to identify at least one teacher who was able to hook him or her into a subject.



Twelve characteristics or practices were consistently identified as being the reasons why some teachers were able to engage boys in their schoolwork. They are as follows:

- The relationship between teacher and student
- The teacher's enjoyment of teaching and working with young people
- Striking a balance between authority and a relaxed classroom atmosphere
- Striking a balance between serious schoolwork and fun
- Teachers' sense of humour
- Making schoolwork interesting and fun where possible and appropriate
- Providing boys with choices
- A youthful teaching style (adopted by younger and older teachers alike)
- Being something of an 'all round' teacher
- Explaining work clearly and effectively and aiming for mastery by all students
- Broad assessment practices
- Variety in teaching material and teaching methods.

Particularly critical to students' engagement and motivation in a particular subject was their relationship with their teacher. Good relationships were characterised by the teacher taking time to get to know them, listening to them, respecting their views, and not treating them as children:

"They know how you're feeling" (Year 8 Boy)

"That teacher is really understanding" (Year 10 Boy)

"He knows you a bit better, knows the way you work and that sort of stuff, so he can help you a bit more" (Year 10 Boy)

"She knows what your motivations are, she gets you to do stuff. Like in science I was talking at the beginning of the year and she moved my friend and I up the front of the class away from our friends so my work improved. There were no distractions and we listened to everything the teacher said" (Year 10 Boy).

Teachers who engaged the class seemed to enjoy teaching and working with young people:



“They just like working with children and they like what they're doing” (Year 8 Boy)

“You can tell if they are really interested in it. Some teachers just talk about the facts and they don't have any enthusiasm” (Year 8 Boy)

“I like a teacher that enjoys helping kids” (Year 8 Boy).

These teachers seem to strike a good balance between maintaining authority and creating a relaxed and well-behaved classroom atmosphere:

“Keeps the class under control but not too strict” (Year 8 Boy)

“Has a joke with you, but knows when it's time to get down to work and chat a bit more then do some more work” (Year 10 Boy)

“She can be a fun-going teacher but she can be strict with the work as well” (Year 8 Boy).

These teachers had a sense of humour and were able to share this with the boys by laughing at the boys' jokes or sharing jokes of their own. These teachers could also tolerate a bit of fun poked at them and could poke a bit of fun back:

“Some of teachers will laugh at a joke that others would get angry at” (Year 10 Boy)

“Tells jokes and laughs at jokes and fits in with the class” (Year 10 Boy)

“They joke around with you . . . and pay out on you. If you pay them out, they'll pay out back. That's good” (Year 10 Boy).

They also seemed to be able to strike a good balance between serious/focused schoolwork and fun:



“Just fun, they like to joke around but they know where to draw the line” (Year 10 Boy)

Teachers who engaged students were also seen to take the time to try to make schoolwork interesting and where possible, fun. This was recognised and appreciated by the boys:

“They’re animated, walk around the class and give demonstrations and help students. They make it interesting” (Year 10 Boy)

“They will try to motivate us and get us interested. Like in Shakespeare we were bored, but they got us into it by getting us to act out a full scene and that was pretty fun” (Year 10 Boy)

“The teacher we have in English tells us why different ways of saying things in the old days makes more understanding of how to talk and write essays today – it wouldn't be interesting otherwise” (Year 10 Boy)

Teachers who provided boys with choices were particularly valued. Choices gave students some ownership of what they were studying and also provided them with a sense that the teacher respected them:

“Last year I was in an English class where our teacher let us choose what books we did and how we did them. It was really good” (Year 10 Boy)

A youthful teaching style was also consistently cited by boys as being an important factor that contributed to their engagement. Importantly, boys recognised that it was a youthful teaching style rather than the age of a teacher that was the key factor. According to them:

“We had a couple of great fossil teachers and they were really great to be around” (Year 10 Boy).

It was also important to boys that these teachers could remember about their own youth and time at high school:



“Personally I found a few teachers who seem to relate and seem to be able to remember back when they were in high school” (Year 10 Boy)

Engaging teachers were also seen to be something of ‘all rounders’, addressing students’ varying needs, keeping control of the class yet injecting humour and fun appropriately, and making material clearly relevant:

“Creative or fun-going, extremely creative, extremely helpful and helps us do things that are going to be beneficial to our future. On the other hand, he is strict with the due dates” (Year 10 Boy)

“To be an all-round teacher, not be one person who like goes in one area or full on makes all hard work for the kids. Manages to plot everything around and helps all areas of students. Like if they're not so good at subjects she makes it fun for them to learn” (Year 8 Boy)

Engaging teachers also explained work carefully to students and aimed for mastery by all students. In some cases this required individualised attention and boys found this helpful:

“They get you into the work. They help you out. They explain it to you before you do it. They give you a bit more attention” (Year 10 Boy)

A few students seemed to benefit from broad assessment practices that assessed them in a number of different areas and gave them a chance to be assessed in areas of strength:

“Our English teacher marked everyone differently. Like if we read one book he'd mark one person on a PowerPoint presentation and another person on essays” (Year 10 Boy)

Providing variety in teaching material and method was also considered important by some students:



“Varying some of the work would be good. Instead of just writing a huge block about a subject, kind of mixing it around” (Year 10 Boy)

It was interesting to note that on only one or two occasions did students report that the sex of their teacher was a factor in them being more or less engaged in a particular subject. When students were specifically asked about this as a factor, many reported that the sex of the teacher was not an issue:

“[Whether they are male or female] doesn't matter. I don't mind as long as that person is trying to help me learn. That's all that really matters” (Year 8 Boy)

Instead, it often came down to the person:

“I think it comes down to the person. If they were a person that wants to help you learn” (Year 8 Boy).

A smaller number of students seemed to be equally divided on whether it was a male or female teacher that brought out their best as students.

Boys identified many characteristics and practices of teachers that engaged them most and enhanced their learning. Amongst the most consistently cited factors were: a good relationship between student and teacher, the teacher's enjoyment of teaching and working with young people, the teacher striking a good balance between asserting authority and being relaxed and tolerant, injecting and permitting humour in the classroom, providing boys with choices, making schoolwork interesting and/or relevant, a youthful teaching style (irrespective of the teacher's age), providing variety in content and methods, and respecting boys' opinions and perspectives.



Friends and their effect on boys' engagement and learning

Boys were asked about the influence of their friends on their own motivation and willingness to learn and try at school. The most consistent finding was that boys' (and girls') friends were something of a mixed bag in the sense that some were motivated and were conducive to effective study whereas others were not so interested in school and schoolwork:

“It's a bit of a mixed bag, some who like school and study a lot, and others who hate school altogether” (Year 10 Boy)

“One group will just say school sucks and life sucks. They just come to school, go to lunch and have a smoke or something. I try to avoid them, but I'm friends with most. Then you've got other people who really like school and like the challenge of it” (Year 10 Boy)

“We've got some different friends. There are a few who just want to drop out, because they hate it so much. Others don't really mind” (Year 10 Boy)

Many boys' task, therefore, was to juggle competing interests. Some did this effectively:

“Well you've got to have two sides to yourself, you've got to have a good side of learning and also have a muck around side of yourself. Yeah, you can do really well at school and then like muck around after school with your friends, but while you're at school, you're here to learn. That's what it's all about” (Year 8 Boy)

Others had a little more trouble balancing the two groups of friends and the effect of friends might depend on the particular school subject. Where the student likes the subject, friends would not have so much of an impact. However, where the subject is not enjoyed so much, friends will win the day:

“If I have a friend in class and he doesn't really like that subject and I don't really like it either, we usually end up mucking around” (Year 8 Boy)



“My mate’s the sort of friend who talks all the time and gets in trouble all the time. I can’t concentrate. I can’t do my work properly. I could [move desks] if I wanted to but then I’d be next to someone I don’t really want to be. I want to be next to my friend, but I don’t want him to talk all the time” (Year 8 Boy)

In other cases, friends were a factor in students coming to like and enjoy a particular subject or teacher:

“Say your friends have the same teacher as you and say you might not like that teacher. They can put that teacher in a new light and make you see that they’re OK, that they might be a good teacher” (Year 8 Boy)

Friends could also provide a bit of friendly competition that was energising and motivating to some students:

“In English it’s a bit of motivation if your friends get an A or something. It’s good to actually get close to that mark for friendly competition” (Year 10 Boy)

Friends could also play a very important supportive role. In contrast to parents and teachers, boys (and girls) felt friends understood them best because they knew exactly what the student was going through:

“They know my point of view, because they’ve been there and they know what is going on. Parents just assume they know, but they’re not there, they don’t know what’s going on” (Year 10 Boy)

Notwithstanding the significant numbers of students who reported that their friends did impact on their motivation and learning at school, there were a number of other students who reported that their friends had little or no impact on their motivation and learning.



Most boys reported that their collection of friends was quite heterogeneous with some friends being engaged at school and others virtually disaffected by it. Many boys reported that they were able to strike a good balance between both groups or were able to carry on unaffected by their friends' disengagement. A number of boys identified the supportive role their friends played in their life or the friendly, motivating competition in which they engaged at school. However, there were others who had trouble withstanding the negative influence of their friends.

Parents and their effect on boys' engagement and learning

In addition to the role of friends in students' academic lives, the role of parents was explored.

Students (sometimes grudgingly) recognised that their parents had to push them at times:

“Sometimes they leave it up to me, sometimes they won't ask me if I have any homework, they just leave it up to me to do it. And that makes it harder because then sometimes I won't do it if they don't tell me to” (Year 8 Boy)

Even though many boys felt that their parents pushed them, most believed that their parents generally got the balance right:

“Sometimes, my parents can be pretty tough, but other times they tell me to do it at my own pace, just as long as it gets done” (Year 10 Boy)

“No they don't push over the limit. They only help you go as far as they know you can go” (Year 8 Boy)

Perhaps not surprisingly, parents seemed to yield a bigger impact on Year 8 students' motivation than on the motivation of Year 10 students. Year 8 students



were also more inclined to see their parents more of a source of help than Year 10 students:

“Sometimes because if you need their help and they're not there it makes it hard to do it” (Year 8 Boy)

“Like your parents can make you get around those obstacles that make you want to stop. Like if you attempted it and tried it and you just can't get anywhere, well you try and use your parents and try and get around that obstacle and keep on learning” (Year 8 Boy)

Students were very clear that there were two ways parents could motivate them. One was through coercion, threats, and a focus on all the things students were not doing right. They were also clear that this approach did not improve their work nor did it positively dispose them to their schoolwork:

“Sometimes they force you to do it when you don't want to do it which makes the quality of the work a bit worse because you were unhappy” (Year 8 Boy)

“You sort of get negative because you're angry and you don't want to do it” (Year 10 Boy)

The other way parents could deal with them is through more positive encouragement and recognising their strengths. A significant number of boys (and girls) felt that their strengths were often overlooked in favour of the things they were not doing right:

“They could use positive reinforcement instead of focusing on things you are doing wrong. They could congratulate us” (Year 10 Boy)

The risk of a more aversive approach to motivating students was identified by one student who reported that he does not tell his parents when a test is coming up and does not give them his report card until it is too late to do anything constructive about it. Essentially, some students decide that it is best for them if they leave their parents out of the loop.



“By the time they get the Report Card, it's all over” (Year 10 Boy).

“As soon as you tell your parents you have a maths test, suddenly all your free time's gone” (Year 10 Boy)

Boys recognised that their parents needed to push them in their schoolwork but that in most cases they felt their parents got the balance right, knowing when to push and knowing when to hold back. Perhaps not surprisingly, Year 8 students were more inclined than Year 10 students to report that their parents played a significant role in their motivation and learning. Many boys also reported that parents could motivate in one of two ways: encouraging and supportive motivating or punitive and coercive motivating. The majority felt the former method of motivating would yield greater interest and engagement in their schoolwork.

Teachers, parents, friends and boys' motivation and engagement

After discussing the roles of teachers, parents, and friends in students' motivation, students were asked two questions. The first question asked about the relative contribution to motivation and learning of parents compared with friends. The second question asked about the relative contribution to motivation and learning of teachers compared with parents and friends.

In relation to the contribution of parents compared with friends, nearly half those asked reported that their parents have the greatest impact on their motivation and learning. Around one in four of those asked reported that their friends yielded a greater impact. Similarly, around one in four of those asked reported that their parents and friends yielded an equal impact on their motivation and learning:

“Parents because they will punish you if you don't do the work and get good grades or whatever” (Year 10 Boy)

“Parents can tell you what to do but friends can only ask you”
(Year 10 Boy)



Boys were then asked about the contribution of teachers compared with parents and friends. Nearly half those asked reported that their teachers yielded a bigger impact on their motivation and learning than their parents and friends. One in five of those asked reported that their parents yielded a greater impact. Around one quarter of those asked reported that their teachers, parents, and friends all yielded an equal impact on their motivation and learning. Only one reported that their friends yielded the biggest impact on their motivation and learning.

“Teachers, because they are in charge of you learning. If they make it fun then you are happy to learn, but if it's boring you sit back and don't learn” (Year 8 Boy)

“Just good teachers. Bad teachers put you off your work. Good teachers can make any subject good. Even if it's your favourite subject, a bad teacher can make you lose confidence in yourself and you don't do well” (Year 8 Boy)

“I'd say it would be teachers because if you've got a warm sort of feel to the classroom you get work done and you do it because you want to make these teachers happy. You want to keep them that way instead of getting into trouble and making new enemies instead of friends” (Year 10 Boy)

Compared with friends, parents played a much greater role in students' motivation, engagement, and learning. Compared with parents and friends, teachers played the greatest role in students' motivation, engagement, and learning.

DISCUSSION

Particularly significant findings that are discussed further below revolve around the following themes:

- The relationship between teacher and student



- Value-added teaching
- Boys' sense of control
- The many roles and purposes of school
- Variety and relevance
- Balance in relationships and classrooms.

The relationship between teacher and student

Perhaps the most consistent finding across the qualitative data is the fundamental importance of a good relationship between the student and the teacher. It appears that this relationship is one of the most critical ingredients in student engagement and interest in school and then has follow on benefits for student achievement.

Boys were quite clear about what constitutes a good relationship. They were characterised by the teacher clearly and genuinely respecting their views, their situations, the problems in their life, and the challenges they faced. These teachers carefully listened to (not just heard) these boys' opinions and stories. These teachers affirmed boys for who they were. These teachers made boys feel OK about themselves. Where rules were enforced, these teachers took the time to provide a rationale and boys appreciated this even if they were not particularly in favour of the rule.

As far as boys were concerned, motivation, engagement, learning, and achievement would go a long way if significant time, energy, and resources were directed to strategies to enhance and then maintain a good relationship between students and teachers.

Value-added teaching

Quality teaching was consistently identified as being a critical determinant of students' engagement and learning. Clearly there were a number of teachers in boys' lives who made a difference, kept them interested, and gave them a reason to show up each day. These teachers were doing more than just communicating content, managing a classroom, and administering and marking assignments. These teachers were adding value to their teaching in many ways.

These teachers explained work carefully and effectively to boys. They taught with an expectation of mastery and took the time to ensure that boys had many opportunities to get on top of their schoolwork. Boys in turn seemed to genuinely



enjoy the feeling of success they experienced as a consequence. Success was engaging and motivating and gave them a good reason to try next time.

Students greatly appreciated teachers who injected fun into the classroom or made the schoolwork interesting. These teachers maintained boys' interest in schoolwork through less repetition and more variety in content and methods. These teachers also had a sense of humour and could "take a bagging and bag me back".

These teachers took the time to streamline deadlines where possible and tried to accommodate other demands in boys' lives. In many cases, deadlines could not be moved but boys seemed to appreciate them taking the time to try.

Boys' sense of control

The issue of choice emerged frequently in discussions with boys. Year 8 and Year 10 boys (but particularly Year 10 boys) believed they were at an age where they should be given more choice in their academic lives. It is interesting that when asked what they would change about school tomorrow if given the chance, the most salient response revolved around more choice.

In terms of engagement and learning, perhaps the most significant aspects of choice boys reported involved choices within subjects. Boys genuinely appreciated the opportunities given to them in terms of what books to read, plays to study, and topics on which to focus. Some also had experience of choices over how they could be assessed. For example, some teachers provided boys with scope to select what items of work they were assessed in. This not only provided boys with a sense of control but also enabled them to present their strengths thereby maximising opportunities for them to succeed. Boys also expressed a need for more choice in the subjects they studied at school – indeed their electives were highly valued by them.

Naturally, choices available to students will be very much dependent on the context in which they would be made. Sometimes, choice is not possible or can only be very limited. However, there is likely to be a greater sense of ownership, responsibility, and control whenever choices are made possible. Schools and teachers should not underestimate the power and potential of choice in adolescents' lives, nor underestimate the significant impact choice can have in developing effective decision-making skills for other parts of school and beyond.



Variety and relevance

There is little doubt that the majority of boys enjoyed and valued practical activities. This is well documented elsewhere, but needs to be reiterated here. It also needs to be noted that many of the girls enjoyed these types of activities too.

However, a compelling finding was the diversity of ways in which practical work could take place. Certainly, many boys simply enjoyed building, weighing, running around, and measuring. But many of the same boys also enjoyed discussion, debates, group work, interacting with the teacher, computer work, problem solving, cooperative learning, and talking amongst themselves. These boys also recognised that amongst these activities there was a need for seatwork, bookwork, note taking, and board work. Essentially, in the context of variety and practical work, more traditional forms of teaching and learning were also acceptable and not seen to be inappropriate.

A particularly striking feature of the qualitative data was the fact that boys see that school is clearly more than just schoolwork. It is also about friends, sport, work experience, supportive adults, and hobbies and interests. There were a number of boys who quite rightly recognised that school was preparing them for life. Perhaps at no other time in a person's life will there be so many opportunities to experience such diversity and develop such broad and relevant skills. The boys that recognised this had a greater sense that school was relevant and were more likely to enjoy school.

Balance in relationships and classrooms

Boys often referred to the effectiveness of teachers (and parents) in terms of their ability to strike a good balance on particular dimensions. Some saw effectiveness in terms of a good balance between discipline and tolerance. Some saw effectiveness in terms of a good balance between focus and fun. Some saw effectiveness in terms of a good balance between seriousness and humour. Some saw effectiveness in terms of a good balance between professionalism and friendship and mentoring. Other balances that effective teachers seemed to strike were in terms of teaching methods, due dates, content, and assessment tasks.

What these data underscore is that effective teachers seem to recognise that boys as a group are heterogeneous. They are all different in some subtle or marked



ways. These teachers recognise that to successfully reach and engage this diversity, no single method or approach will be as effective as one that ‘rolls with the punches’, so to speak. Rather, these teachers balance different methods, styles, and approaches as boys’ needs arise and as these needs change. Importantly, this ability to strike a balance on many dimensions seemed to underpin these teachers’ effectiveness in engaging boys *and* girls.



PART 4. CONSULTATIONS WITH TEACHING AND EXECUTIVE STAFF

The qualitative phase of the study also incorporated consultations with teaching and executive staff at two schools. These two schools had participated in the quantitative phase and also in the student interviews and discussion groups.

ISSUES UNDER FOCUS

Consultations with staff focused on eight key issues as follows:

- Key characteristics and practices in classes where students enjoy learning most
- Differences between boys and girls in motivation and learning and how this affects teaching practice
- Differences between boys and girls in school subjects and key skills and ways to overcome these differences
- Teaching strategies and teachers that engage boys most
- Learning environments or classroom structures that engage boys most
- How staff succeed in reaching and engaging boys
- Obstacles in engaging boys and how these were overcome
- Views on the boys' education debate.

The teacher interview guide is attached in Appendix C and the interview guide for executive staff is attached in Appendix D. Both forms were largely parallel and so data collected in the both groups of consultations are presented together in this chapter.

In contrast to interviews with students, gender was directly addressed in consultations with staff.

METHOD AND PROCEDURE

Sample

The teaching staff sampled were selected on the basis that they taught Years 8 and 10 – the target student groups in the quantitative and qualitative phase. In total, 15 teaching and executive staff were interviewed. Eleven participants were teaching



staff and four participants were executive staff. Ten staff were male and five were female.

Issues in qualitative research

As in the previous chapter, it is important to recognise that there are issues to consider when interpreting qualitative data. First, because of the typically small samples used in qualitative research, care must be taken in generalising to a wider population. Second, given the typically smaller samples used in qualitative research, it may not be the case that the full range of views of the target population will emerge. Third, also given the smaller sample sizes, it may be that some views emerge more strongly than would be the case in the wider population. Fourth, it must be recognised that self-reported behaviour or intentions do not always reflect or predict actual behaviour, so care must be taken when inferring from self-reports to actual behaviour. Notwithstanding these points, qualitative research offers opportunities not possible in large-scale quantitative research and it is for this reason that this methodology has been included in this part of the research project.

As a general point before presenting the qualitative data it should be noted that most teachers recognised that boys are different from each other. As such, they pointed out that answering some of the questions required them to generalise about boys as a group. When interpreting the data it is also important to recognise that teachers and executives were sampled from co-educational schools.

RESULTS

Key characteristics and practices in classes where students enjoy learning most

Teaching staff were asked to think about the best classes they teach or the classes where students (boys and girls) seemed to be most engaged and enjoyed learning. They were then asked to identify the key characteristics that underpinned these classes.

The most consistent characteristic of these classes was that the content was relevant to students' lives. In these classes, either the content was obviously linked to students' lives or interests or the teacher took the time to make these links clear to them.



Variety in the classroom was also seen as a core characteristic of engaging classrooms. Variety was achieved through different content and also through different teaching methods within the class.

Teacher enthusiasm was a third characteristic identified more consistently than others. Teachers made it clear that students responded very well in classes in which the teacher was interested in the content, enthusiastic about communicating it, and also valued the subject as a whole.

A fourth characteristic mentioned more frequently than others relates to students' confidence and opportunities to experience success in these classes. Generally, when students experienced success they were more engaged and more confident.

There were a number of other characteristics identified less frequently but which are worth reporting. These include: allowing creativity in the class, providing students with choices where possible, good relationships with each other and with the teacher, interspersing practical work with theory, and creating a trusting environment in which students feel safe to make mistakes and express their own opinion.

Teachers were asked if they did anything special or different in these engaging classes. The single most frequently identified factor was that teachers provided variety in content and variety in teaching and learning methods. Closely linked with this was that the teachers injected more creativity into the lesson and presented students with broad options so they could express their creativity.

Other specific things teachers do in these classes include: making lesson objectives clear at the start of the lesson, ensuring mastery which often meant filling knowledge gaps that had developed in previous years, developing students' confidence in the subject, incorporating humour and popular culture into the lesson, group work and problem solving activities, and developing class rules with the class and adhering to them.

Generally, boys responded very well in these classes. Particular aspects of these classes that hook boys in are:

- Practical work or working/learning in the physical environment (the most dominant response)



- Contributing to class rules and decisions and giving them a sense of control (another dominant response)
- Challenging problem solving
- Opportunities to work cooperatively
- Friendly and supportive competition
- Giving boys responsibility and leadership opportunities
- Scaffolding so that boys can build on things they have learnt or achieved
- Conducting investigation and working with the unknown.

Classes and subjects that engaged all students were characterised by relevance of content and method, variety in content and method, teacher enthusiasm, and increased opportunities for students to experience success.

The main two aspects of schoolwork that hooked boys in were practical work and opportunities for boys to contribute to class rules and decisions about content, teaching methods, and assessment.

Differences between boys and girls in motivation and learning

Teachers were asked about possible differences between boys and girls in terms of their motivation and learning. All teachers were of the view that there were differences between boys and girls on these dimensions. One difference that emerged more than others was boys' reluctance to be seen to be motivated. Boys are less likely to be seen to be trying too hard, did not want to stand out from the pack, or be labelled. According to one teacher: "It's not cool to be doing well or be interested". Nor would boys give something a go if they were likely to be hassled by their friends or classmates.

Other differences identified by teachers were that boys had less of a learning focus, boys would not give new things a go, boys were not so reflective and so were the first to volunteer information even if it was wrong, and boys were more interested in investigation-type schoolwork whereas girls were more interested in covering all types of schoolwork.



According to executive staff, the main difference between boys and girls is that girls are more reflective whereas boys will write or do the first thing that comes to mind. Other differences identified by executive staff were that boys take less care in their schoolwork, boys are quicker to abandon challenging schoolwork, boys are more likely to act out and disrupt learning, and boys need to see direct relevance of the work they do.

Teachers and executive staff reported that these differences affected their teaching practice in a number of ways, the main ones being:

- Having an encouragement and supportive focus – not a coercive or punitive focus
- Building more opportunities for success into boys' schoolwork
- Looking for the best in boys – catching them being good and doing something well
- Developing more variety in teaching strategies and assessment methods with a view to accommodating different learning styles
- Building more discussion into the lesson – and developing boys' skills in conducting discussion
- Getting to know the boys better and developing better relationships so confrontation can be avoided before it arises – direct and public confrontation was to be avoided wherever possible
- Providing boys with more choices in content to be covered, learning methods, and assessment methods.

Other, but less frequently cited, ways of dealing with the motivational and learning differences between boys and girls include: using more problem solving activities, encouraging greater reflection, having clear goals when going into class, using more humour in the class, aiming for win-win solutions wherever possible, and allowing boys to discover the subject through a little more freedom.



According to school staff, the main difference between boys and girls in motivation and learning is boys' reluctance to be seen to be working, learning, or motivated. Boys are less willing to be seen to try hard, stand out from the other students, or be labelled.

Differences between boys and girls in school subjects and key skills

There was a strong view that boys had most difficulties in subjects that primarily involved reading and writing. The main reason for this is that boys had more difficulty expressing themselves verbally and in the written word arising from a general lack of encouragement to express themselves in the way that girls are. There was also the view that reading and writing subjects tended to be less relevant to boys' lives, popular culture, or the world more generally and for this reason boys did not extend themselves or try in them.

There were two main ways teachers dealt with these difficulties. The first involved providing many opportunities for boys to succeed in these subjects. This included scaffolding to more difficult reading material, broadening the view of success in the classroom to ensure boys experienced more success, teaching to accommodate different learning styles, spending extra time with boys having particular difficulty, and selecting material on which boys are more likely to succeed. The second involved making the relevance of material clearer to boys or selecting material or invoking popular culture to make the subject more meaningful to the boys.

In terms of school subjects and core skills, there was a strong view that reading and writing and subjects that required these skills were areas where boys and girls differed most; boys tended to be weaker in them than girls. Teachers dealt with these differences in two main ways: providing enhanced opportunities for boys to succeed and making clear the relevance of what they were reading or writing.



Teaching strategies and teachers that engage boys most

Three strategies to effectively engage boys emerged more strongly than any others.

The first related to the need for practical, hands-on, and activity-based learning. This encompassed quite broad options that ranged from fieldwork to problem solving in class to investigative study to role-plays to discussion and debate amongst students.

The second related to boys' enjoyment of reward and positive feedback. It seemed that boys benefited from being told they had done something well. They particularly enjoyed some tangible reward that could be as wide ranging as half an hour of sport, some free time, or some food.

The third related to boys' appreciation of being given the opportunity and responsibility for making choices. Teachers gave choice to boys in quite different ways. Some gave boys choice over the work to be assessed so that boys could be assessed in areas of strength – thereby enhancing their opportunity for success. Others gave boys choice over formats in which to present their assignment – many, it was found, prefer to present their work on video, using PowerPoint, or “in ways that they can put their own stamp on the assignment”.

Less frequently cited strategies included using friendly and supportive competition to motivate boys, the use of worksheets, looking for opportunities to provide encouragement, and enhancing the relevance of material.

Three strategies to effectively engage boys emerged more strongly than any others. These relate to the need for practical, hands-on, and activity-based learning, boys' enjoyment of reward and positive feedback, and boys' appreciation of being given the opportunity and responsibility for making choices.

Learning environments or classroom structures that engage boys most

Small group work consistently emerged as the learning environment or structure most suited to boys. Group work encompassed discussions, problem solving, role-playing, and cooperative learning. Some teachers believed that group work with



boys was most successful when girls were also in the group. Girls, according to these teachers, “settled the boys down” and motivated the boys to behave more responsibly and with more maturity. Also along these lines, group work provided opportunities for peers to motivate disengaged boys and this was seen to be sometimes more effective than teachers trying to motivate these boys. Some teachers and executives suggested that there should not be too many friends in the one small group – consistent with boys’ own views – and that the groups should be hand-picked by the teacher because boys tended not to choose the right group members.

Small group work consistently emerged as the learning environment or structure most suited to boys.

How staff succeeded in reaching and engaging boys

Developing a good relationship with the student was cited by teachers and executives as the main reason they had experienced previous success with boys. As one teacher said, “If the relationship’s not there then everything falls apart.” Good relationships were developed through:

- Building trust
- Getting to know the student
- Talking about their interests and leisure activities
- Taking opportunities for one-on-one work with students
- Actively listening to students’ perspectives
- Finding things in common with the student
- Sharing a joke with students
- Affirming students as often as possible
- Giving students responsibility.

Other reasons for teachers’ success included activities outside the school (eg. vocational learning and workplace training), use of extrinsic motivators directly tied to learning, drawing on one’s own experiences and stories to interest boys, offline work such as activity in the workshop, reflecting on one’s own teaching and making



appropriate changes, advice from other staff, professional development, modelling their own interest in subject matter, sound school policy to modify behaviour and not to punish behaviour, and celebrating successes whenever possible.

Teachers and executives cited a good student/teacher relationship as the main reason they had experienced previous success with boys. Good relationships were developed through building trust, getting to know the student, taking opportunities for one-on-one work with students, actively listening to students' perspectives, finding things in common with the student, affirming students as often as possible, and giving students responsibility.

Ways the school can facilitate teaching and learning of boys

According to teachers, the main way schools could facilitate their teaching and engagement with boys is through supporting their initiatives aimed at engaging boys. Support would encompass providing financial resources, providing professional development, providing more information about boys' education, greater recognition of their professionalism, and perhaps supporting boys-only programs at appropriate times and for appropriate reasons.

A few teachers also reported that they do not know a great deal about how other teachers teach boys. They felt there was not enough time to engage in professional discussions with colleagues about teaching and that staff meetings could perhaps deal with less administration and more discussion about pedagogy.

Executives also recognised a greater need to support teachers professionally and indicated this could be achieved through more professional development, social support, allowing teachers more scope to be innovative, giving teachers more say in the curriculum, making research available to teachers, and providing support to new programs.

Executives also indicated that teachers need opportunities to see other teachers teach and to engage in professional dialogue with colleagues. They added that goals for boys need to be clearer, student/teacher relationships should be a high



priority for schools, greater involvement of parents would yield significant advantages, and boys would greatly benefit from increased opportunities to experience success in their schoolwork.

Teachers believe that the main way schools can facilitate their teaching and engagement with boys is through supporting their initiatives aimed at engaging boys. Support would encompass providing financial resources, providing professional development, providing more information about boys' education, greater recognition of their professionalism, and supporting boys-only programs at appropriate times and for appropriate reasons. Executives also recognised a greater need to support teachers professionally.

Obstacles in engaging boys and how these were overcome

Teachers reported that the biggest obstacle in engaging boys was boys' conceptions of masculinity and what it means to be a boy and a man. According to teachers, the problems that stemmed from this view include:

- Aggression and violence
- Inability to resolve conflict appropriately
- Difficulties with female teachers
- Barriers to learning – the 'I don't care' attitude
- The 'cool to be a fool' attitude to learning.

Another more frequently cited obstacle to engaging boys is the lack of support on the home front. According to teachers, this revolved around:

- Parents not valuing education
- A father's lack of involvement in his son's education
- Troubled personal lives at home
- Little or no encouragement to read.

Ways teachers have overcome or dealt with these obstacles include direct and personal contact with the home (particularly with fathers if available and



appropriate), modelling appropriate male behaviour, involving appropriate role models from outside the school, dealing with particular boys one-on-one rather than confronting them publicly, building more pastoral care into the curriculum, and setting aside significant time dedicated solely to reading.

Executives reported that the major obstacles in engaging boys involved a lack of time and resources, a crowded curriculum, inadequate teacher training, boys' conceptions of masculinity, and a need for teachers to have a greater understanding of how to engage boys.

Teachers reported that the biggest obstacle in engaging boys was boys' conceptions of masculinity and what it means to be a boy and a man. This encompassed boys' difficulties with aggression, conflict resolution, and attitudes to learning. A lack of support from home was cited as another obstacle in engaging boys at school. This encompassed the low value some parents placed on education and the father's lack of involvement in his son's education.

Views on the boys' education debate

Boys' education is an issue that has received substantial media attention and one that perhaps every teacher has or is able to comment on. It is proposed here that research into boys' education must give some consideration to how the debate is played out in popular mediums. This is because popular mediums can be a significant source of information for teachers and this is likely to impact on how they teach. It was therefore of interest to explore school staff views of the debate as played out in popular mediums. Specifically, they were asked what aspects of the debate are consistent with their 'chalk-face' experience and what aspects are not so consistent with their experience.

The most frequently cited argument with which teachers and executives agreed was that boys lack appropriate male role models. This is an interesting finding because it did not emerge as a clear finding in interviews and discussions with boys. Some teachers qualified their argument by suggesting that girls need more male teachers also while others suggested that many males are not appropriate role models.



Although not so frequently mentioned, other arguments with which they identify revolve around the negative effects of boys' fear of failure, the importance of a rich home life, the need for more authentic assessment that has clear relevance, the importance of vocational education and hands-on learning, the need to develop the whole boy (not just the academic part of him), and the importance of encouraging boys to read more.

Teachers and executives were then asked about perspectives, concepts, and arguments in the boys' education debate that were NOT consistent with their view and/or experience at school.

There was objection amongst teachers to the idea of segregating boys and girls either by class or by school. Some qualified this view by suggesting that there may be a need for appropriate boys-only programs or parts of a course or subject where boys are taught separately from girls – but with a view to integration shortly afterwards. Teachers held this view because they believed boys and girls need to learn to interact, segregation does not provide a balanced education, and boys respond better and are more motivated when girls are around.

The most frequently cited argument in the boys' education debate with which teachers and executives identified was that boys lack appropriate male role models. This is an interesting finding because it did not emerge as a clear finding in interviews and discussions with boys. When asked about aspects of the boys' education debate with which teachers DID NOT identify, there was objection amongst teachers to the idea of segregating boys and girls by school. There was some support for appropriate separation of boys from girls for aspects of some subjects or classes.

DISCUSSION

It is important to note that many findings from interviews with staff are very much consistent with key findings derived through interviews and discussions with students. However, there were a couple of inconsistencies and also some new



insights offered by teaching and executive staff. The following discussion is structured around the consistencies and inconsistencies and also identifies some additional insights important to recognise in this report.

The key consistencies between students and staff were:

- The importance of relevant content and teaching methods and the need for more authentic assessment
- The value boys derive from variety in material to be taught, variety in teaching methods, and broad assessment
- The benefits and appeal of practical learning and the diversity of ways this approach can be incorporated into subjects boys study at school
- The significant gains that can be made with boys through enhanced opportunities to experience success
- The high value boys place on choice within school and within specific subjects
- The fundamental importance of a good relationship between student and teacher and how this underpins much learning and engagement in the classroom.

Staff frequently identified the need for appropriate male role models in boys' lives in the form of teachers, appropriate sportsmen or community members, or fathers. This is a popular view amongst a number of researchers and educators alike. Interestingly, it was not one that emerged clearly in interviews and discussions with students. It could be that this is a level of analysis of boys' needs that boys are not equipped to conduct. However, given that boys could conceptualise clearly on other issues suggests that this is unlikely. Or, it could be that boys are reluctant to admit that they might need more involvement of males in their lives. This reluctance might be because boys see it as some admission of emotional need or weakness or it might touch on difficult personal and emotional issues in relation to other significant males in their lives. It might also be because they do not need or do not feel the need for male role models in their lives. For example, it may be that it is not the absence of a father (or mother) that has led to their educational difficulties but a break down in the family unit. The data collected in this research cannot provide answers to these speculations and so it is not possible to draw firm conclusions one way or the other.



Related to this are boys' problematic conceptions of masculinity, men, and boys. According to teachers, this touches on aggression, conflict resolution, identity, and a reluctance to learn or be seen to learn. In addition to identifying male teachers and appropriate role models as ways to address this, there was also the view that boys needed to be exposed to the diversity of positive ways in which masculinity is expressed and carried out. This was seen to be important in assisting boys' tolerance of those around them who might be different from them or different from the dominant portrayal of masculinity in popular culture.

Teachers also made frequent reference to the quality of boys' home life and its effect on their learning and engagement at school. There was some frustration that there existed a low valuing of education at home, little development of core skills such as reading, and a lack of parental (particularly fathers) involvement in school life. Teachers saw the connection between school (through teachers and executive staff) and the home as an important area to address. Importantly, this connection needs to be a positive one – not confined to reports of bad behaviour, poor grades, or suspension.

Teachers expressed a strong need for the school and executive to provide support for initiatives they might conduct to assist boys. Teachers, in different ways, were currently engaged in or were prepared to engage in formal and informal programs to assist boys either in the classroom context or through individualised or targeted initiatives. Teachers expressed a need for support in financial resources, professional development, information about boys' education, and recognition of their professionalism.

A dominant finding that emerged was teachers' belief that segregating boys and girls was, in large part, not the direction to go with boys' education. Boys and girls needed to learn to interact and needed balance and broad perspectives in life. Moreover, boys' motivation, engagement, and behaviour seemed to be enhanced through the presence and involvement of girls in the class or the groups in which boys worked. Notwithstanding this, some teachers also pointed to the need for boys-only programs or separation of boys and girls in particular parts of lessons – but both with a view to inclusion and integration as soon as possible and only for appropriate lengths of time, for appropriate reasons, and in appropriate contexts.



Interestingly, the need for separate or inclusive classes did not emerge strongly in interviews and discussions with boys or girls. This may be because they did not feel comfortable discussing these sorts of issues with the researcher or amongst themselves, they did not conceptualise the debate at this level, or did not feel it was an issue of great significance in their learning and engagement at school. Again, the data collected in this research cannot provide answers to these speculations and so it is not possible to draw firm conclusions one way or the other.



PART 5. CONSULTATIONS WITH RESEARCHERS AND KEY COMMENTATORS

The final phase of the qualitative research involved consultations with key researchers and commentators in the area of boys' education.

ISSUES UNDER FOCUS

The primary aim of this component was to make strategic use of these researchers and commentators to shed further light and perspective on important, complex, or unresolved issues arising from the previous four parts of the research. Consultations with researchers and commentators focused on nine key issues as follows:

- Consistently emerging facets of pedagogy that engage boys most
- Consistently emerging aspects of school policy and executive support that make it easier for teachers to engage boys
- The need for appropriate male role models or the particular involvement of male teachers
- The need to separate boys and girls for particular aspects of school subjects
- The issue of single-sex schools and classes
- The role of Middle Schooling in the context of boys' education
- The challenge of balancing practical activities with traditional aspects of the curriculum
- The challenge of building relevance into the traditional curriculum
- Aspects of the popularised boys' education debate with which interviewees agree and disagree.

The interview guide is attached in Appendix E.

METHOD AND PROCEDURE

Sample

Researchers and commentators were identified by the researcher or by the Department. They were identified on the basis that they had contributed significantly to the research into boys' education over the past decade or were commentators for key bodies (eg. ACT Parents & Citizens Council; ACT Education Union). In total,



eleven researchers and commentators were interviewed either by phone or face to face. Eight of these were researchers and three were key commentators.

Issues in qualitative research

Although the identification of these interviewees was intended to capture the breadth of debate in the area, the sample is not put forward as definitively representative. There are many key players in boys' education and it was not possible within the parameters of the project to consult them all. It is therefore important to recognise some of the issues relevant to this phase of the project. First, a small sample means that care must be taken in generalising to the wider community of researchers and commentators. Second, it may not be the case that the full range of views of the target population has emerged in this phase. Finally, it may be that some views emerge more strongly than would be the case in the wider community of researchers and commentators.

As a general point before presenting the qualitative data it should also be noted that most interviewees recognised that boys can be very different from each other. As such, answering some of the questions required them to generalise about boys as a group.

RESULTS AND DISCUSSION

Consistently emerging facets of pedagogy that engage boys most

Because pedagogy has emerged as one of the key issues relevant to enhancing the educational outcomes of boys, it was further pursued in interviews with researchers and commentators. Three aspects of effective pedagogy emerged more strongly than others. These were:

- The need to maximise opportunities for mastery and success including sound and clear structure of lessons and tasks, scaffolding, chunking larger (or open) tasks into smaller (or closed) tasks, and clear explanations
- The importance of assigning work that challenges students and is intellectually demanding (providing students with a sense that they are being extended or learning something new)
- A good relationship with the student, encompassing attributes such as respect, knowing and understanding the student, active listening, humour, and flexibility.



Other aspects of pedagogy that emerged (but less frequently) included teachers reflecting on their own practices with special consideration for gender, active learning, variety in content and methods (eg. balance of practical with traditional), strategic use of information technology, promoting higher order thinking skills and multiple intelligences, and matching teaching styles with students' learning styles.

Three aspects of effective pedagogy emerged more strongly than others. These were the need to maximise opportunities for mastery and success, the importance of assigning work that challenges students and is intellectually demanding, and the vital role of developing a good relationship with the student.

School policy and executive support

In identifying pedagogy as such an important element in boys' education it is fundamental that teachers be provided with the support to sustain their effective pedagogy or develop more effective pedagogy. Researchers and commentators were asked how the school and executive could support teachers in these ways. More consistently emerging views included:

- Addressing student harassment at a number of levels – particularly homophobia, misogyny, and racism
- Recognising and celebrating diverse forms of achievement
- Enhancing opportunities for teachers' professional development – focusing on pedagogy and the role of gender in pedagogical practice
- Providing greater scope for teachers to be innovative in content, methods, and assessment
- Allowing greater, genuine involvement of students in school- and class-level decisions that affect them.

Other ways schools and executive staff could support teachers in pedagogy included explicitly valuing teaching staff, fostering a culture of care for students, having an effective discipline policy, and making best practice available to teachers.



Ways schools and executive staff could support pedagogy included addressing student harassment (homophobia, misogyny, racism) at a number of levels, recognising and celebrating diverse forms of achievement, enhancing opportunities for teachers' professional development, allowing greater and more genuine involvement of students in school-level decision making, and providing greater scope for teachers to be innovative.

Male role models and the particular involvement of male teachers

It was interesting to note that there was not a tendency amongst students to identify the particular need for appropriate male role models or teachers. Instead, they seemed to be more concerned with how the teacher taught – not whether that teacher was male or female. In contrast, nearly all teachers and executive staff indicated the need for the particular involvement of appropriate male role models or teachers. Researchers and commentators were asked to comment on these inconsistencies.

Their more frequent responses to these findings were that teachers may be picking up on media-driven ideas about what boys need and that students were primarily interested in being involved with educators who could teach, engage, and relate – irrespective of whether they were male or female.

There was the suggestion that perhaps boys could not conceptualise at this level and that this limited their ability to know about the appropriate involvement of particular people in their lives. In response to this, however, it was pointed out that boys were able to conceptualise about other complex issues and this made it unlikely that they could not conceptualise about gender in a similar way.

Importantly, however, amongst interviewees there was also a view that more male teachers in schools would be beneficial to all students because it would provide a more balanced gender construction of teaching and learning and would also provide students with greater diversity – an important underpinning of education. It was also recognised that on some personal issues, boys might prefer to consult male teachers and girls might prefer to consult female teachers.



The need to separate boys and girls for particular aspects of school subjects

Interviews with some school staff suggested that there might be some benefit in separating boys and girls for particular aspects of some school subjects. When this was raised with researchers and commentators the more consistent view was that pedagogy rather than structural issues were most important but that there were aspects of curriculum (eg. sex education, and in one or two cases, English) in which separating boys and girls would not be inappropriate or that single-sex classes within co-educational schools were worth considering.

It was also reported that when boys and girls are separated, it should be undertaken with full support from teachers and students, be undertaken in specific aspects of subjects, be evaluated rigorously to inform future separation and integration practices, and be with a view to integrating students as soon as is appropriate. Moreover, there was the view that separating boys should be carried out for pedagogical purposes and not for the purpose of controlling behaviour.

In terms of separating boys and girls for particular aspects of some subjects, the more consistent view was that pedagogy rather than structural issues were most important but that there were aspects of curriculum (eg. sex education) in which separating boys and girls would not be inappropriate. However, such separation should be undertaken with full support from teachers and students, be undertaken only in specific aspects of subjects, be evaluated rigorously to inform future separation and integration practices, and be with a view to integrating students as soon as is appropriate.

The issue of single-sex schools and classes

Although school staff recognised value in separating boys and girls for some aspects of school subjects, a number also quite strongly identified the need for boys and girls to be educated in co-educational contexts. This was explored with researchers and commentators.



Most interviewees reported that co-educational schools provided greater balance and diversity in students' lives and that such diversity was an important underpinning of education. They also reported that structural issues such as single-sex schooling or classes were outweighed by the vastly more influential factor of pedagogy and that single-sex schooling ran the risk of reinforcing gender stereotypes – which can sit uncomfortably with academic engagement and achievement for many boys.

A smaller number of commentators identified some of the benefits of single-sex schooling such as being able to better match teaching styles with learning styles, the fact that some boys prefer single-sex schooling, and the reduced distraction that girls might represent. Significantly, however, they too indicated that this was outweighed by the enormous role of quality pedagogy and the need for the availability of choice in the Australian education system encompassing single-sex and co-educational schools.

Co-educational schools were seen by a number of researchers and commentators to provide good balance and diversity in students' lives and reduced the likelihood that academically unhelpful gender stereotypes would emerge. Merits of single-sex schools included the role they played in providing choice within the Australian education system and the enhanced opportunity to match teaching styles with learning styles. Notwithstanding the respective and relative merits of co-educational and single-sex schools, pedagogy was consistently seen as a more influential factor in students' engagement and achievement.

The role of Middle Schooling in the context of boys' education

The issue of Middle Schooling is gaining increasing attention and consultations with researchers and commentators were seen as an ideal opportunity to explore the issue as it related to the education of boys. A generally consistent (with qualifications and provisos) support for Middle Schooling emerged in interviews. Reasons for supporting Middle School options were that:



- It is a way to more effectively target students and build greater school relevance into their lives
- Constructions of masculinity are forming in these years and so tailoring pedagogy at this time would be beneficial
- It is an effective way of smoothing the transition from primary to secondary school
- It provides enhanced opportunities to get to know and understand students better
- It targets a time in boys' lives when they are increasingly practising masculinity and developing beliefs and practices revolving around homophobia.

Qualifications were that Middle Schooling should only be carried out with appropriate and adequate resourcing, should be supported by pedagogy tailored to Middle School years, should be carried out with a view to getting to know and understand students better, and should be fully supported by teaching staff. One researcher noted that robust evidence for the benefits of Middle Schooling is unavailable.

A generally consistent (but with qualifications and provisos) support for Middle Schooling emerged in interviews. Middle School was seen to be potentially beneficial in that it is a way to more effectively target students and build greater school relevance into their lives, constructions of masculinity form in these years and so tailoring pedagogy at this time could be beneficial, it is an effective way of smoothing the transition from primary to secondary school, it provides enhanced opportunities to get to know and understand students better, and it targets a time in boys' lives when they are increasingly practising masculinity and developing beliefs and practices revolving around homophobia.

Balancing practical activities with traditional aspects of the curriculum

In interviews and focus groups with students there was a strong preference for practical activities – amongst boys and girls alike. The difficulty with this is that there are core and traditional aspects of the curriculum that may be seen as less



amenable to practical activities than others. This was explored with researchers and commentators.

The data emerging here were broadly consistent with that from students and school staff. Essentially, practical activities encompassed a great variety of strategies such as discussion, group work, problem solving and role-playing, which could all comfortably be positioned in the traditional curriculum. It also encompassed broad and rich assessment tasks. Indeed, there was the view that relying solely on traditional notions of practical activity (viz. building, measuring, weighing etc.) “short-changed” boys – rather, they were capable of hooking into very diverse practical learning styles. It was also recognised amongst a number of interviewees that boys were diverse and some did not prefer traditionally practical activities.

A smaller number of interviewees reported that students will “forgive” traditional, theory-based aspects of the curriculum if they are given the opportunity to engage in more practical activities. There was also the view that the development of some skills was not-negotiable – for example, literacy could not be replaced with other activities – and that there was also some value in students developing a capacity to do some things that might not entirely suit them – this developed their tolerance and “underlying intellectual muscle”.

Researchers and commentators agreed that boys derive a great deal of enjoyment and satisfaction from practical activities (but noted that many girls do as well and that some boys do not). Importantly, however, practical activities encompassed a diversity of strategies as well as rich and authentic assessment tasks that could be comfortably positioned in the traditional curriculum.

The challenge of building relevance into the traditional curriculum

Students also placed a high value on relevance. Researchers and commentators were asked how educators could effectively balance the traditional curriculum with students’ need for relevance. The dominant view was that relevance was best achieved through the links educators drew between curriculum content and aspects of students’ lives or the world more generally. It also required greater injection of



authenticity into the curriculum in terms of content, methods, and assessment. This would require educators to stay abreast of popular culture, information technology, world events, and the students' lives. Their ability to integrate these with the curriculum would be enhanced through professional development and targeted pre-service training. Taken together, these equip educators with the tools and the skills needed to provide students with a sense that what they are studying has purpose. Importantly, these tools and skills are transferable across the curriculum and because of this are effective in traditional subjects.

Researchers and commentators reported that relevance is best achieved through the links educators draw between curriculum content and aspects of students' lives or the world more generally. It also requires greater injection of authenticity into the curriculum in terms of content, methods, and assessment. Making such links requires educators to stay abreast of popular culture, information technology, world events, and students' lives and their ability to do this effectively is enhanced through professional development and targeted pre-service training.

Perspectives on the popularised 'boys' education debate'

Boys' education is an issue that has received substantial media attention and one that perhaps every parent and teacher has or is able to comment on. It is proposed here that research into boys' education must give some consideration to how the debate is played out in popular mediums. This is because popular mediums can be a significant source of information for teachers and parents and this is likely to impact on how they teach or raise their child. It was therefore of interest to explore researchers' and commentators' views of the debate as played out in popular mediums. Specifically, they were asked what aspects of the debate are consistent with their research and/or 'chalk-face' experience and what aspects are not so consistent with their experience.

Concepts and arguments raised in the debate with which most researchers and commentators were in agreement were that:

- There are motivation and performance differences between boys and girls



- Specific aspects of boys' engagement and achievement need intervention.

Aspects of the debate that were generally NOT CONSISTENT with researchers' and commentators' experience were that:

- All boys are similar or the same – rather, the debate should be identifying which boys (and which girls) need particular support and assistance and what types of support and assistance are most needed
- Boys' biological and chemical make-up is the major determinant of their engagement and achievement at school – rather, research shows that there is often greater variation in achievement between classes/teachers than between students which limits biologically-deterministic claims
- Boys cannot read – rather, many boys do not want to read or be seen reading
- Boys and girls are two fundamentally different groups of students – rather, there is more overlap in achievement and motivation between boys and girls than there are differences.

Researchers and commentators were asked what aspects of the popularised boys' education debate are consistent with their research and/or 'chalk-face' experience and what aspects are not so consistent with their experience. Concepts and arguments in the debate with which most researchers and commentators were in agreement are that there are motivation and performance differences between boys and girls and that specific aspects of boys' engagement and achievement need targeted intervention.

Aspects of the debate that were generally *not consistent* with researchers' and commentators' experience were that all boys are similar or the same, boys' biological and chemical make-up is the major determinant of their engagement and achievement at school, and boys and girls are two fundamentally different groups of students. Rather, these researchers and commentators reported that boys are a diverse group, class/teacher effects (not biological) account for most variance in achievement, and there is more overlap in motivation and achievement between boys and girls than there are differences.



Concluding perspectives

At the end of the interview, researchers and commentators were asked if there was anything they would like to add. The issue raised most consistently was that of homophobia. Homophobia was seen to be a very limiting factor in boys' engagement, enjoyment, and achievement at school. Subsumed under homophobia were academically-related problems involving reading, subject choice, the amount of effort expended in schoolwork, answering and/or asking questions in class, achievement, seeking help from teachers, and the amount and form of extra-curricular activity undertaken. Tackling the school and class cultures were seen as the most important levels at which homophobia can be addressed.

In addition to the pedagogical issues presented above, homophobia was the issue most consistently raised (unprompted) by interviewees as something that limited boys' engagement, enjoyment, and achievement at school.



PART 6. CONCLUSION

The present study has encompassed a review of previous research, quantitative analysis of motivational data of close to 2,000 Year 7 and Year 9 students, interviews and focus groups with just under 100 students, and consultations with teaching and executive school staff as well as key academics and commentators. These data were aimed at providing insight into and direction for enhancing the educational outcomes of boys.

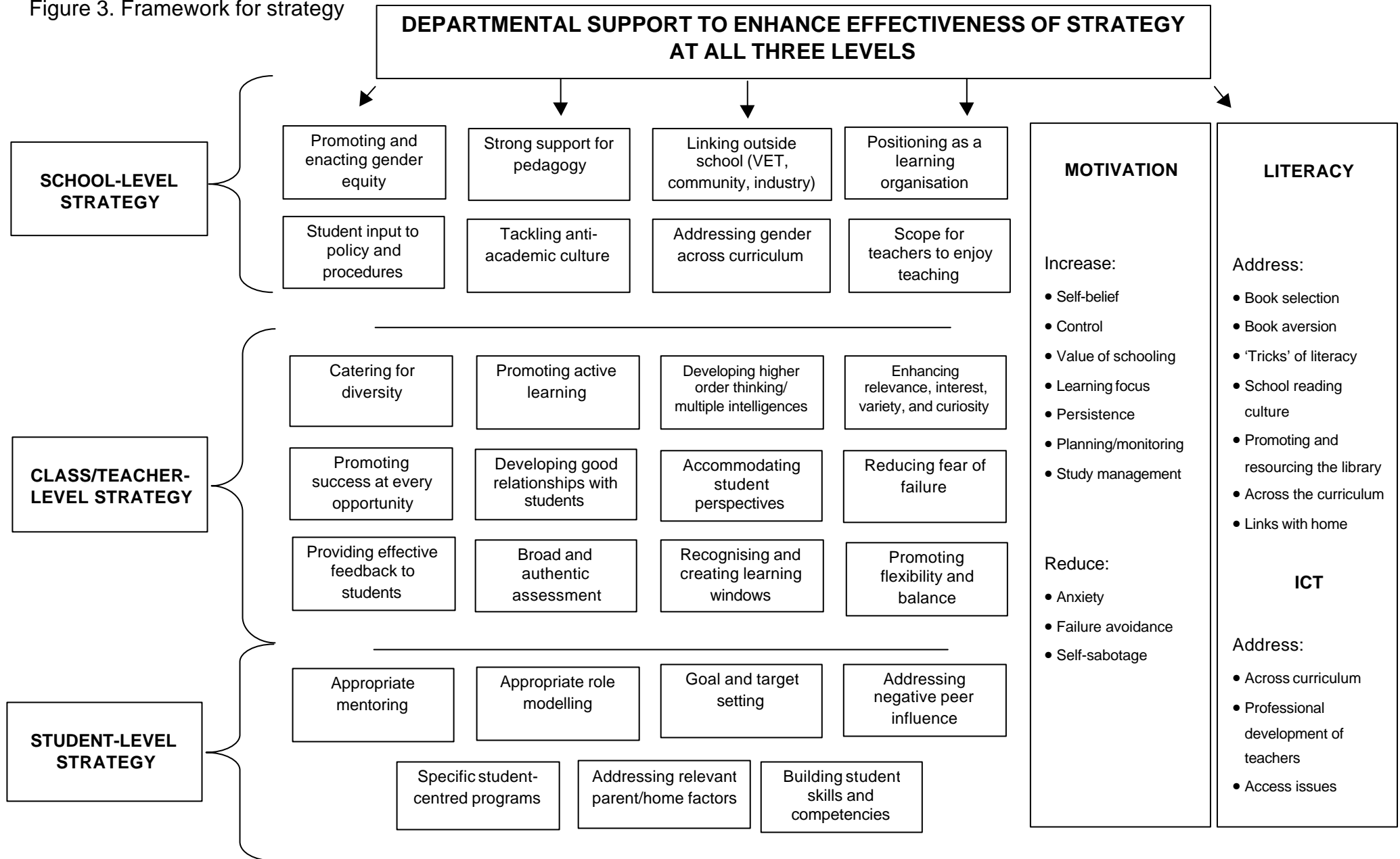
In a number of respects, these data were consistent across stakeholders and informants and these consistencies have been highlighted throughout the report. In other respects, however, there were inconsistencies across stakeholders and where these arise there is a need for further research and perhaps also the need for greater nuancing in system- and school-level policy.

Taken together, the evidence presented in this report identifies areas for strategy at student-, class-, and school-levels. Figure 3 presents a framework that draws this strategy together. Of course, the emphasis given to each level of strategy as well as the elements within each level will vary from school to school. Each school has a different culture, student body, and staff profile and this will determine which of the many options for strategy should be a focus of the school.

It is the position of this report that action at the *teacher and class level* will yield most effect in student achievement, followed closely by student-level action, and then school-level action. Importantly, this is not to diminish the value of school-level action because not only is school-level action crucial in its own right but it also feeds directly into class teaching and student-level activity.



Figure 3. Framework for strategy



To complement the Framework are some core messages important to reiterate in concluding this report. These messages are grouped into three themes.

The first theme relates to *teaching- and learning-related pedagogy* and includes:

- Providing variety at a number of levels
- Enhancing knowledge and communication of curriculum content
- Maximising opportunities for mastery and success
- Striving for relevance and meaning
- Recognising and catering for diversity.

The second theme relates to *pastoral pedagogy* and includes:

- Building good relationships with students
- Valuing flexibility and balance
- Recognising the motivational dimensions of students' engagement
- Recognising boys' and girls' strengths
- Building academic resilience
- Providing control, choice, input, and responsibility.

The third theme relates to the interface between the school, the class, and the student and includes:

- Supporting effective pedagogy
- Supporting literacy at all levels
- Understanding the construction of gender and its concomitants
- Providing scope for teachers to enjoy teaching and working with young people.

Instruction- and learning-related pedagogy

Providing variety at a number of levels: Boys consistently identified variety as a key to engaging them in schoolwork. In the first instance, variety encompasses diverse teaching content, teaching methods, and assessment. Variety also hinges on diverse learning activities such as small group work, active learning, information and communications technology (ICT), discussion, problem solving, debating, and role-playing. The data suggested that if in-class methods were diverse, boys would



'forgive' times when theory, traditional bookwork, or seatwork were required. The data also provided more fine-grained understanding of the practical learning that boys so frequently identified as enjoyable and engaging. Certainly such learning did involve outdoor activities of the more physical type. Significantly however, practical activities also involved in-class tasks such as small group work, debating, role-playing, and discussion. Other commentators have also suggested that even 'mentalistic' activity can be positioned as practical – this can include summarising in one's own words, mind-maps, 'spidergrams', as well as synthesising and distilling information. Considering variety along these lines also hooks into the importance of more contemporary concepts such as multiple intelligences, higher order thinking, and learning styles.

Enhancing knowledge and communication of curriculum content: Boys highly valued teachers who had a good understanding of the material to be taught and who could communicate that effectively. It was the joint operation of the two that hooked boys into the schoolwork. Effective communication also entailed the teacher taking the time to explain content (often more than once) to students who required further clarification and explanation.

Maximising opportunities for mastery and success: Boys enjoyed doing what they felt good at or succeeded at. Teachers that engaged boys most seemed to be able to maximise opportunities for them to succeed. More frequent and genuine success experiences were achieved through breaking schoolwork into more achievable parts (chunking) and rigorously promoting a broader view of success that also encompassed improvement, skill development, and personal bests. Other teachers achieved more success in the classroom through clear goals and objectives and also through clear and detailed explanations and instructions. These teachers also rarely missed opportunities to praise, encourage, or reinforce boys when they mastered or succeeded at something.

Striving for relevance and meaning: Students have a thirst for relevance and boys are no exception. Boys were more engaged in schoolwork that was connected to their life, their future, the world generally, or other subjects they studied. Some also saw value in subjects that developed broader skills for life such as social and interpersonal skills, thinking skills, and decision-making skills. Although some subjects are more readily applicable to students' lives than others, there was clear evidence that even the more traditional and theory-driven subjects could come alive



with good preparation, energy, and flexibility on the part of the teacher. The data also suggested that where direct relevance was not so easily drawn, worthy substitutes were teachers' arousal of *curiosity*, *interest*, and *fun*. Again, where any or all of these three elements were present, students would 'forgive' less relevant aspects of the subject. Where these three elements were combined with *relevance*, the teacher was powerfully positioned to engage students and maximise learning and success in the classroom.

Recognising and catering for diversity: Our student body is diverse. Just as boys differ from girls on a number of dimensions, so too do boys with each other and girls with each other. Diversity on these dimensions also interacts with other dimensions such as socio-economic status and ethnicity, to name just two. Given the diversity of boys as a group, it is important to deliver pedagogy that is sufficiently nuanced to address different boys' needs, strengths, preferences, and priorities. As is discussed below, an important means to achieve this is through variety, breadth, and authenticity in content, teaching methods, and assessment.

Pastoral pedagogy

Building good relationships with students: Central to the issue of effective pedagogy is the nature of relationships between teachers and students. Boys consistently reported that the subjects in which they were most engaged tended to be taught by teachers with whom they had relationships characterised by mutual respect, listening, flexibility, empathy, interest, humour, acceptance and affirmation, and understanding of the student's situation and circumstances.

Valuing flexibility and balance: The concept of balance arose frequently throughout the study. It appears teachers (and schools) that engage boys are able to strike a fair and sensible balance between fun and serious application, adherence to rules but with flexibility when the situation or boy needed it, theory and application, traditional methods with innovation, and tolerance and discipline. The need to be understood also arose frequently amongst boys and flexibility on the part of the teacher and the school was cited as clear evidence that some consideration was being given to the individual boy's situation. Boys reported that there could be qualifying or mitigating circumstances surrounding their actions and that teachers who were responsive to these circumstances provided them with a sense they were being heard and understood. Balance was also evident in the more challenging issues of male role models and single-sex structures. For example, although boys



did not indicate that male teachers were necessarily better able to engage them than female teachers (indeed, the strategies, messages, and themes presented in this report can be implemented just effectively by male teachers as female teachers), there is a clear need to have more male teachers so as to circumvent yet another construction of gender that may not be helpful to boys' valuing of school or academic aspirations. Another example is that although the need for single-sex schools did not emerge as a strong finding, it is important to recognise that there may be some aspects of some subjects where boys and girls can be separated to their mutual advantage.

Recognising the motivational dimensions of boys' engagement: Student motivation has been a focus of the report. Data collected from 1,930 ACT Year 7 and Year 9 students suggests that boys are significantly lower than girls in learning focus, planning and monitoring, study management, and persistence. They are also significantly higher than girls in self-sabotage. Although these motivational differences cannot be said to fully account for aggregate achievement differences between boys and girls, they can certainly be invoked as one important part of the big picture. On this basis, boys would benefit from some targeting of these facets of motivation. Notwithstanding this, girls' relative strengths in these areas must be acknowledged and sustained. It should be noted that girls are significantly higher than boys in anxiety and this too should be included in any targeted efforts at enhancing boys' and girls' motivation.

Recognising boys' and girls' strengths: Recognising motivational differences between boys and girls also brings into consideration the fact that they have strengths that are critical to recognise and affirm. Effective pedagogy is about sustaining the relative strengths of boys and girls and also about addressing areas in which boys and girls require further support and assistance. Indeed, working through and with areas of strength may be a particularly useful way to address areas of relative weakness.

Building academic resilience: There has been much discussion and debate surrounding the issue of resilience as a general concept. This has focused on protective factors that seem to enhance young people's ability to effectively deal with adversity in their lives as well as the risk factors that reduce their ability to do this. The concept is readily transferable to young people's experience at school and their ability to effectively deal with academic setbacks (eg. poor performance,



negative feedback) and stress or pressure in the academic setting. Indeed, a number of teachers indicated that a key difference between boys and girls was boys' tendency to give in if schoolwork presented too much challenge or difficulty. It has been suggested here and elsewhere that protective factors in the academic setting include such elements as self-belief, a sense of control, a belief in the value of school, a learning focus, planning and monitoring, study management, and persistence. Risk factors might include anxiety and fear of failure. To the extent that these protective and risk factors are valid determinants of academic resilience, they need to be addressed in students' academic lives.

Providing control, choice, input, and responsibility: Boys highly valued being given the opportunity to make choices or provide input into course content, teaching and learning methods, assessment tasks and criteria, and even class rules and expectations. Teachers reported that when boys were bestowed with these or similar responsibilities they often rose to the occasion and were able to inject sensible and productive options. The sense of ownership also more fully engaged them in the schoolwork and provided a sense of involvement rather than exclusion. Teachers and schools that engage seem to look for opportunities to *genuinely* involve students in decisions that directly affect them.

Interface between the school, the class, and the student

Understanding the construction of gender and its concomitants: As with other significant areas of boys' lives, school is a place where they learn about what it means to be a boy and a man. Hence, school can be an ideal context in which to celebrate diversities of masculinity in a way that validates the breadth of positive and healthy masculinities existing in the student body and staff. School can also be a context in which academically unhelpful constructions of gender and their concomitants can be targeted. These include, but are not limited to, 'cool to be a fool' constructions, fear of failure, homophobia, and aggression.

Supporting effective pedagogy: Pedagogy consistently emerged as one of the most influential factors in boys' academic lives. It is important that significant system- and school-level resources are directed to supporting teachers in classrooms to deliver such pedagogy. It may be helpful to use effective pedagogy as a filter through which to assist decision-making at system and school levels. In making these decisions, the question to pose could be thus: How will this help teachers deliver quality



pedagogy and build stronger relationships with students? Quality pedagogy and strong relationships are the cornerstones of students' engagement at school.

Supporting literacy at all levels: Literacy emerges as an area in which boys can be further developed. It seems that literacy requires a multi-faceted approach at school, class, and teacher levels that could encompass careful selection of diverse reading material that is interesting to boys but also provides scope for critical analysis of gender construction (without devaluing youth culture), auditing reading habits within the school and using findings to promote a reading culture, developing strategies to link with the home, explicitly teaching the many 'tricks' of literacy, supporting and extending the important role of the library, the potential for ICT, developing strategies to assist students' transition from primary to secondary school, and assisting students to effectively deal with literacy demands across the curriculum.

Providing scope for teachers to enjoy teaching and working with young people: It is significant that boys enjoy their learning and class experience more when the teacher values the subject matter and enjoys teaching it. Boys were also more positively disposed to schoolwork when the teacher clearly enjoyed working with young people. Schools and the system more generally would do well to provide ample scope for teachers to enjoy teaching and enjoy working with young people. How to do this is beyond the scope of the present report but could include consideration of issues such as professional development, class size, enhanced opportunities for professional dialogue, executive-level support, scope for teachers to be innovative with teaching methods and content, and a strong valuing of teachers as professionals at the school-, system-, and community-levels.

In sum, this report has sought both breadth and depth. It has sought breadth because there is no one answer or strategy to enhance the educational outcomes of boys. Rather, enhancing these outcomes requires a multi-faceted approach that recognises the (increasing) diversity of the student body. Schools differ, as do classes, as do students and to effectively deal with this diversity requires the availability of a range of options and alternatives.

The report has sought depth because to be most effective in enhancing the educational outcomes of boys – or any student for that matter – requires us as educators to drill down into specific elements or strategies so that we ensure all boys are being accommodated. A very good example of this is the value of drilling



down into boys' strong preference for practical activities to find that this can encompass many activities ranging from the outdoor physical variety through to small group work, debate, or discussion in class through to mindmaps or note summaries in one's seat. Boys and girls can all benefit from a schooling experience that provides such opportunities for variety and the added possibility of developing new styles or modes of learning.

For the most part, this report has adopted an optimistic approach to the issue of boys' education. It has been optimistic because there are clear strategies and principles that underpin all students' engagement and achievement and these provide a guide for future policy and practise. Through sound pedagogy, good relationships, solid school- and system-level support, and appropriate resourcing, boys *and* girls can develop more effective and adaptive strategies for engagement and achievement at school. Along the way, they will also come to enjoy and value school more. Indeed, our students deserve nothing less.



PART 7. REFERENCES

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APPENDIX A: STUDENT PAIRS INTERVIEW GUIDE

Ice-breakers

What do you think of Year 8/10? Is it much harder than last year? In what ways? How do you deal with that?

The School

If I were to ask you to describe school, what would you say about it? Why do you use those words? *Probe some key words.*

What would you say is the most important reason for being at school? Why do you say that?

What's the best thing about school or being at school? Why do you say that?

What do you think is the hardest thing about being at school or the hardest thing you have to do at school? Why do you say that? How do you deal with these difficult things?

What sort of help do you get at school to deal with some of these difficult things? How easy or hard is it to get help at school? Is there any other sort of help you'd like to get?

What would you change about school tomorrow if you had the chance? Why do you say that?

The Classroom

Think of the subject/s where you do your best work, what is it about that subject/s that brings out your best? *Probe fully to explore:*

- the way it's taught
- the person teaching it (no names)
- the classroom structure or climate
- the content/subject area.

Think of the subject/s where you are not so interested and/or don't do so well, what is it about that subject/s? *Probe fully to explore:*

- the way it's taught
- the person teaching it (no names)
- the classroom structure or climate
- the content/subject area.

Can you describe (don't name him or her) the teacher that brings out your best work or keeps you most interested? Why do you use those words? *Probe some key words.*

Other Students

What do your friends think of or say about school?

How much do you think that influences what you think about school? In what ways?

Do you think trying hard at school is important to your friends? Why do you say that? Does that affect how hard you try at school?



If they make it harder to try at school, what things could/do you do to deal with this?
What else?

Parents

What do your parents think of or say about school?

How much do you think that influences what you think about school? In what ways?

Would you say your parents make it easier or harder for you to try hard at school (or don't they have much effect on what you do)? Why do you say that?

Wrapping Up

Is there anything you would like to add about what we have been talking about?
Something about your views or beliefs about school, teachers, your friends, or parents that we haven't talked about?

THANK AND CLOSE



APPENDIX B: STUDENT FOCUS GROUP GUIDE

Ice-breakers

What do you think of Year 8/10? Is it much harder than last year? In what ways? How do you deal with that?

The School

If I were to ask you to describe school, what would you say about it? Why do you use those words? *Probe some key words.*

What's the best thing about school or being at school? Why do you say that?

What do you think is the hardest thing about being at school or the hardest thing you have to do at school? Why do you say that? How do you deal with these difficult things?

What would you change about school tomorrow if you had the chance? Why do you say that?

The Classroom

Think of the subject/s where you do your best work, what is it about that subject/s that brings out your best? *Probe fully to explore:*

- the way it's taught
- the person teaching it (no names)
- the classroom structure or climate
- the content/subject area.

Think of the subject/s where you are not so interested and/or don't do so well, what is it about that subject/s? *Probe fully to explore:*

- the way it's taught
- the person teaching it (no names)
- the classroom structure or climate
- the content/subject area.

Can you describe (don't name him or her) the teacher that brings out your best work or keeps you most interested? Why do you use those words? *Probe some key words.*

Parents

What do your parents think of or say about school?

How much do you think that influences what you think about school? In what ways?

Would you say your parents make it easier or harder for you to try hard at school (or don't they have much effect on what you do)? Why do you say that?

Wrapping Up

Is there anything you would like to add about what we have been talking about? Something about your views or beliefs about school, teachers, or your parents that we haven't talked about?

THANK AND CLOSE



APPENDIX C: TEACHER INTERVIEW GUIDE

Thinking of the classes that are the best to teach or where students enjoy learning most, what are their key characteristics? Do you do anything special or in particular in those classes that make them a great place to teach and learn?

How do boys respond in those classes? What do you think hooks them in?

Do you think there are differences between boys and girls in terms of their motivation and learning? What are they? How does this affect what you do in the classroom?

Have you found there are some teaching strategies that engage boys most? *Probe fully.*

Have you found there are some learning environments or classroom structures that engage boys most? *Probe fully.*

What are some of the successes you have had in reaching and engaging boys? How did you achieve these?

Are there other teachers that do a good job of engaging boys? How do they do this?

Are there things the school does/can do to facilitate conditions or teaching strategies that engage boys?

What are some of the obstacles you've experienced in teaching or engaging boys? How have you dealt with or overcome these obstacles?

In what subjects do you think boys have most trouble? Why is this? Are there ways to overcome these difficulties?

Are there some school or learning competencies or skills where boys are trailing girls? What do you think are the best ways to develop boys in these competencies or skills?

What's your view on the 'boys debate'? Are there some perspectives that really ring true with your experience? Are there some perspectives that you don't relate to?

Is there anything you would like to add about what we have been talking about? Something about boys, girls, school, or teachers that we haven't talked about?

THANK AND CLOSE



APPENDIX D: EXECUTIVE STAFF INTERVIEW GUIDE

Do you think there are differences between boys and girls in terms of motivation and learning at your school? What are they? How does this affect what you do at the executive level? How does this affect what your teachers do in the classroom?

Are there some issues relevant to the teaching and learning of boys that cut across the school as a whole? What are they? How does the school address them?

Have you found there are some learning environments or classroom structures that engage boys most? *Probe fully.*

What are some of the successes your school has had in reaching and engaging boys? How did your school achieve these?

Are there some teachers that do a good job of engaging boys? How do they do this? Are there some core characteristics of teachers that do a better job than others in engaging boys?

What can schools and executive staff do to help teaching staff to engage boys?

What are some of the obstacles your school has experienced in teaching or engaging boys? How have you dealt with or overcome these obstacles?

How can schools better develop a pro-learning environment with which boys will identify and engage?

What's your view on the 'boys debate'? Are there some perspectives that really ring true with your school's experience? Are there some perspectives that your school's experience does not reflect?

Is there anything you would like to add about what we have been talking about? Something about boys, girls, school, or teachers that we haven't talked about?

THANK AND CLOSE



APPENDIX E: RESEARCHER AND COMMENTATOR INTERVIEW GUIDE

In your research and perhaps chalk-face experience, are there some aspects of pedagogy that have consistently emerged as conducive to the engagement and motivation of boys?

In your research and perhaps chalk-face experience, are there some aspects of school policy or executive support or even some characteristics of schools that have consistently emerged as important in making it easier for teachers to engage and motivate boys?

Thoughts on:

- The need for appropriate male role models.
- The need to separate boys from girls (in co-ed schools) for particular purposes.
- The issue of single-sex classes/schools.
- The issue of Middle Schooling in the context of boys' education.
- The challenge of balancing practical, hands-on, fun learning with core aspects of the curriculum (particularly the traditional subjects) that typically require seatwork, theory etc. - and similar balancing acts.
- The challenge of meeting boys' need for relevance with core aspects of the traditional curriculum.

What's your view on the 'boys debate'? Are there some perspectives that ring true with your experience? Are there some perspectives that your experience does not reflect?

Is there anything you would like to add about what we have been talking about? Something about boys, school, teachers, or previous research that we haven't talked about?

THANK AND CLOSE



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The views expressed in this report may not necessarily reflect the views of these people.