SWAP : Student Wellbeing Action Partnership

Addressing the gender bias in academic achievement for male and female students in year 8

Abstract

For a teacher working in an independent P-12, co-educational secondary school, success is often measured by the final ENTER VCE score attained by your students. Yet despite our best efforts, the gap between male and female academic achievement at a Year 12 level continues to increase. A review of our 2006 VCE results identified a definite gender bias in male and female student's ENTER scores. The decline in academic achievement for boys has been well documented in recent publications of research and literature. The deterioration of achievement for boys has been partly attributed to a lack of engagement and self-efficacy and is not merely restricted to the VCE level; it was also very apparent at year 8 and 9. The intention of the action research was to investigate ways in which we, as a faculty, could improve the level of engagement and student wellbeing through changes made to the structure and delivery of our curriculum based upon specific learning dispositions; ultimately improving academic achievement. Because the project required time to develop and improve the level of confidence and skills of students, the collaborative group of 4 humanities teachers decided to initially focus on boys in year 8. We engaged the assistance of an independent organisation to help us conduct class surveys, observation and interviews over an 11 week period. Collation of the data, academic results and feedback from students, parents and staff revealed that there had been a significant increase in levels of engagement, confidence and academic achievement for both boys and girls with the implementation of our new curriculum.
The pressure to succeed

In this day and age, education is about results. Parents and teachers often give the impression to students that they will not be viewed as successful unless they achieve a high score at the end of Year 12 (Slade, 2001). Pressure is placed on the students by parents and teachers from an early age to achieve good academic results. Walk into just about any classroom across the state and ask the students what they believe their school and their parents value the most about education, 9 out of 10 students would most likely answer ‘getting good grades’. With the publication of ‘league table’ type rankings of a school’s Year 12 results in the major newspapers each year, the pressure to achieve has been brought into even sharper focus. Independent, fee paying schools such as mine use their Year 12 results as a marketing tool. Good results at this level are more likely to increase the yearly intake of students; more students equates to more fees.

As a teacher in an independent non-denominational co-educational P -12 school, my success as a Year 12 teacher is measured by the final Equivalent National Tertiary Entrance Rank (ENTER) scores of my Year 12 students. The pressure to prepare students for their final exams is immense. A thoughtful classroom environment, one where students are encouraged to actively develop and cultivate independent thinking, can be difficult to create under the restrictions of a Year 12 curriculum. But as teachers, my colleagues and I strive to achieve the best possible result for our students at all year levels. Yet despite our best efforts, the gap between male and female academic achievement at all year levels continues to increase.

It is the students that have the strong verbal reasoning and literacy skills that are the most likely to be successful. There is a definite gender bias in regards to these skills (Gurian & Henley. 2001; Hill & Rowe, 1998; Rowe & Rowe, 2002). ‘Evidence from all Australian states shows that as a group, boys are over-represented in the middle to lower bands of literacy attainment’ (Clay, 2006, p. 1). This decline in academic achievement for Year 12 for boys is nation wide (DETYA, 2000; Family Action Centre, 2006; Rowe, 1999; Rowe & Hill, 1996; West, 1999).

After the annual review of the Victorian Certificate of Education (VCE) results in my school in 2006, it was observed that on average, the results for male and female students in Year 12 were higher than state median scores, and in most cases higher than their individual predicted scores. However, girls' generally attained 3.8% points higher than their predicted score, whereas the boys on average; only achieved 2.8% higher.

This trend was also reflected in the scores attained by the students in the Humanities Faculty and my VCE Geography class in particular. In fact, the difference between boys and girls was accentuated. On average girls achieved up to 4% higher than their predicted grade, whereas the boys only achieved on average, 3.2% above the expected grade. The gap between male and female achievement at the upper end of the scale was even higher; a difference of nearly 1.2%. This was nearly double the expected mark. Therefore, not only were the female students in my school (and across the state) regularly achieving a higher average ENTER score than the boys, but academically the strongest female students were increasing the gap between themselves and their male counterparts.

In my school, there is a focus on how much as teachers we can assist the students to achieve above their predicted score in order to attain a ‘value added’ score. There is an expectation that as the primary teacher of that subject I should be able to assist a student to ‘add value’ to their predicted score, in order for the student to attain at least 1 to 2 marks higher. The girls in my class consistently achieve 3 – 5 marks above the predicted score, yet the boys on average only achieve 1-2 marks above. Evaluation of the schools overall results noted that in every subject area the girls achieved better ‘value added’ scores. Why was it that the boys in my classes and my colleagues were less likely to achieve above their predicated scores? A possible explanation was put forward in a report produced by the Family Action Centre (2006) which suggested that ‘boys are more likely to respond
negatively or overtly to irrelevant curriculum and poor teaching’ (Family Action Centre, 2006). Were the boys within my faculty (Humanities) disengaging because of irrelevant curriculum and our teaching styles?

It is my role as a Director of a Faculty to help shape, adapt and change curriculum in order to achieve the best possible outcomes for the students. As educators, it is our duty to ensure that the wellbeing of our students is influenced and enhanced by all aspects of academic and social and emotional learning. But were the units of work that we had previously designed as a group giving all students the same opportunity to succeed? Did our current curriculum and different teaching styles cater for all students? Were we engaging them to become confident, independent thinkers with a strong sense of their own self-efficacy and motivation (Bandura, 1994; Pajares, 1997)? It became clear to us that the answers to these questions was no.

As a faculty we decided that we needed to re-evaluate what we were teaching and how we interacted and delivered our lessons to the students. In the short term we wanted to gain a better understanding of our teaching practices in order to improve the levels of student engagement. The belief was that this could increase self-efficacy, independence and motivation, especially for the boys (Bandura, 1994; Hill & Rowe, 1998; Pajares, 1997; Rowe & Rowe, 2002; Slade, 2001). Ultimately, we wanted the students to have confidence in their own ability and to become resilient, motivated and independent thinkers. In the long term we hoped the changes that we made would ultimately be reflected in the improved academic scores for future Year 12 Students (male and female).

**Where to begin?**

We believed that one of the most critical areas that required change (for boys in particular) was the level of student engagement and self-efficacy and the relevance of our curriculum (Browne, 2000; Rowe & Rowe 2002; Slade, 2001). A subsequent review of student results in all year levels identified the fact that the decline in academic achievement was not restricted to year 12. In fact the gap was the most obvious at year 8 and 9. After careful consideration and much discussion we decided not to focus on making any significant changes to the Year 12 curriculum. This decision was based on the fact that by Year 12 our students would have formed particular learning styles that were unlikely to be changed over such a short period of time and as Fullan (2001) points out ‘…change is a process, not an event.’(p. 40).

It was decided that our primary focus would become our Year 8 history classes. We had previously discussed the need to make changes to the way in which we delivered our Medieval History unit of work and this was the perfect opportunity. We did not want to ‘rush in’ and make significant changes to the curriculum in the first Semester of 2007, so it was decided that we would be begin the process in term 3.

The primary collaborative group working on this project consisted of 4 staff members (including myself) from the Humanities faculty (as a group we would be teaching the year 8 classes) plus an independent observer from outside of the school. A member of our group was one of the school's most successful VCE History teachers in attaining high ENTER scores for boys. Using his experience, knowledge and guidance we began to make the necessary changes to our curriculum and teaching. We also consulted our Director of Learning, staff members outside of our faculty who were also teaching the year 8 classes, the parents of the students and, most importantly, the students themselves. Each group had a significant role to play in the changes that we intended to make.

In addition, our action research tracked three students from my year 8 class. Information gained through observation of classroom behaviour and interaction, plus the work completed by these 3 students formed an
important component of the reflection and evaluation process (McNiff, Lomax & Whitehead, 1996). The three boys that were chosen were close friends but had very different academic abilities and levels of engagement:

- **Student X**: had low self esteem and lacked confidence in his own ability. He wanted to do well, but struggled with reading and writing and was easily distracted. He constantly looked to Student Y for approval and guidance in all class work. He did not involve himself in class activities and tried to avoid being noticed by sitting at the back of the class. Academically, his average grade was E+.
- **Student Y**: Academically he had the potential to achieve a very good standard but lacked the motivation to do so. He showed little interest in his class work and did not involve himself in class discussions. Academically, his average grade was D.
- **Student Z**: was a highly motivated, articulate student who constantly achieved a high standard. He was always willing to attempt tasks that were given out in class and was very willing to participate in class discussions. Academically, his average grade was B+.

To assist us in this process, my school engaged the services of ITHAKA as a way of providing critical advice and support (McNiff, 2002). The ITHAKA project was designed to investigate (through action research and professional development) the relationship between daily teaching practices, curriculum, assessment and learning with the development of intellectual character and Ritchhart’s (2001) proposed thinking dispositions of Creative thinking (Open-minded, Curious), Reflective thinking (Metacognitive) and Critical thinking (A truth seeker, Strategic, Sceptical) (Ritchhart. 2001, 2002).

Ritchhart (2002) argued that by modelling these proposed thinking dispositions as teachers, we are more likely to improve and increase a student’s inclination to become involved in class, raise awareness, increase motivation and provoke and promote an individual’s ability (p. 37). Using these dispositions as our guiding principles, my faculty and I, along with our ITHAKA consultant, began the process of researching ways to adapt the curriculum to reflect these dispositions.

One of the most significant changes that we decided to make was how we structured our unit of work. Previously we had introduced the work in smaller sections, based on the significant events that occurred throughout the medieval period. However, this time we introduced the unit as one overriding question, “How and why did medieval society change and come to an end?” Using this as the guiding question, students would be asked to construct 2000 word ‘theses’, a daunting prospect for most students, but we believed with the right support and structure, a very achievable one. It was hoped that with this change, we would begin to cultivate the students (boys and girls) ability to decipher information, apply logic and develop their ability to convey, discuss and interpret their perceptions of information/and or situations rather than just focusing on the details (Browne, 2000; DEEDC, 2006; Family Action Centre, 2006; Rowe & Rowe, 2002; Wilhelm, 2002). In the long term, we hoped to increase their levels of engagement by giving the students greater freedom to focus on topics that they were interested in.

**The importance of parents**

For this project to be successful, it was vital that the faculty had the support and understanding of the parents. As Hill & Taylor (2004) noted, studies have linked high levels of parental involvement with increased academic success for children (p. 161). As a faculty, we could not afford to operate in isolation. We needed the parents to assist us in this activity. The more information the parents had about our expectations and what we wanted to achieve, the more able they would be to assist their child with the work at home (Clinton, 2002; Hill & Taylor, 2004; Zins, Bloodworth, Weissberg & Walberg, 2004). Booklets detailing the changes that were being made to the subject (how the thesis project would be conducted and practical advice on how parents could support their child...
in this process) were sent home with every Year 8 student. Parents were encouraged to read through the booklet, sign it and, if they wished, make written comments about the project or raise any concerns they may have had about the proposed unit of work. In addition, parents were encouraged to come and discuss the project with their child's classroom teacher at the Parent Teacher Conference held in the third week of the term. Parents were also informed that there would be an independent observer coming into our classes to assist us in making the changes. We asked parents from my class for their permission to have their child interviewed in small groups throughout the term. A letter explaining the purpose of the interview was sent home to be signed. All parents from my class agreed to this course of action. In fact many parents congratulated us on taking such a proactive approach to their child's education.

**Crossing the great divide**

To begin the process, students were introduced to the consultant from ITHAKA. With the students we discussed what her role would be over the coming term. It was important that students understood her purpose and were comfortable in the knowledge that she was not there to judge them. Rather she was there to assist and advise me on how to improve our lessons. In the first week the consultant merely observed and recorded student body language, verbal responses and levels of engagement for the whole class as well as making notes on how I delivered my lessons. The information gained from that first week was then used as baseline information from which we later compared any changes or improvements that occurred.

Before making any significant changes to our teaching and our lessons we wanted to find out what the students felt were areas of concern. In the first week of term 3 we trialled a survey with students in my Yr 12 class ensuring that the content and language of the survey was relevant and easy to understand. Prior to handing out the survey to the year 8 students, the purpose and importance of the survey was carefully explained. The students were also informed that the survey was anonymous and that they would not be judged on their responses and that the results would be used as a basis for improving their learning environment (McNiff, Lomax, Whitehead, 1996; Wilson, 2000). The questions on the survey concentrated on their learning styles, levels of confidence and self-efficacy and the relevance of the subject. This survey was later compared with a second survey conducted at the start of the term 4.

Three particular areas of concern were highlighted by the students in response to the surveys:

- 12 out of 17 male students did not have the confidence to seek assistance when unsure of their work; whereas, 10 out of the 12 female students were. The responses also indicated that the boys (98%) were not comfortable about participating in class discussion, whereas 75% of the female students were happy to engage in dialogue.

- 86% of all students did not believe that the topics and information covered in history were relevant or interesting (13 out of 17 male students believed it had no relevance at all) consequently the information was not considered to be important unless they were going to be tested on it in the final exam.

- Much has been written about the slower development of boys verbal reasoning and auditory processing (Browne, 2000; DEEDC, 2006; Gurian, 2001; Rowe & Rowe, 2000; Rowe & Rowe, 2002; The family Action Centre, 2006; Watterston, 2005) with our survey results also supporting this fact. All 17 of the boys wanted more notes written on the board, along with printed handouts.

We asked the class to verbally elaborate on why they believed studying history was irrelevant. One student (male) summed up the classes general feelings, "It's not as if we're going to need to know when some king died when
we’re buying something down at the shops, so what’s the point?” The issue of a subject’s relevance (for the boys) was certainly not limited to the students in my classroom (Browne, 2000; DEEDC, 2006; Family Action Centre, 2006; Rowe & Rowe, 2000; Rowe & Rowe, 2002; Wilhelm, 2002). As part of research into boys and education, Slade (2001) conducted 1800 interviews of boys across South Australia and found that the majority of boys believed their lessons in Yr8, 9, and 10 were generally irrelevant, repetitive and boring (Slade, 2001). It was an issue we had identified and considered as a faculty and one of the reasons why we changed our approach.

From the initial observations and in response to the surveys it was clear some immediate changes to the classroom environment needed to be made if we were going to assist the boys (and girls):

- Seating arrangements changed. Boys were moved closer to the front so they could no longer ‘hide’ in the back row. We reviewed this change after a three week period and found that the boys actually preferred sitting up the front (and they are still there today!)
- The consultant from ITHAKA recommended that I slow down my delivery as boys tend to have less developed auditory processing skills (Gurian, 2001)
- More notes on were written on the board to support auditory processing (Gurian, 2001; Rowe & Rowe, 2000).
- Notes from the board were also supplemented by handouts (Gurian, 2001).

**Listening to the students**

Interviews were conducted by the consultant from ITHAKA within single-sexed groups of three to four students from my class over a 14 week period. The interview transcripts were used by our group to gain an insight into what the students thought about their educational experience and what they wanted from us as teachers (McNiff, Lomax & Whitehead, 1996). As with the surveys, we used this information as a way of tracking any changes and identifying possible reasons for the changes in student engagement, efficacy and academic achievement. After reflecting on the information we could then adapt our teaching to ensure the most beneficial outcome for the students (Amulya, 2000; McNiff, 2002; McNiff, Lomax, & Whitehead, 1996; Pritchard, 2002; Stoll, 1999). When conducting the interviews, the consultant from ITHAKA made it very clear to the students that they were not to discuss individual teachers, but teaching in general. By de-personalising the conversation and creating a safe supportive environment, the students were more relaxed and willing to open up (McNiff, Lomax & Whitehead, 1996; Slade, 2001; White, 2002). Although the initial reason for the interviews was for us to gain a better understanding of what the students wanted from their classes, another positive outcome became apparent. The students really appreciated the fact that they were being given the opportunity to give their opinions, but more importantly for them, they were actually being listened to. Many boys and girls (88%) felt that, in general, their ideas and opinions were not valued, and that through this process, not only were they being given the opportunity to voice their opinions, but they could see that we were also acting on their comments and suggestions through the changes made in class.

One of the questions that the consultant from ITHAKA asked each group was ‘what did they believe made a good teacher?’ Answers varied, but in all cases students highlighted the importance of a teacher having a sense of humour and being relaxed. When asked to expand on this, one student explained, “see its like this, when a teacher can have a laugh with us, but still get us to do the work, we know that they’re not going to get all heavy over the small stuff, and you’re more willing to listen to what they have to say.” Another student commented “… when they are relaxed they talk more slowly and explain more” Another area that was considered to be very important to the students was a teacher’s level of enthusiasm and understanding of the students. “When a teacher...
really gets into the stuff we’re talking about, it makes you want to know more. It makes it fun.” The transcripts of
the interviews gave us a unique opportunity to reflect on our teaching practices. However, reviewing the transcripts
highlighted how confronting action research could be. One teacher from the group was concerned that the
negative aspects of some of the comments were being personally directed. It was necessary to remind ourselves
that this was a collaborative learning experience, one that involved constant reflection and re-evaluation of what
could sometimes be difficult feedback.

The importance of asking questions

It became apparent when speaking to the students and through observation that one essential element that
needed to be improved was a student’s ability to ask questions (Clinton, 2002). The consultant from ITHAKA had
asked the students about whether or not they asked questions of themselves when doing their work. Out of the 17
boys interviewed, 12 of the boys said no. It was clear from the interviews that the less able students (such as
student X) were unable to phrase the appropriate questions that would help to facilitate their learning. They did
not have the right language or vocabulary which would enable them to articulate what they needed to know. As a
consequence, they felt discouraged and avoided seeking assistance. We started to encourage students to think
about what they needed to know and to try and be as specific as possible when framing their questions. To assist
students in this process we hung hints on how to ask questions, key words and concepts around the room and
above the board (Ritchhart, 2002). It was a slow process but students began to rephrase what they were going to
say without my prompting. Instead of “I don’t get it?” it changed to “I don’t understand how to link this idea with the
information into my paragraph”. Students were also encouraged to write their questions down before asking them.
The advice that was then given was also written down or recorded using their laptops, ensuring that the auditory
process was complimented by a visual record that could then be referred to again if necessary. We also sought
the assistance of teachers from other subject areas that taught our year 8 classes. We wanted the students to
understand that becoming involved in class discussions and asking useful questions were important in all subject
areas, not just in history. As the term progressed we observed that the students (boys in particular) were taking a
much more active role in class discussions and were far more willing to seek assistance without any prompting
from their teachers.

Efficacy and group work

The use of group work and group discussion can help to develop social learning and broaden knowledge of a
students own capabilities giving individuals a stronger sense of self-efficacy (Bandura, 1994; Pajares, 1997).
When asked about this subject, the boys generally supported the processes of class discussion and group work:

Student X: “I don’t like group work so much, ‘cause I don’t like to talk much, but I like it when we have a class
discussions, then lots of ideas get talked about and I can just listen. But if I have to be in a group, I like to be with
kids who ask good questions.”

Student Y: “I want to work with people who understand it the most…. not so much the ones who just know it.”

Student Z: “I like to do Maths by myself as I am good at it but I like a group in History because it helps me to talk
about stuff, same in English”.

Using the students comments as a guideline, I began to work with the class (both male and female) in small
groups each lesson. I wanted to become more accessible to the students especially the boys (DEEDC, 2006;
Gurian, 2001; Slade, 2001). Sitting with them at their desks reduced the physical barrier of standing at the front of the room. The idea behind the group work was to help the students focus on their research. I encouraged them to discuss their work or any issues they were having, but I directed the conversations and controlled the environment, supporting those who would normally avoid joining in (DEEDC, 2006; Rowe & Rowe, 2000). It gave me the opportunity to make suggestions of where they could make changes and challenge them to take the next step in their research. These sessions became one of the most productive and positive aspect of each class for both myself and the students.

The impact of role play

As part of a history social experiment students in the fourth week of term were each given a role to play from the Feudal structure. Positions were drawn from a hat (however the results were manipulated in order to ensure Student Z was the King and Student X was a noble); 1 king, 5 nobles, 7 knights and 16 peasants. Rules for each of the social groups were based on the feudal structure and were negotiated as a class. Each student was issued with a coloured ribbon that denoted their status within the feudal structure. Students had to maintain their role in all classes and in the playground. All staff members teaching this particular class were notified of the experiment and were asked to support us in our project. It was a massive success and the insight that students were able to gain from the role play was reflected in their interviews and written work.

Student X: “I don’t normally talk much, but because I was a Lord I had to tell my Knight and peasants what to do. Because I wasn’t that sure of how I should act, my mum and me looked it up on the internet. By the end of the week I was actually enjoying it.”

Student Y: “Yeah it was good; we got a better understanding of what it would have been like. It was no fun being a peasant but; too many rules! But better than just reading about it in some book. It made it much easier to understand why the peasants got so angry with the king.”

Student Z: “It was really funny the way people changed, but it was hard sometimes because I was the King; I didn’t get to speak to all my friends as much. It made me realise how lonely the king would have been.”

The use of role play was extremely effective in raising awareness of the social issues for this particular time period. Students became far more involved and wanted to find out more and discuss it amongst their peers.

Throughout the term it was clear that many of the boys in the class had become far more confident in their own ability. They were willing to participate in class discussion and seek assistance, especially Student X. He no longer avoided eye contact when asked a question and voluntarily joined in class discussion. Our personal observations were also supported by the second survey results. Students were asked whether they felt they had more confidence in their ability to complete a task than at the start of the year. As the graph shows there was a dramatic increase in the level of confidence for the boys: 16 out of 17 boys showed a significant improvement. Changes to levels of confidence were not just limited to the boys. 5 of the 12 girls that had previously felt less confident now gave themselves a ranking of 4 or above.
Improvement in levels of confidence

![Improvement in levels of confidence chart]

**Fig 1.** Results compiled from the second survey conducted at the start of Term 4

Students had also come to enjoy the lessons more as they were able to link information and make connections with what they had learned.

Improvement in the relevance of subject and levels of interest

![Improvement in relevance chart]

**Fig 2.** Results compiled from the second survey conducted at the start of Term 4
By posing an open ended question, yet providing a more structured learning environment, students were more confident and prepared to attempt a challenging task. Students were given the opportunity to focus on areas of information that they were interested in, consequently making it more relevant to the individual. The process of researching information was supported with skill development, not just knowledge of the content, such as providing a framework for how to ask questions. This gave students the confidence to seek assistance.

Academically, there was no noticeable difference between male and female grades. All 17 boys achieved a ‘C+’ grade or better (Student X and Y both achieved C+), at the higher end of the grade scale. 3 of the 6 students who achieved an ‘A’ grade were boys and one of the two ‘A+’ students was Student Z. One of the most powerful, eloquent and rewarding moments of the term was when Student X received his mark. After reading the result, without saying a word with a huge grin on his face he simply stood up with both fists in the air. His sense of achievement was palpable and the whole class responded with a spontaneous round of applause.

Classroom observations, transcripts of student interviews and our own personal journals all highlighted the importance and role of the teacher. All the teachers were enthusiastic participants in the process and willing to attempt to make changes but the process was more challenging for some. In one classroom, which remained more teacher-centered, voluntary classroom discussions were less common, student engagement and academic achievement for boys were lower, and there were higher levels of dissatisfaction from students and parents. On reflection, we concluded that teachers need support to develop confidence in students’ ability to learn independently. If teachers try to control all aspects of their classrooms it can be a significant ‘road block’ to the change process. One teacher acknowledged that she was doubtful about student’s ability to learn independently, ‘If I leave them on their own, they’re just going to waste their time. It is my responsibility to direct and educate them. If I don’t, how else are they going to have enough knowledge for the exam?’ We realized that we needed to make sure that teachers not only understand what we are trying to achieve but also understand how to achieve it and have sufficient support to do so. In the future, we could provide opportunities for teachers participate in more professional learning, and to observe different teaching styles.

Where to from here?

We presented our research and results to all of the teaching staff at the end of term 3. We were unprepared and surprised by the amount of interest that it generated. Staff interest in Ritchhart’s thinking dispositions and the involvement of ITHAKA has opened the lines of communication and collaboration with staff outside of the Humanities faculty, further facilitating a more consistent approach to our teaching practices and curriculum. It was recognised that a greater allocation of time to develop the program would benefit both students and staff. Consequently changes are already in progress for the 2008 year 8 curriculum with the intention that the successful strategies used in term 3 will be incorporated into all units of work for all year levels. This project demonstrated that it was possible to bridge the gap between male and female academic achievement whilst providing a challenging, engaging and inclusive environment for all students.
References


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Wilhelm, J. D. (2002). Inquiring Minds learn to read and write: Inquiring, Questioning, and Discussion strategies for promoting literacy and learning across the curriculum. Bosie State University.
