Exploring a whole-school integrated approach to developing students' self-regulated learning (SRL) skills

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Certificate of Authorship / Originality

I certify that the work in this thesis has not been previously submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature of Student: _____

Date: _____

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Author publications and presentations

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Abbreviations

SRL   Self-Regulated Learning

TED   Teaching Enrichment Days

HPF   Highlight, Peer Sharing, Feedback

Abstract

The thesis explores how secondary schools can embrace a whole-school integrated approach to helping students develop self-regulated learning (SRL) skills. In addition to investigating how a sample of Australian secondary schools currently approach SRL skills development, the study also examines teachers', students' and parents' perceptions of who is responsible for SRL skills development and perceptions of the impact of technology on students' SRL skills.

Following an initial online survey of 54 Australian secondary schools in the Sydney region, the study used purposive sampling to select a best practice case school for detailed investigation. The case school demonstrated strong evidence of a systematic whole-school approach to developing students' SRL skills. To obtain multiple perceptions and to verify interpretations, case school data was collected through semi-structured interviews, questionnaires and document gathering. Qualitative analysis produced a rich, contextualised description of the case school, supported by insights from the quantitative data.

The study's findings highlight the need for schools to determine with stakeholders the roles parents, teachers and students can play in assisting students to develop SRL skills. The data indicates that to support all stakeholders in their roles, schools need to provide appropriate training. Findings also reveal that while students and parents were generally positive about the role of technology as a support for self-regulation, particularly as a research tool, technology can be a major distraction for many students. This finding suggests that educators need to provide students and parents with strategies to optimise the use of technology as a learning tool and minimise its potentially distracting influence on students' self-regulation. The research concludes by proposing guidelines that will assist schools, policy-makers and researchers to implement and further explore a whole-school approach to developing students as self-regulated learners. The study also suggests future directions for researchers.

Keywords: self-regulated learning, SRL, whole-school approach, technology

Chapter 1

Introduction

This thesis explores how schools might adopt whole-school integrated

approaches to helping students develop self-regulated learning (SRL) skills.

A *whole-school approach* means that instead of relying on individual teachers

to have the knowledge, skills and desire to develop students' SRL skills, the

school builds policies and programs where best practices are identified and

integrated systematically across the whole school. This thesis argues that a

whole-school approach is necessary to ensure that every student is equipped

with the SRL skills needed to cope effectively with the academic demands of

secondary school and presents guidelines from the findings for such an

approach. As part of the development of a whole-school approach, schools

need to work with stakeholders to determine key responsibilities. This

chapter discusses the background and significance of this research and

concludes with an outline of the thesis.

1.1 Background

The concept of self-regulated learners, articulated by Zimmerman (1986) as

students who are metacognitively, motivationally and behaviourally active

participants in their own learning process, has been extensively explored by researchers over the last 30 years. The following quote captures the evolution of SRL during this period:

> The attainment of optimal academic performance requires more than high quality instructions and requisite mental ability on the part of students: it requires personal initiative, diligence, and self-directive skill. Research on self-regulated learning grew out of efforts to understand the nature and source of these forms of students' proactivity, and it has revealed evidence of substantial correlation between their use and academic achievement. Self-regulation refers to self-generated thoughts, feelings and actions that are planned and cyclically adapted to the attainment of personal goals.
>
> (Zimmerman, 2002a, p.85)

The field has traditionally focused on defining SRL and exploring experimental, targeted in-class interventions to foster the development of self-regulatory skills, often in higher education. There is little understanding, therefore, of how schools are helping students develop SRL skills and whether schools see the need for this role. As the focus of SRL research to date has been on interventions with individual teachers in specific learning contexts, a whole-school approach to SRL has not been previously explored.

In a discussion of a whole-school approach to education for sustainable development, Hargreaves (2008) highlighted the conditions needed for the implementation of a whole-school approach. For SRL skills a whole-school approach would mean that the development of these skills would be integrated throughout the curriculum in a holistic manner, rather than being taught on an ad-hoc basis. Relying on individual teachers, instead of implementing a whole-school approach, could mean that not all students would be given the opportunity to develop SRL skills. This is because some teachers may not have the knowledge, training or inclination to develop these skills in students. It would also be difficult for schools to have a cohesive approach if there was no policy to guide teachers and support this coherency.

Hargreaves (2008) also pointed out that apart from curriculum integration, a whole-school approach needs "sustainable school operations such as integrated governance, stakeholder and community involvement, long-term planning, and sustainability monitoring and evaluation" (p.69). This leads to whole-school involvement, with teachers, parents and students actively involved in designing and implementing school policies and procedures around their school's approach to developing students' SRL skills.

In Australia there is no nationwide 'self-regulated learning curriculum'. Nor is there a country or state-wide policy on how schools should approach the development of students' SRL skills. The Australian Government Department of Education, Employment and Workplace Relations website covering school education states:

> Australia's future depends on a high quality and dynamic school education system to provide students with foundation skills, values, knowledge and understanding necessary for lifelong learning, employment and full participation in society. (Commonwealth of Australia, 2010)

However, foundation skills are not defined and, while there are policies for Numeracy and Literacy, 'learning-to-learn' or self-regulation skills are not addressed.

The NSW Department of Education's Quality Teaching Model includes students' self-regulation as one of the 18 elements for good classroom and assessment practice (NSW Department of Education, 2003). Yet the documentation provides little guidance on how to foster this self-regulation or an explanation of what schools are currently doing in this area. As there is not a consistent policy in Australian secondary schools towards the development of these skills, approaches taken by schools can vary widely, with a notable lack of whole-school procedures.

Perry, Phillips and Hutchinson (2006) found that in many classrooms not only were students not being taught habits needed to develop self-regulation, but that many teachers were unsure as to the kinds of support students needed. With no mandated policy in place in Australian secondary schools, it is currently left to individual schools to determine if and how they will approach the development of SRL skills.

As a secondary school teacher for ten years, from my anecdotal observations I found that many Australian secondary students had not developed SRL skills. While some students had skills and attitudes in place that contributed towards their academic achievement, others had not been given opportunities or guidance to help them develop these skills.

Yet as Paris and Newman (1990) stated: "Self-regulated learning is a hallmark of academic expertise" (p.99). Despite this many schools have an ad-hoc approach relying on individual teachers to decide to focus on this area of skill development. Zimmerman (2002c) pointed out that although research findings support the importance of students' use of self-regulatory strategies, "few teachers effectively prepare students to learn on their own" (p.69).

The outcome of this piecemeal and unreliable approach to addressing students' SRL skills needs was examined by Jairam and Kiewra (2009). They investigated the SOAR (selection, organisation, association, regulation) study method and explained that "students are rarely taught how to learn.

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Instructors teach content like math and science but often skip the processes needed to learn such content" (p.606). Jairam and Kiewra emphasised that when left to individual teachers to develop SRL skills, students are often left wanting.

This implies that an approach relying on individual teacher implementation does not guarantee that the needs of students who enter secondary schools without the necessary 'learning-to-learn' skills will be met (Zimmerman, 2000). Zimmerman (2002b) discussed the escalating demands facing students in high school and stated "many students respond to these increasing demands for self-regulation by adopting effective learning strategies, but a significant number of students do not adopt them" (p.3). Winne (2003) also found that a substantial number of learners, across a wide range of ages and contexts, were not self-regulating their learning.

Despite the evidence that students needed more support in the development of SRL skills, Schunk and Ertmer (2000) pointed out that training in this area is still often not given to students in schools. They believed this was due to inadequate time, space, funding, parental support or teachers' belief that students do not require self-regulation training.

Researchers have also suggested a number of other reasons why teachers neglect this area of skills development. Firstly, it may not occur to some teachers that specific strategy development might be required. Brown,

Bransford, Ferrara and Campione (1983) argued that many educators falsely assume that effective learning and study skills will automatically come with maturity and experience. Secondly, some teachers may not believe it is part of their role as subject matter experts to do this. They may feel that with the crowded school curriculum, there is only time to focus on the prescribed content itself—not on generic strategies for learning—and they may believe that students should either know or acquire learning strategies outside the subject content classroom. Thirdly, many teachers themselves are under-skilled in this area and do not feel confident teaching learning strategies to students. Even in the higher education arena, Tait and Entwistle (1996) found that when poor student performance was attributed to ineffective study skills, few academic staff felt confident to provide advice on these matters and that the perceived time constraints meant they believed they only had time to focus on the syllabus. Lastly, focusing on explicit SRL skills development appears to some extent to have become unfashionable as the focus of teaching in classrooms becomes more centred on discovery and experiential-based learning. Schunk and Zimmerman (1998) also outlined reasons that they believed many teachers do not teach students SRL skills:

> Educators generally accept the important role in behaviour played by students' self-regulatory activities, but they often do not know how to teach students self-regulatory skills or how to otherwise enhance

students' use of self-regulation principles in classrooms or other

learning settings. This lack of knowledge stems from several sources.

Teacher education programs typically emphasise content-area

knowledge and mastery of pedagogical methods, and focus less on

principles of learning, development, and motivation. Second, teachers

typically feel overwhelmed with the sheer amount of material they are

expected to cover, which leads them to forgo teaching self-regulation

and other topics that are not required. Finally, few students and

parents realise that self-regulation can be taught as a skill, and as a

result these groups put little pressure on schools to offer self-

regulation instruction as part of the curriculum. (p.vii)

Given all these reasons as to why teachers do not develop students' SRL

skills, the question arises as to whether educators *should* be proactive in

developing students' SRL skills. Research over the last four decades provides

evidence for the continued importance of teachers' assistance in developing

students' SRL skills (Miller, Heafner & Massey, 2009; Romeo, 2004;

Weinstein & Mayer, 1986).

Weinstein (1988) suggested that in order to maximise students'

chances of reaching their academic potential a dual role is essential for all

teachers: teaching subject content and teaching how students should learn in

that subject. Indeed, Schunk (2001) stated: "Self-regulation does not develop

automatically with maturation nor is it acquired passively from the environment" (p.142). Weinstein, Ridley, Dahl and Weiner (1988) emphasised that many students do not develop effective learning strategies on their own unless they receive explicit instruction in their use.

This was later explored further by Paris, Byrnes and Paris (2001) who found that students learn strategies for SRL through both intervention and instruction. Some students may develop these skills during the primary school years, from family members, teachers, external courses or some other unknown source. As not all students have access to these options, Bakracevic Vukman and Licardo (2010) emphasised the importance of educators proactively developing students' self-regulatory skills, arguing that it should be one of the key goals of education in schools.

For educators, it is the students who do *not* develop SRL skills from other sources who are of concern. If the school does not play an active role, students without SRL skills or access to intervention or instruction in this area will struggle due to the nature of the contemporary curriculum as it demands a high level of SRL (Perry, Hutchinson & Thauberger, 2008). Wigfield (1994) stressed that helping students develop SRL skills was an important educational task, as "students who are self-regulated are more likely to use effective learning strategies, be meaningfully engaged in their own learning, and attain their academic goals" (p.101). Zimmerman and

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Cleary (2009) found that children who are able to regulate their behaviour in school tend to achieve better and have other positive personal development outcomes. This was also reinforced by Barnard-Brak, Lan and Paton (2010), who examined profiles of SRL in the online environment and found that individuals who are self-regulated in their learning achieve more positive learning outcomes in these spaces. Self-regulation became increasingly important as society moved towards technologically driven, self-directed learning environments, where greater amounts of autonomous learning were necessary (Weinstein, 1996).

A number of researchers have demonstrated that the development of SRL skills is effective in improving students' academic achievements (Zimmerman & Martinez-Pons, 1988; Zimmerman & Schunk, 2011). Zimmerman (2002c) explained why SRL is such an important and relevant area to research:

> Self-regulated students focus on how they activate, alter, and sustain specific learning practices in social as well as solitary contexts. In an era when these essential qualities for life-long learning are distressingly absent in many students, teaching self-regulated learning processes is especially relevant. (p.70)

These skills are essential for secondary students for two main reasons (van den Boom, Paas & van Merrienboer, 2007). Firstly, they are a positive

influence on learning outcomes. The meta-analysis by Dignath and Buttner (2008) of primary and secondary students concerning the relationship between self-regulation and academic achievement from elementary to secondary grades showed that development of SRL skills significantly enhanced students' academic achievements. The second reason is to equip students with skills to be independent life-long learners. SRL was described as one of the key competencies contributing to maintaining life-long learning skills (EU Council, 2002).

As demonstrated in this section, the need to support students in the development of these skills has been highlighted in numerous studies in both school and higher education contexts and by the continued focus on development of inventories to understand students' differing learning approaches (Biggs, 1987, 2001; Entwistle & Ramsden, 1983; Janssen, 1996; Wingate, 2007). There is ample evidence in the research literature to support the idea that developing students' SRL skills is a valuable endeavor for educators. However, to date little progress has been made to address this challenge, despite broad agreement on the value of SRL skills.

This doctoral study explores the current 'state of play' in the Australian context and investigates in detail a best practice case; exploring how one secondary school has approached the development of students' SRL skills using an integrated whole-school approach. This research also uncovers

the stakeholders' attitudes and beliefs around responsibilities for development of students' SRL skills. As argued in this section, research that uncovers how SRL skills can be developed in the secondary school context from a whole-school approach is needed to ensure that every student is equipped with the necessary SRL skills to cope effectively with the academic demands of secondary schools.

1.2 Aims

This study aims:

- to explore how contemporary schools can take a whole-school integrated approach to developing students' SRL skills

- to better understand stakeholders' perceptions (parents, teachers and students) of whose role it is to develop students' SRL skills in contemporary secondary education

- to explore students' and parents' perceived positive and negative impacts of technology on the development of students' SRL skills

- to develop guidelines for implementing a whole-school integrated approach to helping students develop their SRL skills and to guide schools in formulating an approach to meeting the SRL needs of today's students.

1.3 Research questions and design of the study

This doctoral study explores contemporary approaches taken by schools to develop students' SRL skills, examining in detail the whole-school approach taken by one best practice Australian secondary school. The main research question is:

- How can secondary schools embrace a whole-school integrated approach to helping students develop SRL skills?

The study also examines stakeholders' perceptions in a number of areas relating to SRL. The two secondary research questions are:

- What are the stakeholders' perceptions of key responsibilities?

- What are the stakeholders' perceptions of the impact of technology?

To explore these questions a two-phase design was employed. Phase 1 was an online survey of 54 Year 7 to 12 schools in the Sydney metropolitan region. The purpose of the first phase was to explore approaches and attitudes adopted by schools to develop students' SRL skills, and to facilitate the case study selection for phase 2. From the 54 schools participating in phase 1, one school was selected as the case school due to their exemplary practices in whole-school approaches to developing SRL and examined in phase 2 of this study. In phase 2, the following mixed-methods approaches were used to collect data at the case school: online questionnaires for

students, parents and teachers; semi-structured interviews of teachers and school executives; and document gathering. Research into SRL has been predominately quantitative studies, therefore the qualitative perspectives included in this study add to the breadth of research in the SRL field.

The central premise of this study is that relying on an ad-hoc approach by individual teachers who may not have the knowledge and inclination to develop secondary students' SRL skills is insufficient to ensure the SRL needs of students are being met. Instead, this thesis argues that a coherent and systematic whole-school approach is needed. It argues that while attempting a whole-school integrated approach provides greater assurance that students' SRL skills are being developed, schools need guidelines on how to implement such practices. This thesis presents guidelines grounded in both the findings from this research project and from the considerable body of SRL literature, giving educators and policy-makers valuable tools for exploring a whole-school approach to developing students' SRL skills.

1.4 Assumptions

This research explores the development of self-regulation skills in the academic school context. An important distinction is that the research is focusing on helping students develop academic SRL skills as opposed to helping students become self-regulated in other areas of their lives. As Schunk (2001) pointed out, self-regulation is situationally specific. Students

may be very self-regulated when it comes to other areas such as learning a

favourite musical instrument or learning to surf. This research is looking at

the development of SRL skills in the context of the academic secondary

school curriculum.

Ensuring that students are equipped with self-regulation skills that

help them navigate the mire of school academic expectations and assessments

is assumed to be a worthwhile pursuit. The aim is to make students' learning

experiences more efficient, less stressful and ultimately more rewarding.

Zimmerman (2001) emphasised this when he stated:

> SRL theories assume that students (a) can personally improve their
>
> ability to learn through selective use of metacognitive and
>
> motivational strategies; (b) can proactively select, structure, and even
>
> create advantageous learning environments; and (c) can play a
>
> significant role in choosing the form and amount of instruction they
>
> need. (p.5)

For many students the school is their most likely, if not only, place for

developing these skills. While individual teachers may be actively promoting

the development of SRL skills, it is assumed that the advantage of a whole-

school approach is that schools (and all stakeholders including parents,

teachers and students) can have greater confidence that the SRL needs of

students at their school are being met. The aim of this doctoral research is to

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explore approaches schools can take to foster this development from a whole-school perspective. Personal discovery can lead to self-regulatory competence, but this path can be tedious, frustrating and ineffective for students (Zimmerman, 2000). Therefore, the support of teachers and educational institutions is essential.

1.5 Significance

Self-regulation research has traditionally focused on defining the complexity of SRL, understanding the aspects and characteristics of a self-regulated learner, determining how these attributes can be measured, and exploring specific contexts where SRL can be fostered by individual teachers. However, this research project investigates three key gaps in this body of research to date and also builds the qualitative evidence in these areas. These gaps involve:

- exploring an integrated whole-school approach to helping students develop SRL skills in secondary schools

- exploring stakeholders' perceptions of key responsibilities for developing students' SRL skills

- exploring stakeholders' perceptions of the impact of technology on students' SRL skills.

This research aims to look at the field of SRL through this threefold

perspective, as discussed in the following sections and illustrated in Table

1.1. The research understandings will inform guidelines for a whole-school

approach to developing students' SRL skills.

Focus of SRL research to date	SRL Focus for this thesis	Outcomes from this research
Defining SRL Measuring SRL SRL inventories Targeted individual interventions	Integrated whole-school approach to developing students' SRL skills Stakeholder perspectives of key responsibilities Stakeholder perspectives on the impact of technology	Guidelines for a whole-school approach Understanding roles and needs Understanding technology impact and needs

Table 1.1: Contribution to SRL literature of this doctoral thesis

These outcomes will help educators to assist students in developing SRL

skills and provide greater understanding of stakeholders' perceptions of key

responsibilities and the impact of technology.

1.5.1 Exploring an integrated whole-school approach

SRL research has demonstrated that integrating at least some of these

learning strategies into regular subject matter classes so they are taught in the

context of particular bodies of knowledge (Resnick, 1987) is a more effective

approach than external courses separated from the curriculum and the

process of learning (Wingate, 2006).

It has long been argued (Tait & Entwistle, 1996) that perhaps

institutions should establish an overall study skills policy which would lay

out the responsibilities of each institution, faculty, and department in ensuring that students were adequately prepared for academic study. By supporting students in context and teaching personal transferable skills students would develop skills as needed in authentic situations (Tait & Entwistle, 1996). This then would require content area teachers to play a greater role in helping students develop effective SRL skills (Weinstein, Ridley, Dahl & Weiner, 1988). Randi and Corno (2000) stated that "self-regulated learning might become more widespread if it is developed harmoniously within existing school curricula" (p.652).

Despite Zimmerman's (1986) early call to action, where he stated that "the issue of how educators and parents can increase student levels of self-regulation is of central importance" (p.308), to date the findings of the self-regulation learning field seem to have had little effect on the design and implementation of educational practices or coordinated intervention programs. If a major function of schooling is indeed creating learners who know how to learn (Ertmer & Newby, 1996), then to achieve this goal schools need to have programs and policies in place to foster the development of strategic, self-regulated, and reflective learners.

Fostering the development of these skills is essential if students are to sustain a pattern of self-directed, life-long learning (Wang & Peverly, 1986). Zimmerman and Cleary (2006) emphasised this point:

However, a broader, more long-term goal of secondary education should involve empowering students to become independent, self-regulated learners. When students graduate from high school and go onto college or enter the workforce, one hopes they feel a sense of personal agency for effectively and responsibly managing their own behaviour and acting on the world in which they live. (p.56)

School policies on SRL development informed by the research could help students who have trouble self-regulating their academic learning develop the skills needed to achieve a greater measure of academic success (Zimmerman & Martinez-Pons, 1986, 1990).

There are certainly challenges in developing and implementing such policies to produce integrated, embedded programs. This research develops guidelines informed by the literature in the field and grounded in the data from this study. Educators can use these guidelines for further policy development and as a way to bridge the gap between the development of self-regulated learners as advocated by the literature and the practicalities of implementation within the school system.

1.5.2 Exploring stakeholders' perceptions of key responsibilities

Much of the self-regulation research has focused on defining SRL and quantifying the characteristics of a self-regulated learner, often in a higher education context. With a focus on quantitative research, there has been little exploration of the attitudes, beliefs and actual experiences of the stakeholders, especially in contemporary, Australian secondary contexts.

In one study looking at perceptions, Lombaerts, de Bacher and Engels (2009) developed a self-report scale to assess teachers' beliefs around introducing SRL skills in Australian primary schools. However, the research focused more on the efficacy of the instrument developed rather than on the beliefs of the teachers.

A study by Wood, Motz and Willoughby (1998) found that in a group of high school students, 42% cited their study strategies as being self-taught, 28% recalled learning from parents and siblings while 20% perceived teachers and educational institutions as their strategy influence. These perceptions may not necessarily be accurate as students may not have been aware of when skill development was actually taking place.

Vassallo (2012) discussed the importance of understanding what families know and do to support students' SRL skill development in order to understand what type of support may be needed for parents in particular. If,

for example, parents believed schools were developing students' SRL skills and teachers did not believe it was their role, students may be unsupported in this area.

An exploration into student, teacher and parent perceptions around the key responsibilities for developing SRL skills will give greater understanding of stakeholder expectations and needs. These understandings could then be used to inform the approach taken by the school to developing students' SRL skills and to assess the support needed by students, parents and teachers to fulfil their roles.

1.5.3 Exploring stakeholders' perceptions of the impact of technology

It is also timely to explore what is happening in schools in the field of SRL given that the nature of the skills needed for students to achieve their academic potential may have changed with modern curriculum changes, new understandings about the learning process and the advent of new educational technologies.

These changes to required skill sets mean that the strategies needed by today's students may be different from the traditional skills focused on in previous decades. Anderson and Balsamo (2007) advocated that today's students "require new literacies: cultural, technological, social, and epistemological" (p.245). The role of a millennial generation educator therefore involves not just teaching course content, but teaching students

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how to become effective learners in order to foster academic success (Tucker, 2006). This thesis explores perceptions from parents and students of the impact of technology on their SRL skills development, bringing new insights to the field.

Challenges faced by students have also undergone transformation. Some have argued that achievement and well-being values in a post-industrialised society are incompatible, and that students have limited opportunities to integrate these values (Fries & Dietze, 2007). This may result in increasing conflicts for students: to do schoolwork or engage in leisure activities. With a wider range of potential distractions available and less parental supervision and control, well-developed SRL skills are vital for this generation.

By exploring the perceptions of parents and students on the impact of technology on students' SRL skills, educators and researchers can gain insights into the support parents and students may need with technology as part of an integrated whole-school approach to developing students' SRL skills.

1.5.4 Summary

In conclusion, the significance of this research lies in its exploration of an integrated whole-school approach to helping students develop SRL skills and its investigation of stakeholder perceptions of key responsibilities and the

impact of technology on students' SRL skills. Over twenty years ago, Paris and Newman (1990) emphasised the need to uncover ways to help students develop SRL skills:

> Perhaps some of the enthusiasm for the construct of self-regulated learning is based on the holistic approach to children's academic achievement offered by such an eclectic orientation. The challenge for educators and researchers alike is to discover the social and cognitive conditions that enhance self-regulated learning among students.
> (p.100)

This study addresses this need by uncovering conditions where educators can promote the development of students' SRL skills. It broadens the field of SRL through the establishment of guidelines to allow schools to explore an integrated whole-school approach to the development of SRL skills and by providing a call to action to researchers to further investigate this new area.

1.6 Limitations

This study was limited to secondary schools located in the region of Sydney, Australia, due to constraints on my ability to travel and collect data for the research. I selected the case to be examined (from those who responded to the initial extensive online survey) on the evidence that it demonstrated a strong, systematic whole-school approach to developing students' SRL skills. As a single case was explored in-depth, it is not possible to generalise from

the data. Instead, I draw from the data guidelines for educators for a whole-school approach to developing students' SRL skills and provide a focus for further research into a whole-school perspective on SRL.

1.7 Organisation of the thesis

In this chapter I have presented an overview of the study, outlining the research questions and the background to the study. I have also explored the significance of the research, arguing for the need to examine the development of SRL skills from a whole-school approach, the need to understand the views of the stakeholders on key responsibilities in developing students' SRL skills and the impact of technology on SRL.

Chapter 2 locates the study in the context of past and current literature. I first examine the historical background to the field of SRL before then examining the definitions and characteristics of a self-regulated learner. A clear definition was essential in order that this concept could be clarified to the participants of this study. The chapter then explores the experimental interventions documented in the literature, extrapolating approaches to the development of SRL skills. The framework that evolved from this examination of the literature was used to examine the data in subsequent chapters.

Chapter 3 focuses on the methodology. It positions the study within the interpretive case study tradition and provides details of the mixed

methods approach and justification for this approach. The chapter outlines

the two-phase data collection process, describing how the case was selected

using an initial online survey of 54 schools. The next section discusses the

analysis applied to the data collected and how this informed the thesis

writing. The chapter concludes by exploring how the study established

trustworthiness and reliability and how ethical issues were considered and

addressed.

Chapter 4 explores the findings from the first phase of the research, the

online survey of 54 Year 7 to 12 Australian secondary schools. The phase 1

findings highlight the complexity of the construct of SRL in contemporary

secondary schools. This chapter demonstrates that the approach taken by

participant schools was typically contrary to best practice described in

chapter 2 for helping students develop SRL skills. While curriculum

integration, the use of mentors and the explicit teaching of skills (albeit not

necessarily in context) were all factors that have been found to contribute to

the development of students' SRL skills, many schools did not have a

coordinated or systematic approach, contrasting with the comprehensive

approach outlined in chapter 2.

Chapter 5 describes the phase 2 case study findings. The case school

was selected from the initial online survey participants from phase 1. Data

from the case study questionnaires and semi-structured interviews were

coded and analysed thematically based on the framework developed in

chapter 2. The questionnaires, documents gathered and interviews of the case

school participants uncovered a number of innovative whole-school

measures taken (as opposed to uncoordinated practices by individual

teachers) to systematise a whole-school approach to helping students develop

SRL skills.

Chapter 6 explores views of stakeholders around the development of

SRL skills in the contemporary Australian secondary school context. This

study therefore leads to greater insights into the perspectives on the roles

each group may play in helping students develop SRL skills. This chapter

uncovers the need for schools to initially elicit the views of stakeholders in

order to understand expectations of their particular school community and to

inform the approach taken by the school to developing students' SRL skills.

Without this transparency, there will be conflicting views within and

between each group, unmet expectations and a poor chance that all students

will be given the opportunity to develop SRL skills.

Chapter 7 focuses on the third research question, examining

perceptions of the impact of technology on students' SRL skills development.

This chapter demonstrates that schools may need to educate students (and

parents) about ways to use technology, in particular as a learning and

communication tool, and how to manage technology (when it proves to be a

distraction), to further foster the development of SRL skills. The findings

indicate that students at the case school are not using technology in the

diverse and innovative ways that might have been expected. Empowering

students to engage more effectively with technology will play an important

role in a whole-school approach to helping students develop SRL skills.

Chapter 8 provides an overview of the findings and discusses the

implications and limitations of this study. An important finding from this

research was that few in the case school believed it was solely the province of

the student to develop their own SRL skills, with most stakeholders believing

that both parents and teachers had a role to play. This strengthens the

argument for the need for further investigation into a whole-school approach

to helping students develop SRL skills and into how the school can provide

the support that students, parents and teachers need.

The research found that support was also needed for students (and

parents) in helping students develop strategies to manage the balance

between technology used for school work and technology used for social

purposes. Parents did not know how to address this tension and students

were often frustrated when their self-regulation was derailed through an

addiction to technology such as to social media sites.

A further significant contribution to knowledge outlined in this thesis

is the new guidelines determined through a qualitative methodology for an

integrated whole-school practice approach to helping students develop SRL

skills in secondary schools. Chapter 8 presents these guidelines, drawn from

the analysis in chapters 5, 6 and 7, along with recommendations for future

directions of research.

Chapter 2

Conceptual framework and related literature

2.1 Introduction

The purpose of this chapter is to critique the body of relevant literature that

defines the field of self-regulated learning (SRL) and to argue the need for

this research project that explores an integrated whole-school approach to

helping students develop SRL skills.

In this chapter I explore SRL initially from a social cognitive

perspective, situating the historical background to the evolution of this field

in Section 2.2.1 and examining SRL within the social cognitive framework in

Section 2.2.2. In Sections 2.2.3 and 2.2.4 I discuss self-regulatory strategies and

interventions reported in the literature. I argue that research to date has

focused on how individual teachers and practitioners can foster the

development of SRL skills as opposed to how schools can adopt integrated

whole-school approaches. In Section 2.2.5 and Section 2.3 I develop and

propose a framework that represents a synthesis of the literature on

recommendations for educators to develop students' SRL skills. This

framework is used as the analytical framework in chapter 5 through which to explore the case study data on a whole-school approach to helping students develop SRL skills.

2.2 Self-regulated learning (SRL) from a social cognitive perspective

2.2.1 Evolution of the field of SRL

To understand the field of SRL it is necessary to briefly explore the major influences that led to its development. In this section I argue that the field of SRL evolved from the integration of multiple fields such as motivation and self-efficacy.

In the mid-1980s, SRL research moved from focusing on cognitive strategies for learning to exploring the metacognitive aspects of learning in order to explain how learners became self-regulatory. Researchers in this field recognised that the ability of the learner or the quality of the teaching or home environment did not fully explain students' levels of academic achievement. This suggested that factors such as motivation were also important.

Initially aspects such as goal setting or strategy use, later categorised as individual self-regulatory processes, were studied in isolation or in combination with only one other factor. Researchers began to suspect that studying individual aspects such as motivation, cognition and volition was

not providing a complete picture of "how students personally activate, alter, and sustain their learning practices in specific contexts" (Zimmerman, 1986, p.307). It was when researchers brought these differing fields together and examined the relationships between them that the study of self-regulation was born. Paris and Paris (2001) explained that SRL emerged as a construct to encompass the various factors contributing to academic learning. Researchers were attempting to provide a more holistic view of the skills students needed.

Two defining milestones

A defining moment in this process, particularly for future social cognitive theorists, was the publication of Bandura's (1986) book *Social foundations of thought and action: A social cognitive theory*. Bandura proposed a tri-reciprocal model of human functioning. In this model, personal, environmental and behavioural factors were accorded a central role in understanding human behaviour. These determinants were separable but interdependent factors that influenced individual functioning. People were viewed not merely as reactive organisms acting on instinct and impulse but as self-organising, self-reflecting beings affected by the social conditions and cognitive processes they experienced. This theory formed the basis of Zimmerman's (1986) enduring view of self-regulated learners as students who are metacognitively, motivationally and behaviourally active participants in their own learning process.

The second defining event for the initial evolution of the field of SRL was the 1986 symposium at the American Educational Research Association's annual meeting. This symposium brought together well-known experts across a variety of research specialisations. Symposium papers were published in a special issue of the *Contemporary Educational Psychology* journal. This issue integrated a number of different research areas into the overarching concept of SRL. These research areas included cognitive strategies, metacognition and motivation and the interplay between these. The aim was to develop a cohesive framework to explore how students become masters of their own learning processes (Zimmerman, 1990, 2001, 2008).

Inventories and interventions

Following this symposium, Weinstein, Palmer and Schultz's (1987) Learning and Study Strategies Inventory (LASSI) was notable for focusing not just on the 'skills', i.e. the strategies of learning, but also on the 'will', i.e. the thoughts, attitudes and beliefs that the learner experiences. Research at the time was beginning to accept that students' efforts towards academic achievement were determined by both their levels of motivation and by their subsequent study habits (Entwistle & McCune, 2004). Attempts were made to measure SRL through interviews and questionnaires and to use this data as predictors of academic outcomes.

The need to incorporate different aspects of research from fields such as motivation and self-efficacy studies in order to measure the attributes of a successful learner led to the development of numerous measurement instruments throughout the 1990s. An example of these is the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich, Smith, Garcia and McKeachie (1991), used to assess motivational and learning strategies components. The purposes of such inventories varied from predicting academic performance to identifying students in need of individual help. A number of inventories are still in use today, such as the Approaches to Studying Inventory (ASI) (Entwistle, Hanley & Hounsell, 1979), used to measure student learning in higher education.

Attempting to define and measure student approaches to learning inevitably led to looking at ways to improve and develop these approaches. Early attempts to improve student approaches to learning were mainly through the means of 'learning-to-learn' interventions (Hounsell, 1979) or through the explicit teaching of cognitive strategies (Weinstein, 1988).

However, McKeachie, Pintrich and Lin (1985) found that teaching SRL strategies alone was not always effective. At times students understood the strategies but did not implement them. In response, McKeachie, Pintrich and Lin modified their approach in their 'Learning to Learn' introductory cognitive psychology course. They proposed a twofold approach, teaching

cognitive learning strategies (how to encode, store and retrieve information with opportunities to practise these skills) and metacognitive learning strategies (reflecting on how and why to use the strategies, why they work, and how students could use these skills personally).

While initial research indicated that these modified interventions had some success, debate arose as to whether an integrated curriculum approach might be more effective. The argument was that these cognitive and metacognitive skills were not necessarily transferrable if not taught in context (Tait & Entwistle, 1996).

This led in the 1990s to a new research focus on exploring strategy intervention in individual classrooms. This approach was the focus of a symposium of the American Psychological Association in 1990, resulting in a special issue of the *Educational Psychologist* journal and increased efforts to define the construct of SRL.

2.2.2 Exploring SRL through the social cognitive framework

Over the past three decades educational psychologists and researchers have sought to clarify definitions of SRL. As recently as 2008 there was a call for clear, standard definitions in the field (Schunk, 2008), and in particular of the term 'self-regulated learning'.

One of the challenges in defining SRL is that this topic can be viewed from a wide range of theoretical perspectives. The underpinning educational philosophy adopted leads to a particular interpretation of SRL. Zimmerman (2001) compared seven prominent theoretical perspectives on SRL—operant, phenomenological, information processing, social cognitive, volitional, Vygotskian and cognitive constructivist approaches—demonstrating how the perspective taken can lead to widely differing definitions of SRL.

The social cognitive perspective on SRL is predicated on Bandura's (1977) social learning theory. This perspective fits well with the notion of students as active participants in their own learning experiences. Bandura believed that human functioning involved reciprocal interactions between behaviours, environmental variables and personal factors. This led to his identification of three key sub-processes in self-regulation: self-observation, self-judgment and self-reaction.

Self-observation refers to the deliberate attention to aspects of one's behaviour and is aided by self-recording. Self-judgment is comparing present performance with one's goal. This is affected by the standards employed, goal properties and the importance of goal attainment. Self-reaction may be evaluative or tangible. Evaluative reactions involve students' beliefs about their progress. Belief that one is making progress, along with the attained

satisfaction of goal accomplishment, enhances self-efficacy and sustains

motivation (Schunk, 1991).

A social cognitive perspective was therefore deemed to be the most

appropriate for this study of a whole-school approach to SRL. Bandura's

(1986) view of SRL as a triadic model of personal, behavioural and

environmental processes and the interaction between these is particularly

applicable to the school context. Secondary schools provide a social learning

environment, with opportunities for modelling and mastery experiences that

the social cognitive viewpoint sees as necessary for effective development of

SRL (Zimmerman, 2001). The school environment also emphasises the need

for self-observation, self-judgment and self-reactions. These three processes

were highlighted by Schunk (1994) and Schunk and Zimmerman (1997) as

necessary for a social cognitive theory of self-regulation.

Zimmerman (2001) argued that self-regulation relates to the degree to

which students are metacognitively, motivationally and behaviourally active

participants in the learning process. His social cognitive definition of SRL has

endured since he first proposed it in 1986 and explains the factors that

contribute to SRL:

> Thus, SRL theorists view students as metacognitively, motivationally,
>
> and behaviourally active participants in their own learning process.
>
> Metacognitively, self-regulated learners are persons who plan,

organise, self-instruct, self-monitor, and self-evaluate at various stages during the learning process. Motivationally, self-regulated learners perceive themselves as competent, self-efficacious, and autonomous. Behaviourally, self-regulated learners select, structure and create environments that optimise learning. According to this view, effective learners become aware of functional relationships between their patterns of thought and action (often termed strategies) and social and environmental outcomes. The effective use of self-regulation strategies is theorised to enhance perceptions of self-control (i.e., autonomy, competence, or efficacy), and these positive self-perceptions are assumed to be the motivational basis for self-regulation during learning. (Zimmerman, 1986, p.308)

However, while capturing the essence of a self-regulated learner, Zimmerman's three constructs did not explain why some students did not persist in the face of difficulties, despite being motivated. Further concepts were needed to produce a working model of SRL.

Zimmerman, a key figure in this evolving field of SRL, went on to explore Bandura's (1986) concepts within the self-regulatory framework. He was looking at the three classes of strategies (personal, behavioural and environmental) that individuals use to exert control over their learning. Zimmerman (1990) proposed a new social cognitive model of self-regulated

academic learning and achievement, postulating that students' efforts to

regulate their learning involved three classes of reciprocally independent

determinants as shown in Table 2.1.

Learning environment influences	Person (self) influences	Behavioural influences

Physical context
  Task features
  External outcomes
 	
Material and social resources
	Knowledge
	  Declarative
	  Self-regulative
	
	Self-efficacy beliefs
	
	Goals or intentions
	
	Metacognitive processes
	  Planning
	  Behaviour control
	
	Affective processes
		Enactment of self-regulatory activities
		  Self-observations
		  Self-evaluations
		  Self-reactions
		  Environmental structuring

Table 2.1: Determinants of SRL

Note. From "Self-regulating academic learning and achievement: The emergence of a social cognitive perspective" by B.J. Zimmerman, 1990, Educational Psychologist, 2(2), p.192.

In this model the interaction between these three factors created a self-

oriented feedback loop during learning, providing information that enabled

one regulative process to influence another. This loop referred to a cyclical

process in which students monitor the effectiveness of their learning

methods or strategies. They then respond to this feedback in a variety of

ways ranging from covert changes in self-perception to overt changes in their

behaviour and strategies. Adjustments are constantly necessary as factors are

changing during the course of learning and performance (Zimmerman,

2001). In this model, Zimmerman (1990) explained that "self-regulated

learning occurs to the degree that a student can use personal (i.e., self)

processes to strategically regulate his or her behaviour and immediate

learning environment through feedback loops" (p.195). SRL had evolved into

much more than just looking at the study strategies students used.

This initial development by Zimmerman of Bandura's (1986) model

was a precursor to a range of models developed to further explain the

complexity of SRL. Puustinen and Pulkkinen (2001) outlined a number of

models that emerged around the concept of SRL: Boekaerts' Model of

Adaptable Learning; Borkowski's Process-oriented Model of Metacognition;

Pintrich's General Framework for SRL; Winne's Four-stage Model of Self-

regulated Learning; and Zimmerman's Social Cognitive Model of Self-

regulation.

Puustinen and Pulkkinen's (2001) analysis of these models found that

two major SRL orientations seemed to emerge: motivation and strategy.

Boekaerts' and Pintrich's models were mainly motivation oriented in their

research, while Borkowski's and Winne's research was primarily strategy

oriented. Zimmerman's research, however, had been both motivation and

strategy oriented, arguing these were equally important considerations in

SRL.

In this thesis I have used Zimmerman's (2008) social cognitive model

of SRL as the basis through which to explore a whole-school integrated

approach to SRL. This model reflects the triadic determinants of SRL

(personal, behavioural and environmental influences) and distributes these

processes across three distinct phases of the SRL cycle as shown in Figure 2.1.
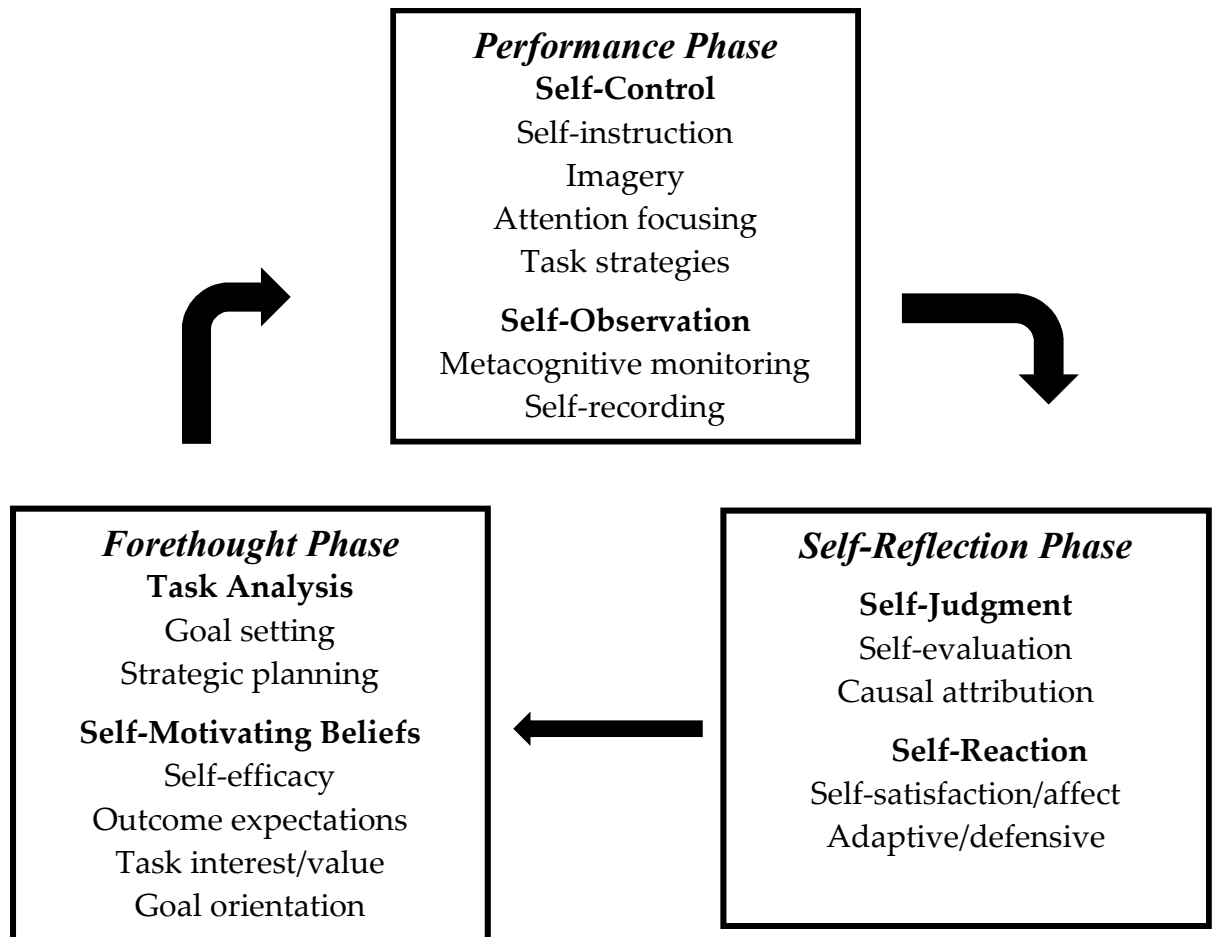
Figure 2.1: Cyclical self-regulatory phases

Note. From "Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects" by B.J. Zimmerman, 2008, American Educational Research Journal, 45(1), p.178.

Zimmerman's (2008) model of SRL outlined in Figure 2.1 postulates that the

regulation of academic behaviours occurs across three cyclical phases. The

phase of forethought includes processes that are related to task analysis and

that precede an act such as setting proximal goals or strategic planning and selection of task strategies. When performing tasks students then have the opportunity to use the selected task strategies and observe their own approach. This leads to a phase of self-reflection which in turn may affect subsequent forethought phases and influence a learner's preparation for future learning experiences. An important component of this SRL model is its cyclical nature.

It is clear from this model that self-regulation is not a specific personality trait that students either do or do not possess. Nor is it a mental ability or particular academic performance skill. Instead it is a selective use of processes by which learners transform their mental processes into academic skills adapted to individual learning tasks (Zimmerman, 2002c). Deci and Ryan (1996) discussed the conceptualisation of self-regulation as a continuum where students may be more or less self-regulated with respect to particular behaviours and within particular domains. This is supported by Zimmerman (1998a) who stated: "Self-regulation is no longer viewed as a fixed characteristic of students but rather as context-specific processes that are selectively used to succeed in school" (p.74).

2.2.3 Self-regulatory strategies and levels of development

Having established that the model of SRL to be used for this research is the social cognitive framework, I now explore research on strategies designed to

optimise the outcomes discussed in the previous section. Zimmerman (2002a) outlined nine areas where self-regulatory techniques could be fostered: goal setting, task strategies such as mnemonics, self-instruction using verbalisations, imagery and visualisations, time management, self-monitoring and tracking, self-evaluation, environmental structuring and help seeking.

According to social cognitive theory, these context-specific SRL skills are fostered through four sequential levels of development (Schunk & Zimmerman, 2007; Zimmerman, 2000, 2002c):

1. Observation: vicarious induction of a skill from a proficient model

2. Emulation: imitative performance of the general pattern or style of a model's skill with social assistance

3. Self-control: independent display of the model's skill under structured conditions

4. Self-regulation: adaptive use of skill across changing personal and environmental conditions.

These levels begin with an emphasis on social sources and shift towards self-sources (although social support may still be used as a resource when needed during the last two levels).

In the initial observation stage the learner observes the model and vicariously experiences the skill. The aim is that through observation and verbal instruction the learner will be able to deduce and distinguish the main features, skills or strategies.

During the second stage, the learner emulates the model making adjustments to their behaviour based on the feedback and guidance they receive. In this way the learner's performance begins to approach that of the model. Pressley (1995) emphasised the point that students need to practise new procedures they are learning to the point of proceduralisation before they can be expected to then use them in a self-regulated fashion.

The first two stages are where the teacher or practitioner has the opportunity to effect change and promote the development of the self-regulatory behaviours. In the third stage, self-control, the model is no longer present, yet the learner is able to successfully apply the demonstrated skills as the skills have been internalised. The final stage of self-regulation is attained when the learner has developed an adaptive use of a skill and can make changes as needed in adapting to personal and contextual conditions. Zimmerman (2008) explained that "the core issue is whether a learner displays personal initiative, perseverance, and adaptive skill" (p.167).

The initial sections of this chapter have outlined the evolution of the field of SRL and explored SRL through the social cognitive framework. This

provides the context for the construct of SRL that is used in this research

project. The following sections examine the research into helping students

develop SRL skills.

2.2.4 SRL interventions

In addition to defining and exploring the concept of SRL, the body of SRL

research has also explored targeted SRL interventions such as the small

sample listed in Table 2.2 on the following page. These interventions are

instances of very specific changes the instructor makes in order to attempt to

foster SRL, often in only one or two specific self-regulation processes. For

students who need the development of SRL skills, the instructional goal

becomes transferring control of the regulation process from the teacher to the

student (Ertmer & Newby, 1996). A mix of college and secondary school

examples are included for illustrative purposes, although much of the

research in this area focuses on interventions with tertiary level students.

Study	Sample	Process	Outcome
Cleary & Zimmerman, 2004; Cleary, Platten & Nelson, 2008	Struggling students identified and supplied with an SRL coach	Students were interviewed to uncover their weaknesses in SRL. Students participated in self-monitoring and experienced cognitive modelling and coaching.	Enhanced test scores were obtained by the students, more frequent use of self-regulatory strategies and enhanced perceptions of confidence for learning.
Miller, Heafner & Massey, 2009	24 high-school students in Piedmont interviewed across a 9-week period to evaluate reactions to increased expectations for reading, writing, collaborating	Quality of the homework given to students was altered: more open-ended questions, opportunities to integrate information across the text. Students kept nightly homework logs, discussed effectiveness in class, set goals to improve efficiency, predicted scores on weekly tests. Grades were awarded for completion of homework, classes began with discussions and group work on homework and modelling of strategies.	Study found main obstacle to students' academic success appeared to be related to the ability to complete homework outside the school setting; a lack of ability to regulate out-of-classroom behaviours, a lack of strategies for learning and inability to reflect on ways to improve.
Nuckles, Hubner & Renkl, 2009	103 undergraduate students from University of Freiburg	Learning protocols / learning journals were used as self-guided writing for reflection on learning using differing levels of prompting. Strategy activators were used to help students apply cognitive and metacognitive strategies, as well as prompts for organisation and elaboration, and prompts for monitoring and planning of remedial studies.	Prompts helped students to improve in these areas. Metacognitive prompts alone improved learning outcomes if the learning environment allowed for the realisation of remedial strategies.
Rosario, Nunez, Gonzalez-Pienda, Valle, Trigo & Guimaraes, 2010	First year college students in Spain and Portugal	"Letters from Gervase" was a narrative based intervention program; a fictional student discussed his academic experiences over 13 letters (of which 6 were explored with students in 90 minute sessions). Students worked individually, then discussed in groups, worked on tasks.	Use of narrative, modelling, vicarious learning allowed students to identify, provided opportunities for discussion. Improvement in learning strategies and SRL processes.
Perels, Dignath & Schmitz, 2009	53 sixth grade students in German Mathematics classes	SRL cycle training was integrated into a Mathematics class. For a unit of work, lessons were structured with 1/3 of the lesson on SRL strategies.	Concluded it is possible to directly influence school-based learning with cross-curricular self-regulation strategies.

Table 2.2: Sample of targeted intervention studies from the field of SRL

What defines a self-regulated learner is the self-directed processes they undertake. A self-regulated learner is proactive in setting goals and in selecting and implementing strategies, and is self-monitoring, as opposed to reactive to circumstances outside the student's control. As Zimmerman, Bonner and Kovach (1996) suggest, "the core issue is whether a learner displays personal initiative, perseverance and adaptive skill" (p.167).

The question arising from this review of the SRL literature thus far is: Are there whole-school practices schools can take to assist and enable students to develop SRL skills? Dignath and Buttner (2008) completed a meta-analysis of intervention studies at primary and secondary level and concluded that there is a gap in the research about how teachers can be supported to bring SRL into the classroom.

The studies outlined above, and many others from similar approaches, explore specific, targeted interventions for developing a particular aspect or a particular skill for a specific subject. It is important to note that the academic psychological literature cited in this chapter has focused on peer-reviewed academic writing. There has been additional exploration of these topics by researchers in other writing and activities (for example, work by John Bransford, Ann Brown, Lauren Resnick, David Olsen, Carol Dweck, Howard Gardner). These, while having contributed substantially to concrete efforts to

achieve whole-school reforms in SRL concepts, are outside of the scope of this study.

The next section of this chapter synthesises research on SRL interventions to develop a framework grounded in the research literature that outlines how educators can proactively foster the development of students' SRL skills.

2.2.5 Helping students develop SRL skills

An essential issue around the construct of self-regulation is how this capacity can be developed in students. This can be a challenge given that self-regulation aims at students taking control. As Ramdass and Zimmerman (2011) state: "self-regulation is a proactive process whereby individuals consistently organise and manage their thoughts, behaviours, and environment in order to attain academic goals" (p.198). From their review of contributions to SRL literature, Paris and Paris (2001) found that self-regulation can be taught in diverse ways. Self-regulation can be:

- taught with explicit instruction, directed reflection, metacognitive discussions and participation in practices with an expert

- promoted indirectly by modelling and by activities that entail reflective analyses of learning

- promoted by assessing, charting, and discussing evidence of personal

  growth.

The need to teach middle-school students how to build their academic self-regulation skills was also highlighted by Dembo and Eaton (2000).

The following sections review literature that provide guidelines on teacher practices to foster the development of students' SRL skills.

Teacher is educated in and understands SRL

As Dignath and Buttner (2008) have argued, it is not sufficient to assume that all teachers have the knowledge and skills in place to integrate the development of SRL skills into their teaching approach. Paris and Winograd (2003) recognised the need to train teachers in self-regulatory practices and described a number of principles for new teacher preparation. Their premise was that teachers need to understand their own thinking and become more knowledgeable about metacognition to effectively nurture students' learning. Understanding SRL enhances a teacher's ability to effectively model this for students in their own practice. Effeney, Carroll and Bahr (2013) found in their study of a group of secondary students that teachers were the most commonly identified source of the development of students' SRL strategies. This underscores the importance of ensuring that teachers are equipped with the necessary skills for helping students develop SRL skills.

Boekaerts (1997) made the following recommendations for teachers. Teachers should be:

- made aware of the different types of prior knowledge that students can draw on to give meaning to tasks

- made aware that declarative information needs to be proceduralised

- trained to create opportunities for students to develop automatic processes

- trained to create powerful learning environments in which students can learn to self-scaffold their learning process

- trained to design tasks that allow students to ameliorate planning, imitating and completing intended actions.

The training outlined by Boekaerts (1997) focused on a number of aspects that contribute to the development of SRL skills. However, Greene, Robertson and Croker Costa (2011) made explicit the need for teacher training in SRL skills, arguing that "the ability to self-regulate one's learning is essential for academic success. Therefore, educators need a detailed understanding of effective SRL so they can teach it to those who lack such skills" (p. 313). In order for educators to be active promoters of SRL skills, they need to understand not only the skills, but how to foster and develop these in students.

Teacher believes in students' abilities to achieve and builds students' self-belief

The findings of Pintrich and De Groot's (1990) study examining relationships between seventh graders' motivational orientation, SRL and classroom academic performance implied that:

> teaching students about different cognitive and self-regulatory strategies may be more important for improving actual performance of classroom academic tasks, but that improving students' self-efficacy beliefs may lead to more use of these cognitive strategies. (p.37)

To increase this self-efficacy, students need to achieve some measure of success and feel encouraged by their efforts. They need to feel they are progressing towards their goals in order to develop the 'will' to proceed (Corno, 2008). Zimmerman (1989) cited a study where students whose teachers demonstrated optimism about the students' chances of solving a puzzle had more positive achievement outcomes than those whose teachers expressed pessimism about their students' chances of success. Emphasising the importance of the teacher–student relationship, McCombs and Marzano (1990) also argued that this relationship needs to be one that validates students' worth, encouraging them to believe in their self-possibilities.

Teacher plans to integrate SRL skills into classroom teaching and practice

SRL processes and strategies also need to be integrated into classroom teaching and practices. In their classroom guide, *Developing self-regulated*

learners: Beyond achievement to self-efficacy, Zimmerman, Bonner and Kovach (1996) suggested a number of ways that teachers could develop students' SRL skills. Teachers could use forms and surveys to engage students in self-monitoring and evaluation processes. Homework tasks could be set that focus on developing self-regulatory skills, shifting the focus regularly from homework content to examining and improving homework and learning processes. This approach was validated by Stoeger and Ziegler (2008) who used the principles outlined in 1996 by Zimmerman, Bonner and Kovach to train a group of fourth grade students for five weeks and found an increase in their SRL skills relative to the control group.

For students to acquire self-regulation skills, Schunk and Zimmerman (2007) concluded students needed to be taught these skills along with content and have multiple opportunities to practice these skills in live social settings. Purdie and Hattie's (1999) meta-analysis of training programs to foster effective learning at school found interventions were most effective when situated in context. An important maxim in SRL is that people learn by doing (Graham & Harris, 1994). Pintrich (1995) explained that even college students must practice self-regulatory learning strategies and that classrooms should be opportunities for students to self-regulate. Pressley (1995), however, argued that simple practice was not enough: teachers needed to require students to practise strategies to the point of proceduralisation before they

could expect the self-regulated use of these strategies. By learning a

systematic approach to academic work, students could then apply these

strategies independently and feel more efficacious about succeeding

(Biemiller, Shany, Inglis & Meichenbaum, 1998).

Paris and Paris (2001) argued that it is essential that teachers are able

to describe appropriate strategies to students and lead discussions about

methods to regulate learning. One such approach would be to engage

students in interactive discussions about tasks and strategies as described by

Butler (2002). The aim is that "teachers should teach self-regulation strategies

along with content so that students understand how to apply the strategies"

(Schunk & Zimmerman, 2007, p.21). Effeney, Carroll and Bahr (2013)

modified Zimmerman and Martinez-Pons' (1990) student SRL strategies into

10 categories as outlined in Table 2.3.

Categories of strategies	Definitions
1. **Self-evaluating**	Student-initiated evaluations of the quality or progress of their work.
2. **Organising and transforming**	Student-initiated overt or covert rearrangement of instructional materials to improve learning.
3. **Goal setting and planning**	Students' setting of educational goals or sub-goals and planning for sequencing, timing, and completing activities related to those goals.
4. **Seeking information**	Student-initiated efforts to secure further task information from non-social sources when undertaking an assignment.
5. **Keeping records and monitoring**	Student-initiated efforts to record events or results.
6. **Environmental structuring**	Student-initiated efforts to select or arrange the physical setting to make learning easier.
7. **Self-consequating**	Student arrangement or imagination of rewards or punishment for success or failure.
8. **Rehearsal and memorising**	Student-initiated efforts to memorise material by overt or covert practice.
9. **Seeking social assistance**	Student-initiated efforts to solicit help from peers, teachers and other adults.
10. **Reviewing records**	Student-initiated efforts to re-read notes, tests or textbooks.

Table 2.3: Categories of SRL strategies

Note. Adapted from Effeney, G., Carroll, A., & Bahr, N. (2013). Self-regulated learning and executive function: Exploring the relationships in a sample of adolescent males. Educational Psychology, 33(7), 773–796.

Drawing heavily from social learning theory and research, these categories form a useful outline of SRL skills to be integrated in context. Zimmerman and Martinez-Pons (1990) found that high achievers use these self-regulatory processes or strategies significantly more frequently.

Teacher facilitates social experiences and peer interactions for students during learning activities

A common tenet of SRL is that people acquire knowledge through their social interactions with others (Graham & Harris, 1994). Peer or whole-group discussions can raise awareness of alternative approaches and allow thinking about SRL to be shared among the class (Paris & Newman, 1990). By making thinking public, students can become aware of shared difficulties and alternative solutions to problems. Thinking publicly also allows students to articulate misconceptions or flawed thinking, allowing these ideas to be addressed by teachers and provoking students to amend their theories about learning. This public social support also gives teachers the opportunity to encourage the epistemological belief that learning can be challenging for all types of learners. Students learn that knowledge is not absolute and there are always alternative strategies. The development of these beliefs can also contribute to the development of self-regulated thinking (Pressley, 2005).

Paris and Paris (2001) outlined methods to foster reflective discourse, including reciprocal teaching and collaborative learning and writing. Students can also engage in peer tutoring, brainstorming and peer conferences to foster discussions about personal beliefs and strategies of learning. This may then lead to changes in students' own theories about how to conduct their learning. Paris and Newman (1990) also pointed out that by teaching others, students develop a personal commitment to the strategies

taught. Boekaerts and Corno (2005) contended that as peers model and discuss their learning strategies, these strategies are then distributed across the group for individuals to modify to their own needs. Butler (2002) explained these benefits of small group discussions:

> But small-group discussions also promote students' transactional construction of knowledge about learning. Knowledge constructed transactionally (among teachers and peers) is more sophisticated than knowledge a student might construct on their own. (p.89)

Paris and Winograd (2003) referred to this as conferencing, where the focus can be on the way students think and learn and students are given opportunities to analyse class activities, plan and brainstorm. Recent research on the social aspects of self-regulation has led to the expansion of this area to include co-regulation and socially shared regulation (Hadwin & Oshige, 2011). However, Boekaerts (2011) has found that this new branch of research creates challenges in both systematising the conceptual knowledge that has accrued and clarifying the meanings of the central social constructs.

Teacher uses modelling and scaffolding of SRL skills

Self-regulation can emerge from a number of different sources. Self-directed activities can be sufficient for some students, but others will require social experiences. These social means of learning may be both formal—such as instruction in the classroom—and informal—such as parental suggestions.

Schunk and Zimmerman (1996) listed some of the sources of these experiences, including parents, teachers, peers, family and friends using techniques such as modelling (discussed below), as well as corrective feedback, supervision and monitoring (discussed in the following section).

Modelling allows teachers to demonstrate SRL strategies in context. Hadwin and Oshige (2011) explained that "sociocognitive models of SRL emphasise modelling and prompting as key instructional tools for promoting SRL" (p.243). There is also evidence that the type of model is also important (Schunk & Zimmerman, 2007). Students who perceive the models as similar to themselves will have greater self-efficacy for learning. Exposure to multiple models (for example both teacher and peer) therefore increases the likelihood of perceived similarities. Wolters (2011) explained the importance of peer models to help foster students' confidence that they can perform the necessary self-regulatory skills. As Zimmerman and Cleary (2006) argue, coping models that display the ability to adapt are more effective than mastery models that seem to perform without errors. The aim of the modelling is not purely to develop skills. As indicated by Paris and Newman (1990), modelling also promotes feelings of agency and self-efficacy, so students have a personal commitment to action.

A further level of complexity that adds to the concept of social experiences was discussed by Paris and Paris (2001). Their recommendations

for promoting SRL emphasised the need for teachers to make their

instructions explicit in the initial stages, then to withdraw the level of support

at an appropriate pace. After a period of observation, students then receive

indirect instruction or guided practice. This has students participating in

instructional activities, shared problem-solving and discussions to imitate

and emulate the modelled behaviours, preferably, as Mullen (2011)

suggested, in authentic settings. During this participant or mastery modelling

there is a need to provide scaffolded opportunities for students to practice

their newly acquired abilities and receive instrumental feedback and

guidance. Hadwin and Oshige (2011) stressed that it is the self-regulatory

processes that need scaffolding, not the content knowledge. In addition to

scaffolding, peer tutoring or collaborative learning may also have a place in

this stage (Paris & Newman, 1990).

Schunk and Zimmerman (1997) postulated that self-regulation is

achieved when the student has self-internalised the SRL strategy and is able

to use the strategy independently when transferring the skills to new tasks. In

this self-control phase the learner is able to display the model's skill under

controlled conditions. Zimmerman (2001) expanded on this concept. After

students have observed and identified features of a model's strategy,

emulated this skill and then performed the strategy based on mental

representations of a model's performance, the learner moves into a final stage

of SRL competence. As personal and contextual conditions change, learners are now able to adapt and modify strategies as needed in different personal and environmental conditions.

Meece (1994) suggested that effective teachers carefully withdraw their scaffolded support of students' efforts. The challenge for teachers is to provide the level of support students need at that point in time, then to withdraw that support as they become more knowledgeable or skilled in a particular area or able to self-regulate in an independent, academically effective way (Perry & Rahim, 2011). Farnham-Diggory (1990) referred to this teaching strategy as scaffolding and fading while Wolters (2011) discussed "calibration and the adding of support" (p.275). Meece (1994) likened this to an apprenticeship model of learning "in which teachers help students acquire knowledge and skills by appropriately structuring learning activities and by working alongside students as co-participants and facilitators" (p.40).

The type of scaffolding will depend on a number of factors such as those outlined by Azevedo, Johnson, Chauncey, and Graesser (2011): the student's current level of conceptual understanding and how much scaffolding the students may have already received. This will affect the rate at which support is withdrawn as students become more competent.

Teacher provides guidance and feedback during monitoring with opportunities for reflection

Butler (2002) suggested teachers should require students to "articulate and submit descriptions of emerging understandings as part of class assignments … and require students to interpret feedback to provide direction for subsequent performance" (p.90). Students need to self-evaluate their work and estimate their competence in new tasks. Zimmerman (2002b) also encouraged teachers to assess student beliefs about learning to identify cognitive or motivational difficulties before they become problematic.

Part of the self-reflective process should be raising awareness that self-monitoring can be flawed and that monitoring will need to occur in diverse ways (Pressley, 2005). Students should be encouraged to monitor in detail their mastery of each lesson and their approach to their schoolwork outside of the classroom.

An example of this approach was discussed by Paris and Winograd (2003), who recommended the use of journals and portfolios as an avenue for self-exploration, self-discovery and self-disclosure. The value of reflection, Schunk (2001) argued, is that self-observation can motivate students to behavioural change. Schunk noted that an effective means of self-observation is the self-verbalisation of strategy use.

Students may find it difficult to make judgments about the likelihood of success. Schunk (1991) demonstrated that providing students with positive

feedback or social comparative information about their chance of goal attainment constituted an effective means of fostering skill development and perceived self-efficacy.

Butler and Winne (1995) discussed the importance of both internal and external feedback to the processes that constitute SRL. Feedback from the teacher conveys not only learning progress, but also promotes strategy transfer and maintenance (Biemiller, Shany, Inglis, & Meichenbaum, 1998).

Zimmerman and Cleary (2006) suggested that feedback to students should link their performance progress with strategy use to ensure more lasting change. This focuses students' attention on the learning process and encourages adaptive self-reflections, making students more likely to regulate their learning in positive ways. This has the potential to lead students to view errors as part of the learning process rather than as a negative reflection of ability. Even homework can play this role. Ramdass and Zimmerman (2011) found that homework can facilitate the development of self-regulation skills.

Lens and Vansteenkiste (2008) discovered that goals need to be specific, immediate and focus on future intrinsic goals such as personal development or the development of competencies and skills. However, performance goals have also been shown to promote SRL (Bouffard, Boisvert, Vezeau & Larouche, 1995). These short-term goals help emphasise the meaningful aspects of what students are learning (Hagan & Weinstein, 1995).

Schunk and Ertmer (2000) provided guidelines on how teachers can encourage students to adopt a mastery orientation. They stated that teachers should: reward and recognise effort and self-improvement as opposed to performance or ability; provide students with opportunities to experience personal improvement; use a variety of evaluation methods; and reduce emphasis on comparisons of students' work.

Zimmerman, Bonner and Kovach (1996) also provided a number of guidelines for teachers seeking to help students in the class develop SRL skills. The aim was to shift the responsibility for the learning process to the student by having teachers:

> focus on teaching students to use specific standards to self-monitor, to set appropriate learning goals for themselves, to adopt strategies to achieve these goals, and to acquire a sense of self-efficacy about eventually attaining mastery. (p.16)

Paris and Paris (2001) argued that it is important that the classroom environment affords students the opportunity to seek challenges and take responsibility and pride in their learning accomplishments. Boekaerts (2002) made the point that personal goals are what give meaning and purpose to a student's processes in the classroom.

Teacher outlines content relevance and students are given a measure of choice and control in their learning

Students will be more motivated to self-regulate if they can see the relevance

of what they are learning (VanZile-Tamsen & Livingston, 1999) and if

teachers can enhance students' valuing of educational tasks. However,

Wigfield (1994) reported that observational studies of classroom instruction

showed that teachers rarely emphasised the value of the educational tasks

students undertake. Patrick and Middleton (2002) also stressed the

importance of this:

> [Students] also benefit from motivationally rich curricula that contain
>
> inherently interesting and meaningful content with opportunities for
>
> choice and control, which will provoke and sustain effortful cognitive
>
> and metacognitive engagement. (p.28)

To ensure teachers can articulate content relevance, lessons may need to be

modified to increase personal relevance to the student. Teachers may also

need to emphasise the intrinsic value of the learning material.

Paris and Newman (1990) cited a number of studies that indicated that

unless students are convinced of the effectiveness of SRL strategies, students

do not incorporate these strategies into their own learning theories. While

self-discovery and overcoming obstacles may lead to new beliefs around SRL,

metacognitive instruction or an explanation of the cognitive dimensions of

the strategy may be required for students to make a personal commitment to

the new strategy or goal. Paris and Newman also pointed out that effective instruction provokes students to modify their personal theories of learning. Providing diverse opportunities for students to learn the rewards of their efforts is also part of the persuasion process (Pressley, 1995).

To develop SRL skills, Reeve, Ryan, Deci and Jang (2008) suggested that teachers:

- help students adopt an intention to act by building activities around students' interests, preferences, sense of curiosity and sense of being challenged

- help students overcome motivational problems through flexible, non-critical discussion and help them to see that poor performance is a problem to be jointly solved

- help students remain engaged during activities that are necessary but not necessarily interesting by explaining rationales behind activities

- acknowledge and validate students' feelings and frustrations when students are negative or otherwise disengaged, and communicate the positives.

Teaching that arouses curiosity and creativity can affect the motivational dimensions of a task and increase students' will to engage in SRL processes and activities, according to McCombs and Marzano (1990).

Another important aspect for helping students develop SRL skills relates to the importance of providing students with an element of choice in learning activities. As the learning activity unfolds and students begin to experiment with their skills, research suggests it is essential students are then given the space to explore aspects of SRL without constricting boundaries. Zimmerman (1994) found students cannot develop self-regulatory skills where there is no personal choice or control. Without a measure of student autonomy there is a negative impact on motivation (Boekaerts, 1999). Students need to be able to actively participate in decision making, initiate and direct their own learning, for example by selecting and evaluating learning materials (Loyens, Magna & Rikers, 2008). Teachers can promote and sustain a goal orientation that facilitates learning and understanding by enabling students to make decisions and choices:

> To give students more responsibility for their own learning teachers might allow students to develop questions for class discussions, to design class projects, to choose learning partners, or to decide the order they want to complete their work. (Meece, 1994, p.39)

This can be a challenging situation to provide in a secondary school context where students have limited control over the content, pace or style of learning. If teachers always dictate what students do, when and where they do it and how they accomplish it, Schunk and Ertmer (2000) pointed out that

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they will have little opportunity for self-regulation. The ideal situation would

be for students to choose to explore goals that are meaningful to them, with

classroom instruction and activities then planned to support these goals

(McCombs & Marzano, 1990). However, Zimmerman (1998b) stated that

even if there are limited opportunities in the classroom to exercise personal

choice and control, homework time can provide opportunities for students to

rehearse and develop SRL skills.

2.3 Framework of teacher-supported SRL practices

In Table 2.4 on the following page I have synthesised the considerable body

of SRL literature outlined in Section 2.2.5 into a framework of teacher-

supported SRL practices.

Successful implementation of this framework is highly dependent on

each teacher having the knowledge and understanding necessary to make

these changes to their teaching practice and being willing to do so.

Category	Recommendations for individual classroom teachers on the conditions needed to develop SRL in their classroom (from the literature review in this chapter)
Developing teachers' capabilities to build students' SRL skills	T1. Teacher is educated in and understands SRL (Dignath & Buttner, 2008; Effeney, Carroll & Bahr, 2013)
Building teacher expectations and student belief in students' academic capability	T2. Teacher believes in students' abilities to achieve and builds students' self-belief (Corno, 2008; Zimmerman, 1989)
Creating a school environment conducive to SRL skill development	T3. Teacher plans to integrate SRL skills into classroom teaching and practice (Butler, 2002; Schunk & Zimmerman, 2007)
Teachers facilitating peer interaction to support SRL	T4. Teacher facilitates social experiences and peer interactions for students during learning activities (Paris & Paris, 2001; Pressley, 2005)
Teachers modelling and scaffolding SRL strategies for students	T5. Teacher uses modelling and scaffolding of SRL skills (Hadwin & Oshige, 2011; Wolters, 2011)
Teachers embedding opportunities for students to reflect on their SRL skill development and gain feedback	T6. Teacher provides guidance and feedback during monitoring with opportunities for reflection (Paris & Winograd, 2003; Zimmerman & Cleary, 2006)
Teachers outlining content relevance and providing opportunities for choice	T7. Teacher outlines content relevance and students are given a measure of choice and control in their learning (Patrick & Middleton, 2002; Reeve, Ryan, Deci & Jang, 2008)

Table 2.4: Framework synthesising existing literature on recommendations for educators to help students develop SRL skills

This framework of individual teacher practices was used as the basis to

explore the case study school data on whole-school integrated approaches,

the focus of this research. This study therefore draws on the reviewed

literature to examine how current understandings around SRL can be used as

the theoretical perspective to examine the data on an integrated whole-school

approach to developing students' SRL skills in secondary schools,

addressing the gap in the literature in this area.

2.4 Technology and SRL

As the third research question examines stakeholders' perceptions of

the impact of technology on students' SRL skills development, it is also

necessary to explore literature that will inform understandings of this

research question.

SRL has been described as one of the key competencies that contribute

to maintaining life-long learning skills (EU Council, 2002). Almost two

decades ago, Weinstein (1996) pointed out that self-regulation is becoming

increasingly important as we move towards technologically driven self-

directed learning environments. There has been much exploration of the

changing nature of the skills needed for students to achieve their academic

potential at school given modern curriculum changes, new understandings

about the learning process and the increasing use of technology for learning

both at school and home (Palfrey & Gasser, 2009). Sendag and Obadasi (2009)

discussed how the rapid changes in the nature of information have

fundamentally changed today's working conditions and led to "the need to

equip individuals with skills to conduct research, use and transform

information, think critically and reflectively, and make higher order

decisions" (p132). This suggests that the SRL strategies needed by today's

students may differ from the traditional skills focused on in previous decades.

In exploring these concepts, Anderson and Balsamo (2007) painted a picture of a possible 2020 classroom and posed the question: "How should these institutions change to address this generational disposition?" (p.245). For example, the skills needed to be 'organised' may be very different for a student using papers and folders compared to a student using a laptop or tablet for their notes. As Greenhow, Robelia and Hughes (2009) suggested, the desired technological competencies for learners are constantly evolving. Sendag and Obadasi (2009) also discussed how the rapid changes in the nature of information have led to fundamental changes in today's working conditions and "the need to equip individuals with skills to conduct research, use and transform information, think critically and reflectively, and make higher order decisions" (p132).

The question then arises as to whether current approaches to meeting the SRL needs of students are still relevant.

Anderson and Balsamo (2003) also raised a number of questions regarding the students of the future: How do this generation's students assess information that comes in such a variety of different media? This question can be expanded to include looking at how students organise these media, and select what they need from the multitude of information

available. Anderson and Balsamo (2003) advocated the need to move from emphasizing critical thinking skills to developing skills of creative and critical synthesis. For the students of the future, they suggest, the "most important literacy will be the ability to create knowledge by harvesting information from diverse sources" (p.245). Critical synthesis is referring to students' ability to assess the reliability and veracity of the information and their ability to integrate information from different sources in different formats.

An exploration in this research study of the perceptions of the impact of technology on students' SRL skills development will lead to further insight into how technology may actually be adversely affecting students as self-regulated learners, as suggested by the following literature.

Challenges faced by students have changed significantly in recent years. With a wider range of potential distractions available, as well as less parental supervision and control, well-developed self-regulation skills are vital for this generation, particularly for students to engage effectively with technology. The Internet and other technologies can be addictive, as evidenced by Ferris's (2004) identification of Internet Addiction Disorder (IAD). Butterfield (2005) argued that if a student spends 30 to 40 hours a week on Internet related activities on top of their school time, all aspects of their life may suffer: school, friends and family. Huang (2010) discussed how

the compulsive behaviour of those with an Internet addiction may lead to possible interpersonal, health and time management problems: impacting their ability to self-regulate effectively.

Bensmiller's (2005) report found that adolescents are under a lot of stress and time pressure to do more things in a day than they actually have time to accomplish. This led to high incidences of multi-tasking and media-meshing. Media-meshing refers to the process of shifting between different media in order to supplement or complement information or perspective. A report by the Kaiser Family Foundation (2005) attempted to establish just what role media of all types plays in young people's lives, and found that in the US around a quarter of the time adolescents are using one media they are also doing something else media-related at the same time. This was particularly prevalent when students were working on homework. The report also showed that as new media were introduced adolescents didn't give up the old media (for example TV watching had not declined) nor did they increase the hours spent on media (perhaps this is a case of the fact that they can't increase the amount of hours as they are already operating at maximum levels in the time available) so instead they became media multi-taskers (i.e. they watched TV while also using their laptop). Tucker (2006) suggested that the constant multi-tasking by this generation could also lead to attention problems and inability to delay gratification.

A number of studies have demonstrated that multi-tasking with technology can indeed impact learning. Ellis, Daniels and Jauregui (2010) conducted a study with 62 university students who were taking an accounting course. During a lecture, half were allowed to text and half had their phones turned off. After the lecture there was a quiz and those students who did not text scored much higher marks than those who were texting at the same time that they were trying to listen to the lecture.

In a study by Kraushaar and Novak (2010), 97 students were using laptops during a 15 week management information systems course. A spyware program had been installed on all laptops to track what students did on their laptop looking at productive work versus distractive software (games, instant messages, web browsing, social media). Students who tried to listen to the lecture while using these distractive windows had significantly lower scores on homework, projects, quizzes, final exams and final course averages. The researchers also found that students under reported the extent of their multi-tasking. This means they were actually multi-tasking much more than they even realised.

Further evidence of the impact of multi-tasking can be found in a study by Bowman, Levine, Waite and Dendron (2015). Students in a psychology course had to read on their computer screen a 4000 word document. There were three groups. One used instant messaging before they

started reading, one used instant messaging while they were reading, and a third group just read the document with no instant messaging. The group who did instant messaging while they were reading took between 22% to 59% longer to read the passage; and that did not include the time spent messaging.

This research study will examine both the negative and positive perceptions of the impact of technology on students' SRL skills development. The literature also highlights a number of areas where technology has the potential to impact students' development of SRL skills in a positive way, although the evidence demonstrates that this potential is not always realised.

Cranmer (2006) examined young people's use of the Internet for homework in the UK. She found that young people have embraced the Internet for homework, extensively using it and viewing it as a helpful tool to find and retrieve information. However, the majority of young people in her study actually made quite limited use of the Internet. Cranmer (2006) explained that the main use of the Internet by children and young people was simply to locate information using similar methodologies as they would for more traditional research options (with of course the same associated issues of copying and plagiarism, although prevalence was greater in online research due to ease of copying and pasting). Although young people sometimes used revision sites to prepare for exams, they seldom used email

to seek advice or took advantage of other possibilities on the Internet to help them with their learning. Her conclusion was that in some ways the Internet has simply become a new reference tool for students, or alternatively for parents if they felt their own subject knowledge was inadequate to help their students. Parents in this study were clearly concerned that the ease of searching and copying information meant that learning may not be as deep as traditional approaches and that students often completed their work on a more superficial level when using the Internet as their source of information.

There are, however, areas where use of technology can help students develop the SRL skills outlined in Section 2.2.5, particularly with respect to organising and transforming material to improve learning. Jonassen (2008) discussed ways that technology can facilitate learning, such as a productivity or communication tool, explaining that students can use technology to represent what they know and what is being learnt. In this framework technology is seen as a partner in the learning process.

Rose and Meyer (2002) pointed out that one of the great powers of digital media is the flexibility and versatility of these forms of interaction – learner styles can be catered for by providing a variety of different options capitalising on the strengths of different students. The same material can be presented to students in a number of different formats, even allowing students the option to choose the style that best suits their needs at that time,

a method that promotes the development of SRL skills. Given the speed at which information changes, another advantage is that digital media can be easily updated and expanded, allowing instructors to react in a timely way to students' needs. Digital media can also be easily networked and accessed and allow interaction between participants.

Using interaction to seek social assistance is an important SRL skill. The role of the social networking site Myspace in the school environment was explored by Harris (2006). He raised a valid point that it is unreasonable to think that these sites will go away. Instead of simply banning these sites he proposed that schools take steps to involve themselves in this area and use students' interests in them to promote learning and interaction. He suggested, for example, that schools could use Myspace as a springboard to discuss relevant issues such as copyright infringement and dialogue on what is appropriate text and imagery for public and private display.

The idea is that educators need to take technologies that promote interaction and engage adolescents and integrate these into learning activities in the school environment. This idea was expanded upon in Warlick's (2006) hypothetical discussion of how the latest social networking and other web-based tools used by adolescents could be harnessed to transform the learning experience in the school environment. The 2013 K-12 Horizon report (Johnson et al., 2013) found that one of the top five trends currently affecting

teaching and learning was use of social media and how it is changing the way people interact, communicate and present ideas.

Futurelab (2006) examined the advantages of social media platforms that allow users to communicate, collaborate and publish in a number of ways and in a variety of media. This platform was found to help learners act together to build knowledge bases that fit their specific needs. The use of social media has the potential to allow educators to deliver communication between groups, enable communication between many people, provide gathering and sharing of resources as well as collecting and indexing of information. Most importantly it can provide new tools for knowledge aggregation and the creation of new knowledge, delivering this knowledge to many platforms in a way that is appropriate to the creator, recipient and the context in which it is being applied.

Research in this field has also been impacted by a focus in the last decade on the concept of the digital generation and the assumptions based on this premise.

The current generation of adolescents has been labeled the 'Millennium Generation' or 'Net-Geners' or the 'Digital Generation' (Huntley, 2006). These are students who have never known a world without remote controls, CDs, cable TV, mobiles and computers. Prensky (2001) divided the world into digital natives—those who have grown up in the

digital world—and digital immigrants—those who did not grow up in the digital age—however subsequent research by Bennett, Maton and Kervin (2008) has shown the situation to be more complicated than first thought.

Prensky's (2004) claim that all students can be classed as technology savvy has been shown to be based on false assumptions. Jones, Ramanau, Cross and Healing (2010) emphasised that there was no empirical evidence for a 'net generation', the focus should be more on skill level rather than grouping ability on age and generation. Other research (White & Le Cornu, 2011) proposed the paradigm of 'visitors' and 'residents' to categorise technology users by the time spent online and the digital footprint left behind. Regardless of categorisation, it is difficult to refute Prensky's (2004) belief that today's students are experiencing life in ways that are different from previous generations: in the way they are communicating, sharing, buying and selling, exchanging, creating, meeting, collecting, coordinating, evaluating, gaming, learning, searching, analysing, reporting, programming, socialising, evolving and growing up.

What has been argued by Bennett, Maton and Kervin (2008), is the widely accepted notion of a digital generation with a set of accepted characteristics. They argue that the concept of digital natives is based on the lack of empirical evidence for this concept and the dramatic and descriptive language used in research on the digital generation. The call is not to reject

the concept, but to investigate these claims more deeply before accepting

them. They also made a valid point that although students use a wide range

of technologies in their lives, it is dangerous to assume that they are all

competent in the use of all forms of technology. They argue that context and

individual experiences must be taken into account. Without this awareness of

possibly flawed assumptions and the complexity of the digital native

implications, less adept students may be disadvantaged.

Despite this divergence in views, the literature does argue

convincingly that there are some common characteristics to be found in those

students who are indeed immersed in the current technologies used for

learning environment. It also acknowledges that not all students are

immersed in technology in this way. An understanding of these

characteristics places in context the findings on parent and student

perspectives on how technology is impacting students' SRL skills

development (Chapter 7).

In a report commissioned by Yahoo and OMB on global youth, media

and technology, Bensmiller (2005) stated that a defining characteristic or

primary motivation of the way adolescents approach socialisation is their

desire to be part of a community and the value they place on the

relationships in their life. This then is a driving force in their desire to be

connected '24/7'. Beishuizen (2008) found that a learning environment where

there is a community of learners supports the acquisition and development of SRL strategies.

Huntley (2006) pointed out that this is the world's first generation to grow up thinking itself global and benefiting from this outlook. Despite the initial fears that computers and the Internet would turn adolescents into solitary friendless geeks, a viewpoint expressed forcibly by Talbot (1995), Huntley (2006) explained that adolescents are actually benefiting from the use of the Internet to connect to and build online communities and interact with others. This form of communication has not, as it was feared, replaced face-to-face experiences but is simply allowing adolescents to communicate more often and in different ways with their peers. Communication tools are essential for adolescents to maintain friendships and co-exist in social networks and ensure they are not isolated socially. It is the connectedness of technology that appeals to them – they are able to communicate at all times and receive immediate responses. They don't mind structure within this context on condition that their freedom and flexibility are not compromised.

Boyd (2006) explained that it is this structured and organised mechanism of interaction that has led to the huge popularity of social networking sites. The participants want to be public in a way that allows others to view their presence and that allows them to interact directly with those with similar interests. Connectivity leads to collaboration, and

November (2010) discussed the possibility that collaboration is one of the most important 21st century skills.

The Centre for Educational Research and Innovation (2001) examined a number of trends contributing to the way in which students are interacting with technology. One of the trends they cite was of pervasive computing and digital convergence. This means that there has been a trend towards small multi-purpose devices linked by wireless technologies with a broad spectrum of technologies being merged into interactive devices making communication easier and more seamless. The more portable, the more seamless the tools for communication, the more adolescents will integrate these tools into their daily life. These tools will contribute to the ability of students to be able to mine their digital and social networks for their information needs (Anderson & Balsamo, 2003). This means the desired technological competencies for learners is constantly evolving as discussed by Greenhow, Robelia and Hughes (2009).

Part of the reason why these students are so adaptable with new technologies is that they prefer to learn through discovery rather than instruction (Oblinger & Oblinger, 2005). They are eager and willing to experiment and much more likely to start pointing and clicking than read a user's manual. This exploratory style helps them to retain information more

effectively as they tend to investigate areas and follow directions that are of immediate interest to them.

Breck (2002) argued that perhaps the reason we have difficulty in understanding and facilitating students' use of technology outside of the classroom is that up to this point we have let students determine the direction and use of technologies in this environment. Most students have grown up with technology and are confident and capable in its use. But they do not necessarily have the maturity, life experience or understanding of teaching and learning to make informed decisions about how the technology could best be used and integrated. In particular how it could be used to help students develop SRL skills. Unfortunately those with this understanding about learning experiences often lack the knowledge and in-depth understanding of the technologies, strengthening the argument for future research in this area.

2.5 Conclusion

As shown in this chapter, SRL has been a well-researched construct over the past 30 years. From the initial focus on defining and measuring SRL, the field moved to proposing intervention strategies, focusing on small group or individual interventions. However research thus far has explored how individual teachers and practitioners can foster the development of SRL skills as opposed to an integrated whole-school approach.

The next chapter outlines the approach taken to answering the research questions and the methodological choices taken. Chapter 3 also outlines the two-phase approach for this research project: phase 1 was an online survey of 54 secondary schools and phase 2 was a case study selected from the phase 1 schools. Chapter 4 presents the findings from phase 1 of the study. The framework outlined in Section 2.3 represents a synthesis of the literature (see Table 2.4 page 66) on recommendations for classroom teachers to help students develop SRL skills and is used as the analytical framework in chapter 5. Chapters 6 and 7 explore perceptions of the roles in developing SRL skills and the impact of technology on students' SRL skills development and chapter 8 discusses the implications of the findings for the three research questions, outlining directions for future research.

Chapter 3

Methodology

3.1 Introduction

As discussed in chapters 1 and 2, this study explores self-regulated learning

(SRL) from the innovative perspective of a whole-school approach, leading to

guidelines for developing students' SRL skills. In chapter 2, I argued that

research into SRL had focused on defining and measuring SRL and on

evaluating specific SRL interventions. These interventions focused on

individual teachers and their students in narrowly defined learning

classroom situations. In this chapter I explain that in order to investigate the

perspective of a whole-school approach to developing students' SRL skills, it

is necessary to use a methodology that allows for an in-depth exploration of

the experiences of the stakeholders.

In chapter 1, I set out this study's main research question, and the two

secondary research questions:

- How can secondary schools embrace a whole-school integrated

  approach to helping students develop SRL skills?

- What are the stakeholders' perceptions of key responsibilities?

- What are the stakeholders' perceptions of the impact of technology?

This chapter describes the two-phase methodological approach I adopted in order to best answer these research questions. A survey of 54 schools was undertaken in phase 1 to gather initial data on perceptions of key responsibilities for developing students' SRL skills and approaches taken by schools. From these participants a best practice case school was selected for phase 2 of the study. During this case study interviews were undertaken with teachers and executives at the case school, documents were gathered and parents, students and teachers completed questionnaires.

The research perspectives underlying the methodology are discussed in section 3.2 of this chapter. Section 3.3 explains my decision to use an interpretive case study and a mixed methods approach. In section 3.4 I outline the data collection process. I describe the development of an initial online survey of 54 schools in phase 1, and explain how the phase 2 case was selected. Methods used for data collection and the procedures followed are also discussed. In section 3.5, I discuss the analysis applied to the data collected and explain how this informed the writing of this thesis. I conclude the chapter by exploring in section 3.6 how I established the study's trustworthiness and reliability and in section 3.7 how I considered and addressed ethical issues raised by the research.

3.2 Research perspective

As explained in chapter 2, for this research I adopted a social cognitive perspective on SRL, underpinned by Bandura's (1986) view of SRL as a triadic model of personal, behavioural and environmental processes. Secondary school settings provided a suitable social learning environment for investigating these processes. A social cognitive theoretical perspective emphasises the importance of context in understanding how knowledge is constructed through social interactions (Kukla, 2000). Using this perspective meant that the research could focus on the meaning teachers, parents and students in the schools constructed around SRL.

An interpretive methodology was employed for this study. Crotty (1998) described the interpretive approach as looking for "situated interpretations of the social-life world" (p.67). This methodology urges the researcher to consider the effect of individual experiences and interpretations. It seeks a deeper understanding of a situation, experience or phenomenon, with knowledge gained through an inductive mode of inquiry and exploration (Merriam, 2009). This approach was suitable for this research project as the research aimed to gain a deeper understanding of self-regulation in context and a greater understanding of the perspectives and interpretations of the multiple stakeholders in the school and their subjective

viewpoints (or the meanings they had constructed) of their experiences of self-regulation.

Yin (2009) found that using mixed methods within a single study can both broaden and strengthen the study as using mixed methods allows the researcher to illuminate problems from different perspectives (Creswell, 2009). In other words, including both qualitative and quantitative data in this study through an integrated mixed methods research strategy ensured a richer, deeper understanding of the phenomenon of a whole-school approach to helping students develop SRL skills. The mixed methods approach allowed data to be categorised and quantified, displayed graphically, yet deepened with the rich, thick description qualitative analysis brings (Denzin & Lincoln, 2005; Geertz, 1983; Tashakkori & Creswell, 2007).

Although much of the previous research on SRL has been from a quantitative approach, also exploring the concept of SRL qualitatively was appropriate for this study as a means to investigate the complexity of SRL in the school setting. Patrick and Middleton (2002) explained the value of a qualitative approach for exploring SRL as follows:

> Qualitative methods are particularly well-suited for examining self-regulated learning as events because they involve rich, holistic descriptions, emphasise the social settings in which the phenomena

are embedded, do not make assumptions about intra-individual

stability, and are oriented to revealing complexity. (p.28)

A qualitative approach was therefore an essential component of the research

methodology for this study in order to capture stakeholders' experiences and

make sense of their approach to developing students' SRL skills. As Merriam

(2009) stated, the interest of this type of research lies in "understanding how

people interpret their experiences, how they construct their worlds, and what

meaning they attribute to their experiences" (p.5). Qualitative research

involves the study of a situation in its entirety, typically looking at a variety

of data (Lichtman, 2010). This holistic approach was well-suited to exploring

a whole-school approach to developing students' SRL skills and uncovering

the social dynamics of the experiences of the stakeholders.

Integrating perspectives from both traditions by using a mixed

methods approach allowed the school's strategies and attitudes to SRL skills

development to be examined in context through a qualitative approach, while

also benefiting from the insights available from quantitative analysis.

3.3 Case study methodology

I used a two-phase data collection methodology to examine how, from the

research perspective described in the previous section, secondary schools

could embrace a whole-school integrated approach to developing students'

SRL skills.

Phase 1 was an online survey of 54 Year 7 to 12 schools in the Sydney metropolitan region. The purpose of the first phase was to explore approaches and attitudes adopted by schools to develop students' SRL skills, and to facilitate the case study selection for phase 2. This phase allowed me to locate a suitable, exemplary school for phase 2 of the study. Findings from phase 1 are reported in chapter 4 and highlight the inconsistency in approaches across schools and the overall lack of whole-school approaches to developing students' SRL skills. This first phase also reinforced this study's claim that the topic of whole-school approaches to developing SRL skills is currently under-researched.

By adopting a case study methodology for phase 2, I was able to explore the research questions in depth, holistically examining the whole-school approach of a single school from multiple perspectives. Stark and Torrance (2005) argued that a strength of the case study method is its use of multiple methods and data sources to deeply explore a specific social context. From the 54 schools participating in phase 1, one school was purposefully sampled (Patton, 2002) and studied in phase 2 of this study. This school was selected from the phase 1 sample as the school gave evidence of wide ranging exemplary whole-school practices that could contribute to fostering students' SRL skills. Merriam (2009) stressed that it is the unit of analysis or the

bounded system—not the topic under investigation—that defines the case. The case for this study was defined as the school selected.

Yin (2009) suggested that "case studies are the preferred method when how or why questions are being posed and the focus is on a contemporary phenomenon in a real-life context" (p.2). By exploring in depth the case study of one school's approach to the development of students' SRL skills I was able to capture a snapshot not only of a collective contemporary approach but also of attitudes to self-regulated learning by examining the meaning-making of different stakeholders (Denzin & Lincoln, 2005). Observing effects and dynamic interactions in real contexts is one of the strengths of the case study approach (Cohen, Manion & Morrison, 2000). The choice of a case study methodology, then, meant this research could look at SRL in the social context of the school (Yin, 1984). The relationship and dynamics between these factors, and the situatedness of the phenomena, formed the heart of the inquiry.

As this research project is a new area of exploration in the field of SRL, studying a case school in this context was an appropriate starting point in light of Yin's (2009) explanation:

the distinctive need for case studies arises out of the desire to understand complex social phenomena. In brief, the case study

method allows investigators to retain the holistic and meaningful

characteristics of real-life events. (p.4)

To obtain multiple perspectives, verify interpretations and explore the

situated nature of participants' experiences, an interpretive case study was

employed (Stake, 2005). Interpretive case studies develop conceptual

categories from the data, illustrating theoretical positions through rich, thick

description (Merriam, 1998).

While critics of case study methodology have suggested that the

situated nature of the case study makes generalising findings less likely

(Burns, 1994), Stake (2005) argued that the purpose of the case study is not to

represent the world but to represent the case. This counter viewpoint argues

that case studies allow generalisations of types other than those drawn from

statistically valid populations. Furthermore, generalisation is not always seen

as the goal of case studies. Researchers have found that case studies are

suitable for investigating SRL as a dynamic activity, exploring how SRL

shapes and is shaped by context and constructing in-depth holistic portraits

that enhance our understanding of SRL (Butler, 2011). From the detailed,

deep insights of this case study I was able to develop guidelines for schools

and practitioners to adopt in implementing a whole-school integrated

approach to developing students' SRL skills.

3.4 Data collection

Phase 1 of the research, outlined in section 3.4.1, surveyed 54 school executives online with an open-ended questionnaire exploring attitudes to SRL and the approaches taken by these schools to developing students' SRL skills. By understanding the approaches taken by the respondents, a best practice approach was uncovered to be further examined in phase 2 of the research, the in-depth case study.

In phase 2 the following mixed methods approaches were used to collect data at the case school: online questionnaires for students, parents and teachers; semi-structured interviews of teachers and school executives; and document gathering. Questionnaire instruments, interview questions and data collection and analysis approaches were initially trialled in a pilot study as outlined in section 3.4.2. Phase 2 data collection methods are discussed in detail in section 3.4.3.

During phase 2 at the case school, from a student body of 950 students, 256 students (27%) voluntarily completed the anonymous online questionnaire of five open-ended questions, along with 59 parents and 24 teachers. I also undertook twelve 40-minute interviews with executives and teachers. Data was collected over the four terms of the 2012 school year, which gave me time to incrementally analyse the data and let each stage inform the next (Merriam, 2009).

The timeline and approach taken for the two phases of the data collection is outlined in Table 3.1.

Phase	Timeframe	Summary of data collection methods
Phase 1 **Initial online survey**	2011 term 3	Executives at 350 secondary schools in metropolitan Sydney were invited to complete five open ended questions in an online survey about their school's approach to SRL. Fifty-four schools participated and findings are presented in chapter 4.
Phase 2 **Pilot case study**	2011 term 4 2012 term 1	Pilot study was undertaken to test and develop case study research instruments (online questionnaires and interviews) and analysis processes. The pilot school was selected from the phase 1 respondents (excluding the school selected as the case school) as a school taking some proactive steps to developing SRL skills.
Phase 2 **Case school selected, documents gathered for case study**	2011 term 4	Case school was selected from the schools participating in phase 1 as this school had evidence of exemplary whole-school practices in place to develop students' SRL skills. Contact was made, the school agreed to participate and a data collection schedule established with the school's contact person. School policy and other relevant documents were collected.
Phase 2 **Questionnaires for parents, teachers and students for case study**	2012 term 1	At the case school an online anonymous questionnaire was undertaken with students, parents and teachers. The online questionnaire of five open-ended questions (that had been tested with the pilot school) was completed by 256 students (from a student body of 950), 59 parents and 24 teachers.
Phase 2 **Executive interviews for case study**	2012 term 2	Six 40-minute interviews were undertaken with executives from the case school. Data from the online questionnaires informed the interview questions.
Phase 2 **Teacher interviews for case study**	2012 term 3	Six 40-minute interviews were undertaken with teachers from the case school.

Table 3.1: Summary of data collection methods

The breadth of data collection and the integrated mixed methods approach outlined in Table 3.1 allowed a comprehensive and multi-faceted picture of the case school's approach to developing students' SRL skills to emerge (Greene, Kreider & Mayer, 2005). The following sections discuss each part of Table 3.1 in greater detail.

3.4.1 Phase 1 online survey

The first phase of the study involved recruiting schools during the second semester of 2011 to participate in a survey with five open-ended questions (Appendix B1). A letter (Appendix C1) was posted to 350 secondary schools in the Sydney region that met the selection criteria below. The letter was addressed to the Director of Studies/Deputy Principal asking them (or an appropriate member of the school executive) to complete an online survey.

The schools invited to participate in this initial online survey were selected on the following criteria:

- the school would teach across the full secondary spectrum i.e. Years 7 to 12

- the school would be located in the Sydney region as this is the geographical boundary for the study due to constraints on travel and data collection.

There was no restriction as to whether the school was public or private.

The purpose of this phase 1 survey was two-fold: to gather initial data about perspectives on key responsibilities for developing students' SRL skills; and to uncover systematic whole-school approaches to developing students' SRL skills to aid in the selection of a case study.

When designing the questions for the online survey, guidelines for designing questionnaires from Munn and Drever (1999) were used. The level of the vocabulary and language used was considered and questions were tested on a small sample of volunteer teachers prior to the online survey to ensure all questions were clear and unambiguous, open-ended and not leading. When evaluating the efficacy of the questions to be used the goal was to have a clear rationale and justification for every question used.

 A total of 54 responses were obtained (15% of the 350 surveys sent were completed). The data collected in this online survey led to the selection of the case for study. The survey also provided preliminary data for both the quantitative and qualitative analysis to address the research questions.

In the letter sent to schools, participants were directed to a web address. The first page of the website outlined the content of the letter from Appendix C1. At the start of the online form there was a question to obtain consent before participants viewed the survey. If they did not consent, they were not directed to the survey. Phase 1 findings are reported in chapter 4.

3.4.2 Phase 2 pilot case study

Stark and Torrance (2005) advised that "researchers using case study without the aid of survey data to help focus their fieldwork are advised to do preliminary work before entering the field" (p.37). While questionnaires would be undertaken for the case study, preliminary work in the form of a pilot study was also undertaken in order to add to the rigour of the research approach.

In order to test the research instruments and refine procedures for the data collection for the main case study (see section 3.4.3), the case school was removed from the population and a pilot school was selected from the remaining 53 respondents in phase 1. While this school was not taking as systematic a whole-school approach as demonstrated by the school selected as the case school, the school was still proactive in taking a number of steps to help students develop SRL skills and hence served as a suitable venue for a pilot study.

The pilot school was located in south Sydney and was a Year 7 to 12 academically selective boys' school with a multicultural population representing over 30 different cultural groups. According to teachers at the school, students had traditionally demonstrated high self-efficacy and strong motivation for their studies.

All procedures and data collection instruments were trialled and tested in this pilot study in a condensed period of six weeks. Letters were sent to parents, teachers and students inviting them to participate in the questionnaire (Appendix D1, D2). Eight teachers, 23 parents and 272 students from the pilot school completed the online questionnaire.

As with the phase 1 online survey, guidelines from Munn and Drever (1999), as well as learnings from the phase 1 survey, were used in the development of the questions for the online questionnaire in order to ensure the instruments would effectively gather data to answer the three research questions. However, minor modifications were also made to these questions after the pilot study. These questions were amended for the case study questionnaires to provide examples of the types of areas respondents might like to discuss in their answers (See questions 3 and 5 in Appendix B2, B3, B4).

Data was collated from the online questionnaires and three interviews were conducted to test the efficacy of using the data as a stimulus for the interviews (Appendix B5, B6).

In the pilot study letters had been emailed to teachers inviting them to participate. Given the low response rate of teachers in the pilot school, during the case study the letter (Appendix D3, D4) was also copied and placed in staff pigeonholes when data collection was conducted in the case school

(instead of only being emailed as with the pilot school), which resulted in an improved response rate. Teachers who agreed to be interviewed signed a consent form (Appendix E1, E2) and interviews were recorded using an iPhone and then transferred to a secure computer.

The pilot study school received a 50-page report of findings that would be of interest to the school. The executive summary for this report is included in Appendix F1.

3.4.3 Phase 2 case study

In phase 2, I collected both qualitative and quantitative data through online questionnaires. Creswell (2003) has argued that a sound methodological approach is to choose methods appropriate to the research questions. Thus, while qualitative methods allowed an in-depth exploration of the attitudes and approaches taken to developing students' SRL skills, quantitative data made possible numerical comparisons of the attitudes and perspectives of the stakeholders.

The second phase of the data collection involved an in-depth case study of a school selected from the 54 respondents to the first phase of the data collection. With its strong, systematic whole-school approach to developing students' SRL skills, the case school was selected on the basis that it would best provide an enhanced understanding and exploration of the research questions (Stake, 2006).

The chosen best practice phase 2 case school was an Australian co-educational, non-government secondary school in Western Sydney. Students attending the school came from different ethnic and socioeconomic backgrounds. The school had taken a number of steps to introduce whole-school practices for developing students' SRL skills.

This sort of purposive (Butler, 2011; Chein, 1981; Merriam, 1998) or purposeful (Patton, 1990) sampling is predicated on the assumption that in order to gain insights and understandings, the researcher must select information-rich samples that will provide the best opportunity for learning about the area of interest (Merriam, 1998). Lichtman (2010) also made the important point that it is not the number of individuals that are studied that is critical; rather, "it is the nature of the study and the degree to which you explore complex in-depth phenomena that distinguishes qualitative research" (pp.17-18).

To obtain multiple perceptions and verify interpretations (Stake, 2005), the following methods were used for data collection with the case school: semi-structured interviews, questionnaires, and document gathering. The use of multi-faceted sources of data in qualitative research accommodates an in-depth understanding of individual points of view (Denzin & Lincoln, 1998).

Yin (2009) argues that in case study research the researcher benefits from the prior development of theoretical propositions to guide data

collection and analysis. The direction of this study was guided in the initial

stages from theoretical propositions developed from an examination of

literature in the area of SRL from a social cognitive perspective (outlined in

section 2.2 and section 2.3), thus fitting with Yin's (2009) concept of a theory

as a "sufficient blueprint for your study" (p.36).

Initial contact with the case school

I contacted the respondent for the case school (the Head of Teaching) by

phone in November 2011 and set up a meeting at the school. I invited the

school to be a case school for the study (Appendix C2) and outlined the level

of involvement required by the school during the meeting. The Head of

Teaching then passed on the letter inviting the school to participate in the

study to the Principal, obtained permission for the school to be involved and

agreed to be the contact person for the research. A schedule was established

for the data collection for the coming year and the logistics discussed.

Document gathering at the case school

To enable data collection to commence in 2012, the Head of Teaching at the

case school provided a number of documents to give background and

context to the school and to start the collection of data relevant to the study.

Many of these documents had been recently updated in preparation for the

coming year. They included: *Assistant Principal Teaching: A Case Study 2009*;

Visiting Teachers Handbook 2012; *Staff Handbook 2012*; *Student Learning Planner*

2011; *Study Cards Criteria 2012;* academic report samples; and Teacher

Enrichment Day 2011 documents. Stake (1995) explained that documents

may be key repositories or measures for the case and this proved to be so,

particularly the *Staff Handbook 2012*, which outlined a number of current

whole-school practices in detail.

Online questionnaires for parents, teachers and students at the case school
I sent letters to all the parents, teachers and students at the case school

(Appendix D1, D2), inviting them to share their thoughts and views about

SRL in their school in an online questionnaire. Parents, teachers and students

completed the five questions (Appendix B2, B3, B4) in their own time. This

helped to establish possible lines of enquiry, areas to explore and key people

to interview as well as data for the research questions. From a student body

of 950, 256 students, 59 parents and 24 teachers voluntarily completed the

online questionnaire of five open-ended questions. The questionnaire was

anonymous and data arrived in the form of an anonymous email from each

respondent. Data from the online entries was collated and both qualitative

and quantitative analysis was undertaken.

Executive and teacher interviews at the case school
The next stage of the research involved exploring issues raised in the online

questionnaires, gaining insight into the viewpoints of the school's executive

and teachers and exploring themes that had emerged from the online

questionnaires. As part of the online questionnaire, teachers were asked to indicate or contact the researcher if they were prepared to be interviewed.

The aim of the interviews was, as explained by Stake (1995), to "aggregate perceptions or knowledge over multiple respondents" (p.65). As the entire school executive agreed to be interviewed, personnel in key positions were chosen with the assistance of the school contact person and a letter was given to these staff outlining the necessary information about the interview process (Appendix D3). I spent a day in the school during Term 2 conducting 40 minute interviews with six members of the executive team: the Principal, Assistant Principal of Teaching, Assistant Principal of Learning, Head of Teaching, Head of Learning and the Leader of Learning. All interviewees signed a consent form (Appendix E1). From the online questionnaire responses, I compiled a list of areas for further exploration. Throughout the course of these semi-structured interviews, these areas of interest were discussed with the appropriate person. This also established a deeper understanding of the case school environment and context. I recorded all interviews by iPhone and they were transcribed verbatim. I then checked for accuracy by listening to the recordings while reading and amending the transcripts.

From the teachers (non-executive) who indicated they could be interviewed, six non-executive teachers were invited to participate (Appendix

D4). The school contact person gave input as to which teachers would be most useful to interview in terms of their roles and experiences in the school with respect to SRL skills development. I conducted six 40-minute interviews with these participants over a day in Term 3, aiming for the breadth and depth of data collection that Merriam (1998) stated was necessary for an effective case study. All interviewees signed a consent form (Appendix E2) and interviews were recorded and transcribed. In all teacher interviews, preliminary analysis of data from the online questionnaires was used as stimulus for the interview schedule (Appendix B5 and Appendix B6).

Stake's (2006) guidelines were followed: for each day of data collection, six days should be allocated for management and analysis. Two days of interviews therefore saw a further 12 days allocated for analysis of the transcripts.

In addition to the online questionnaires, interviews were important as they allowed me to provide rich contextualised description to answer the 'what, how, why and when' questions (Patrick & Middleton, 2002). Using multiple methods to triangulate research findings also helped to capture the complexity of the SRL construct in the case school and allowed evidence to be considered from new perspectives.

3.5 Analysis of data

Miles and Huberman (1994) outline a number of sub processes for data analysis: data reduction, data display, conclusion drawing and verification. Data reduction is where data is selected, condensed and refined according to the conceptual frameworks. Data is then displayed in a variety of forms (into arrays, creating a matrix of categories or data displays) to reveal the implications of the data. This then permits conclusions and meaning to be drawn from the data by exploring themes and patterns (Dey, 1993). I followed these guidelines in the analysis of the data for this study. Data analysis for each phase is discussed below.

Phase 1

The initial online survey data from 54 secondary schools in the Sydney metropolitan region was coded thematically based on the approaches schools were taking to develop students' SRL skills. Findings are reported in chapter 4 using both a qualitative descriptive approach and quantitative data (such as the percentage of schools that took a particular approach).

Phase 2

For the case school, the online questionnaire data from parents, teachers and students was initially grouped according to thematic coding, collated, quantitatively analysed (through frequency counting) and displayed graphically. As with the pilot school, the school received a 50-page report of

findings that would be of interest to the school (see Appendix F2 for the executive summary of this report). This gave the school an initial glimpse into the data in a timely manner, allowed the school to access findings that would be of interest to the school such as student suggestions, but more importantly for this thesis created an opportunity for member checking.

Initial phase 2 data analysis took place during the data collection process and continued during 2012 and 2013 as results were analysed and reported. The concurrent nature of data collection and analysis is strongly emphasised by Merriam (1998).

In analysing the phase 2 data I used approaches from a number of theorists. In addition to a quantitative approach, the case study questionnaire responses were analysed using the approach outlined by Lichtman (2010), who described the three Cs of qualitative analysis: coding, categorising and concepts. The framework developed from the SRL literature of recommendations from the literature for classroom teachers around helping students develop SRL skills (outlined in section 2.3) was used as a basis for the analysis. Questionnaire responses and interview transcripts from the case school were thematically coded using categories from this theoretical framework. These were then sorted into sub categories and used to identify the key concepts that reflected the interpretation of the data gathered. Annotations were used to capture interpretations and insights during the

coding process. Sections of the questionnaire data were also quantitatively

analysed and presented as percentage figures or presented graphically.

Findings from phase 2 of the study are reported in chapters 5 to 7. I further

discuss the guidelines emerging from this data for a whole-school approach

to helping students develop SRL skills in chapter 8.

3.6 Establishing trustworthiness

Lincoln and Guba (1985) and Merriam (1998) discussed a number of

guidelines for ensuring validity and reliability. Alternative approaches have

also been proposed to deal with these issues, such as Connelly and

Clandinin's (1990) criteria of apparency, verisimilitude, and transferability

for narrative inquiry.

Merriam (1998) points out that reliability is a difficult concept when

dealing with human behaviour and the goal of describing phenomenon. This

can make it difficult to establish reliability in the traditional sense of the term

in a qualitative study. More appropriate to this study is Lincoln and Guba's

(1985) discussion on establishing trustworthiness by persuading the audience

that the findings are worth paying attention to.

Lincoln and Guba (1985) and Guba and Lincoln (1989) suggest ways

that trustworthiness and other criteria of credibility, transferability,

dependability and confirmability can be met. These criteria are used below to

discuss steps taken in this research project to establish trustworthiness.

A number of steps were taken to build the credibility of the research. Use of a pilot study prior to the case study added to the robustness of instruments and procedures for data collection. I undertook persistent investigations to provide depth. The approach to the research ensured that a wide net was cast initially in order to identify the participants who were most relevant to exploring the research question. I used regular peer de-briefing (systematically talking through the research process) with a writing group to explore different perspectives on the research process. I used member checks with the analytic categories, and I tested interpretations and conclusions with key people in the school. This occurred on both a formal basis (material was sent to key people for checking) and on an informal basis (for example, verifying what was said in an interview).

While a single case study does not allow for generalisation, in order to allow a measure of transferability, I provided thick description when presenting the findings, particularly in chapter 5, to give the reader a clear view of the context of the research.

To ensure dependability of the data, I used an inquiry audit for process and product, ensuring the research process followed good professional practice and that products were consistent with raw data.

For confirmability, I established data management and storage with an audit trail that consisted of raw data, data reduction and analysis products,

data reconstruction and synthesis products, process notes, personal notes and instrument development information such as pilot forms, questionnaires and schedules. I used a reflexive journal to record a log of day-to-day activities and personal reflections. These also contributed to the criteria of confirmability.

3.7 Ethical issues

Ethics approval for this research project was obtained from both the UTS Ethics Committee (Appendix A1) and the Department of Education and Communities (Appendix A2).

In this section I use the principles of ethical conduct identified by Lichtman (2010) to discuss the ethical issues around this research.

There was the risk that parents and/or students could make negative remarks about the school, particularly if students were struggling academically. The school could potentially feel threatened by this. It was likely that parents and students would raise issues that the school could improve. To minimise any potential harm to the school, from the outset I showed the school executive the questions that I planned to ask parents, teachers and students. I also explained that the idea was to collect all the positive approaches the school was taking in developing students' SRL skills, as well as any suggestions raised by questionnaire participants about how the school could improve. I also produced a report for the school, separate to the

thesis, summarising the key ideas and suggestions from the questionnaires (all identifying information was removed). Once this report was distributed to the school's executive, I explained that as per the UTS ethics approval, it would be up to the executive as to whether they wished to release the report about their school to teachers, parents and students. In this way they had control and autonomy over how the results of the questionnaires were used within their school community. On data ownership, I advised the case school of the fact that they would not own the data.

There was also the possibility that teachers could feel pressured into completing the phase 2 online questionnaire or participating in an interview. They could also feel uncomfortable about sharing perspectives that could be construed as negative about their school's approach to developing SRL. The likelihood of these two aspects of potential harm occurring was minimised by ensuring executives were not involved in administering the online questionnaire for staff, that all interview subjects were given the option at all times of opting out, that participants were approached only if they had indicated in the online questionnaire that they were willing to be involved, and that their confidentiality was protected at all times. This was explained to participants and the school executives at the commencement of the research.

Students could feel pressured to respond to the questions in a particular way if their peers were present. To avoid this, students were

emailed the link to the online questionnaire so they could choose to complete it in their own time and place.

The second principle discussed by Lichtman (2010) is that of privacy and anonymity. Names of both individuals and institutions were removed from data records. Teachers, students and parents were identified as Teacher 1, Teacher 2 etc. Executives agreed to be identified by their job title only, e.g. Principal or Leader of Mission.

Another issue to consider was that of confidentiality. It was possible that during the interview processes, information would arise that the executive within the school might like to know. For example, if a large group of students had an issue with a particular teacher, a principal would be interested in knowing who that teacher was. However, as the information was collected from participants on the explicit understanding that it was confidential, all information was protected, especially from other participants within the case study. I put in place plans and strategies that meant that if interviews were starting to move in personal or inappropriate directions, I would halt the interview, suggest to the interviewee the person with whom to discuss the situation, then continue the interview on the lines of the research. If it became apparent that a person was in an emergency situation, then I would need to make a judgment as to whether confidentiality would

need to be waived and if so to whom. Situations such as these did not arise during the data collection for this research.

Informed consent was necessary as participants chose to participate (or not) based on their understanding of the nature of the research (Lichtman, 2010). This was also a component of the ethics approval processes. It was, therefore, essential that participants understood what was meant by self-regulated learning and that the research purpose was to understand the school's role in developing students' SRL skills. To this end, the research was seeking out the ways the school fostered the development of students' SRL skills with the aim of building guidelines to help other schools improve the way they help students develop SRL skills.

With this understanding, participants could then choose whether or not to give informed consent. The option was always available for participants to choose, at any time, not to participate. Even if an interview was scheduled, it was made clear to the participants that they could still choose not to participate and that this choice would also be kept confidential. This provided a measure of assurance to the participants.

In order to minimise the intrusiveness of the research—another of Lichtman's (2010) principles associated with ethical conduct—it was important to estimate the time involved for schools and the level of disruption the research would incur to ensure that the case school was fully

informed before agreeing to be included as a case. The time commitment was

outlined in writing and discussed with the main contact at the school to

ensure it would not be too intrusive.

Another aspect to consider was that of inappropriate behaviour. It was

important to ensure not only the absence of inappropriate behaviour, but also

that there was no perception of such behaviour. I completed *Working with*

Children safety checks. I was never alone with students as a teacher was

always present.

3.8 Conclusion

This chapter has demonstrated how the two-phase approach of an initial

online survey followed by an in-depth case study with a mixed methods

approach was an appropriate methodology to examine the complexity of a

whole-school approach to developing SRL. The rich contextualised

description from the qualitative analysis, supported by insights from the

quantitative data in both phases, allowed the research questions to be

addressed.

When discussing approaches to SRL research in particular, Patrick and

Middleton (2002) made a clear case for a mixed-methodological approach:

If we limit ourselves to any single methodological approach as we

work to advance our understanding, we will be unable to capture

important aspects of the whole, intricate picture. The questions that

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we ask and the research methods that we choose to address them

function as lenses with particular focuses. Quantitative methods and

surveys focus on the separate constructs of self-regulated learning,

bringing the foreground into view more clearly but leaving the

context less defined. Conversely, qualitative methods enable us to

study the context or content of the learning, which reveals more of the

panorama but blurs some of the distinctiveness of the constructs.

(p.37)

By discussing findings both from a qualitative and quantitative perspective

this study explores SRL and in particular whole-school approaches in a way

that allows new insights into the developing a self-regulated learner.

This chapter concludes the background chapters of this thesis. These

first three chapters have explored the significance of this research,

positioning this study within the field of SRL and identifying gaps in both

the theory and practice of a whole-school approach to developing students'

SRL skills. The chapters have described the conceptual framework used in

the analysis and outlined the methodological choices made.

In chapter 4, I present the findings from the first phase of this study,

the initial online survey of 54 schools. In chapters 5, 6 and 7, I then report the

findings from the second phase of this research: the in-depth case study of

the exemplar school. Chapter 5 focuses on addressing the main research

question and chapters 6 and 7 focus on the secondary research questions. In

chapter 8 I discuss the implications of these findings and suggest directions

for future research.

Chapter 4

School approaches to developing students' SRL skills

4.1 Introduction

Chapter 3 described the methodology used to investigate this study's

research questions, explaining how the data was collected across two phases:

an initial online survey sent to 350 secondary schools in the Sydney region,

and a case study examining the approach taken by a best practice school

selected from the 54 phase 1 participants. This chapter presents and examines

findings from the phase 1 online survey data. In exploring a whole-school

approach to the development of students' self-regulated learning (SRL)

skills, I have argued that it was necessary to have some understanding of

how schools viewed the key responsibilities in this process and the different

approaches they had taken to helping students develop SRL skills. Hence

this chapter explores perceptions of the role of the school in helping students

develop SRL skills (section 4.2) and approaches taken by the 54 schools that

completed the online survey (section 4.3).

The findings from this first phase of the research highlight the complexity of the construct of SRL in contemporary secondary schools. All schools surveyed agreed that schools have a vital role in helping students develop SRL skills. However, the inconsistency in approaches across the schools surveyed and the overall lack of a whole-school approach underscore the importance of developing guidelines for an integrated approach to developing students' SRL skills.

The initial online survey for phase 1 was completed by 54 schools and was designed to examine the approaches taken by schools to developing students' SRL skills. The survey also ascertained how participants saw their own school's role in helping students develop SRL skills. Typically, the Principal, Deputy Principal or Director of Learning completed the five open-ended questions about their school's approach. The main themes that emerged from the survey data were the variance between schools in their perception of the role of the school, thus leading to the widely differing approaches taken to fostering SRL skills in students, and evidence that the majority of schools participating in the online survey lacked a comprehensive whole-school approach to developing students' SRL skills.

4.2 Perception of the role of the school in developing students' SRL skills

While all 54 respondents (100%) indicated that they believed their school had

an important role to play in the development of students' SRL skills,

interpretations of this role varied widely. Some of the school responsibilities

cited by participants were fostering critical thinking skills, creating a joy of

learning and explicitly teaching transferable skills so that students were able

to adapt to an ever-changing work place. Respondents also suggested that

the role of the school in developing students' SRL skills was one of guidance,

as opposed to a set of rules that were imposed upon students, with a

respondent explaining that "schools should be giving students access to

opportunities and the tools required to help them become self-regulated

learners" (anonymous survey respondent 49/54, phase 1, 2011).

Communication between the school and parents was also viewed as an

essential element as many SRL activities were taking place in the home

environment. Although when asked specifically about the role of the school

in developing students' SRL skills, 22% (n=12) of respondents also indicated

that this needed to be a shared role between the school and the parents. One

respondent emphasised this, stating that "schools should continually

encourage students in self-regulation, but *must* have the support and

encouragement from the home environment as well in order to achieve any

substantial change" (anonymous survey respondent 2/54, phase 1, 2011).

Schools also varied widely in how they interpreted what would be the best approach to help their students. Only 24% (n=13) of the respondents were aware of any policies in place at their school that would relate to fostering students' self-regulation skills and two of the respondents could not recount any proactive steps their school was taking in fostering students' SRL skills.

Figure 4.1 shows the key understandings gained from the phase 1 data around the perceptions of the role of the school.
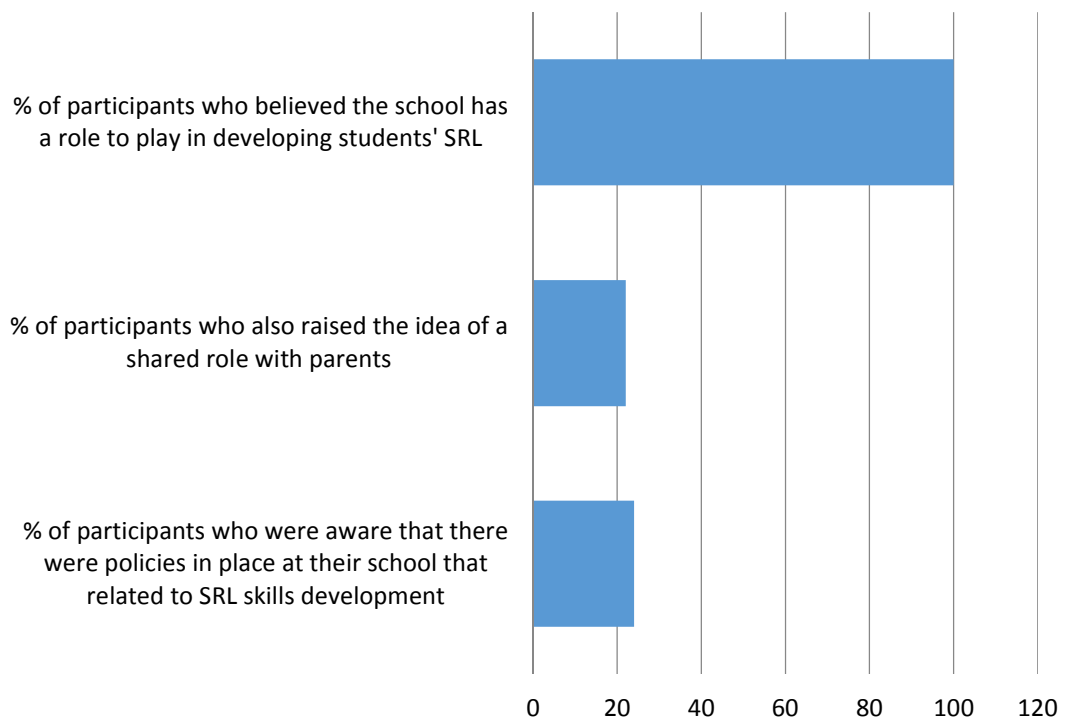
Figure 4.1: Participant perceptions of the role of the school in developing students' SRL skills (n=54)

The overall picture that emerged from phase 1 of the study was of a piecemeal approach to developing students' SRL skills in schools. All schools

surveyed believed schools have a responsibility and an important role to play in the development of students' SRL skills. However, approaches taken varied widely. Most schools were choosing to implement only a few whole-school practices for helping students develop SRL skills, addressing only a small number of the criteria outlined in chapter 2 (section 2.3).

4.3 Approaches to helping students develop SRL skills

While there were a range of approaches taken, four key themes emerged in relation to approaches to developing students' SRL skills taken by the 54 participant schools as shown in Figure 4.2: explicit teaching in school pastoral and welfare programs, curriculum integration, use of mentors and use of technology.

Figure 4.2: Approaches taken by schools to helping students develop SRL skills (n=54)

Further detail on this overview of the data is provided in the table below.

Table 4.1: Summary of approaches taken by respondents (n=54) to developing students' SRL skills

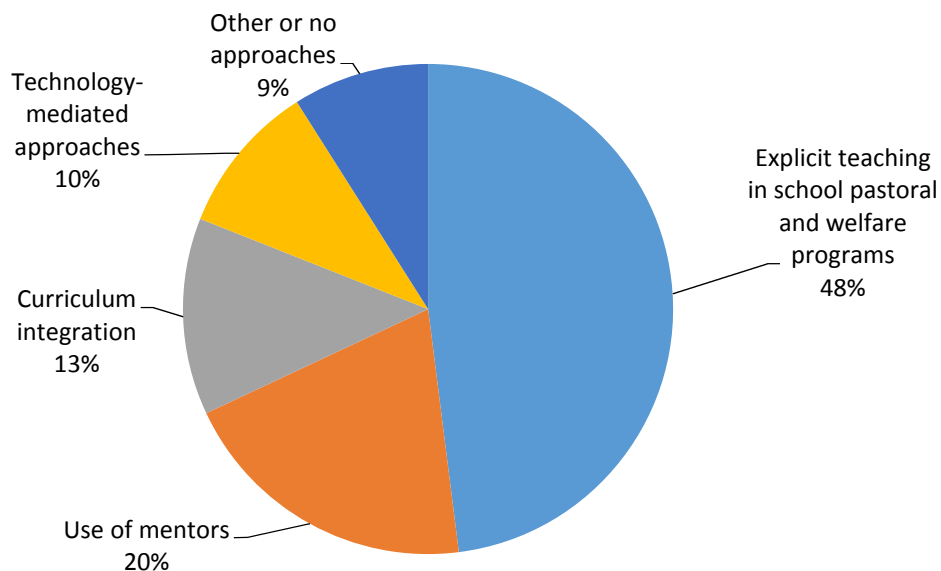| Approaches taken	% of responses	A selection of further detail from the data on strategies outlined
Explicit teaching in school pastoral and welfare programs	48% (n=26)	• A number of pastoral and welfare programs have been recently introduced to address previous decline in self-regulation levels. • We have been explicitly targeting these skills and so students are using them more. We have these skills embedded in our Pastoral program. Each year group has specific strategies. Yr 7 - Perseverance and persistence. Yr 8 - project management. Yr 9 -working with others effectively. Yr 10 - goal-setting etc. • We have external speakers like Andrew Martin talk to parents and talking to parents is an important part of self-regulation. • Motivational speakers visit the school for Yrs 11 and 12 annually and for Yrs 7-10 every 4 years. • An Information Literacy course in Year 7 was instituted this year and is run by the College Librarian - excellent success. This program helps students not just with research in a contemporary setting, but asks then to reflect on their learning - based in principles of guided enquiry. • We have devoted a number of our Pastoral Care lessons to study skills. • Year 7 'Study Skills' course for 80 min per week includes many things, such as study techniques, goals and motivation, career aspirations, anti-bullying, positive attitudes, cooperation, multiple intelligences. • We run sessions from time to time on Bloom's taxonomy to try and get students to understand the importance of going beyond the basics of knowledge and develop skills that will "put the icing on the cake". • Study skills program integrated in the pastoral care program - a program for Year 7 to transition to high school which assists them in time management and study skills as well as research skills.
Use of mentors	20% (n=11)	• The initiative of having students speak one on one with their homeroom teacher to review previous reports and set goals for future learning as well as looking at areas of strength and challenge. • Seniors have teacher mentors. • Fortnightly one on one mentoring sessions. • We mentor students from the beginning of Year 7 and they are immersed in the approach prior to entering the school. It has made a difference to students' self-regulation. • There is a significant input from school mentors on the approach of the boys at our school. Paradoxically, this non-self-regulated input does lead to self-regulated learning in that the mentor is able to work with the student in a personalised way to help them develop strategies that are effective for them, and the mentors work closely with parents for whom a positive approach will lead to better self-directed development on the part of the student.

Approaches taken	% of responses	A selection of further detail from the data on strategies outlined
Curriculum integration	13% (n=7)	• A number of curriculum areas are exploring the implementation of project based learning. • Curriculum differentiation across faculties is a school priority. • As a whole school, we have made it a deliberate policy to teach study skills and research skills within the curriculum in Years 7 to 10, which has enabled the Year 11 and 12 students to apply these much more effectively in their HSC. • My area of research interest is motivation and SRL so we have been unpacking this across the school in my role of director of research in learning. Ongoing reflection, self-assessment, assisting students to manage their work, time, assignments, with many students doing a lot of co-curricular activity, ie sport, music, drama that contributes to their ability to self-regulate. In certain places there is explicit teaching of this, also the schools teaching framework of teaching for understanding from Harvard employs facets of the SRL model to the classroom on a regular basis. • It is embedded in our curriculum framework, which outlines the attitudes and values to learning that we all use as part of our teaching and learning.
Technology-mediated approaches	10% (n=5)	• A new online "learning log" has just been introduced for years 8 and 9. The students fill in a thorough questionnaire about learning habits and are given the results. They are then asked to reflect on their results and consider the first step they should take to improve their learning methods. Teacher feedback via a blog makes suggestions and encourages further reflection. Exam marks, competition results etc can be logged and considered. The aim is to provide a long term 'diary' for each student, focused on the development of their meta-cognitive skills. • We have a school intranet for students to assist them with organisation and study skills and timetables. This is web based and can be accessed at home and it is done via moodle. All curriculum is placed here along with assessments. • Use of class portal; online access to class resources / teaching learning aids.
Other approaches	7% (n=3)	• The Dalton Plan. Based on regular submission of work, prompt teacher feedback, discussion based on written feedback before moving on to new work. Regular testing and a structure of extra after school classes designed to prevent students from falling behind. Over time, these habits become internalised and this helps develop self-regulated learning. • We have individualised questioning assignments in Year 7, Year 8, 9 and 10 have 'specialised' assignments, in infancy, we have Grade Point averages and learner profiles which are used for goal setting. • We are taking a whole-school practice approach where skills for developing SRL targeted, and are integrated into school practices and policies. (Note: This excerpt was from the school selected for the case study as a best-practice case.)
No approaches	3% (n=2)	• Not that I know of. • No, not really.

Table 4.1 (continued): Summary of approaches taken by respondents (n=54) to developing students' SRL skills

Almost half of the respondents (48%, n=26) indicated that their school attempted to develop students' SRL skills by targeting particular skills through the forum of year group programs or explicit teaching of skills through targeted study skills courses in school pastoral and welfare programs. This allowed the school to focus on particular issues or strategies at different year levels, creating age appropriate programs. Four of the schools specifically referred to transitional programs from primary to secondary school, when students are 11 or 12 years old. For example, one school representative responded:

> A number of pastoral and welfare programs have been recently introduced to address previous decline in self-regulation levels. Welfare Programs -Year Group programs which address matters such as self-belief, addressing individual study goals each semester and programs aimed at improving and developing study skills. (anonymous survey respondent 2/54, phase 1, 2011)

While most schools outlined in-house programs, four schools supplemented their offering to students with guest speakers or external study skills providers.

Another theme that emerged was that mentors were viewed as a suitable resource to help students develop SRL skills. Twenty percent of respondents (20%, n=11) discussed the use of mentors in their school,

including peer mentoring, one-on-one interviews or allocated teacher

mentors. For example, a respondent stated:

> There is a significant input from school mentors on the approach of
>
> the boys at our school. Paradoxically, this non-self-regulated input
>
> does lead to self-regulated learning in that the mentor is able to work
>
> with the student in a personalised way to help them develop
>
> strategies that are effective for them, and the mentors work closely
>
> with parents for whom a positive approach will lead to better self-
>
> directed development on the part of the student. (anonymous survey
>
> respondent 18/54, phase 1, 2011)

The value of mentors was perceived to be their ability to individualise

student approaches to learning and to allow opportunities for guided

reflection and personal goal setting—all contributing factors to helping

students develop SRL skills as outlined in chapter 2. The school diary also

played a role in this mentoring, with some schools using the diary as a tool

for setting goals and helping students identify personal strategies.

Curriculum integration—an approach that is more in line with the

research outlined in chapter 2—was a path chosen by some schools, with 13%

(n=7) of the respondents referring to this as a means of developing students'

SRL skills. Project-based learning was described as a valuable strategy by two

schools due to its flexibility and its ability to allow differentiation across the curriculum.

One school took a more direct and structured approach to curriculum integration, explaining that "as a whole school, we have made it a deliberate policy to teach study skills and research skills within the curriculum in Years 7 to 10" (anonymous survey respondent 3/54, phase 1, 2011). Other schools viewed the development of SRL skills as embedded within the teaching model the whole school embraced. For example, a respondent wrote "it is embedded in our curriculum framework, which outlines the attitudes and values to learning that we all use as part of our teaching and learning" (anonymous survey respondent 7/54, phase 1, 2011). What I could not know from the responses was how explicit these frameworks were or how effectively they were embraced by the teaching staff.

Some schools advocated the use of technology-mediated processes. Ten per cent of respondents perceived their school intranet, class portal, or Moodle as a valuable tool for helping students become self-regulated and made references to their use of technology to help students develop SRL skills. One respondent explained:

A new online "learning log" has just been introduced for years 8 and 9. The students fill in a thorough questionnaire about learning habits and are given the results. They are then asked to reflect on their

results and consider the first step they should take to improve their learning methods. Teacher feedback via a blog makes suggestions and encourages further reflection. Exam marks, competition results etc can be logged and considered. The aim is to provide a long term 'diary' for each student, focused on the development of their meta-cognitive skills. (anonymous survey respondent 4/54, phase 1, 2011)

While not all schools approached this level of sophistication, student access to curriculum materials in their own time was seen to be advantageous by the schools using a technological approach to promoting SRL skills.

Two schools could not recount any proactive steps their school was taking to develop students' SRL skills.

4.4 Conclusion

In summary, it was clear that the approach taken by many schools was not best practice as per the research findings outlined in chapter 2 for best practice for helping students develop SRL skills. While explicit teaching of skills (albeit not necessarily in context), the use of mentors, curriculum integration and technology were ways schools were helping students develop SRL skills, schools were implementing approaches in isolation or piecemeal, as opposed to the overall and comprehensive approach outlined in section 2.3.

The findings from this first phase of the research outlined in this chapter highlight the complexity of the construct of SRL in contemporary secondary schools. While all participants agreed that schools play an essential role in helping students develop SRL skills, there were varying perceptions as to what this actually entailed. A plethora of approaches was apparent, with only one of the 54 survey participants demonstrating evidence of a comprehensive whole-school approach to developing students' SRL skills.

From those who responded to this phase 1 online survey, one case was selected for further exploration in phase 2. This school was chosen because of its systematic, integrated whole-school approach to helping students develop SRL skills. Through a detailed analysis of this single case, I aimed to better understand how SRL skills can be successfully implemented in schools.

The next three chapters explore the data collected in phase 2 of this study. Chapter 5 introduces the case school and describes the elements of the school's approach to helping students develop SRL skills. Chapter 6 explores how parents, teachers and students experience and perceive the development of students' SRL skills. Chapter 7 explores the third research question: What are the stakeholders' perceptions of the impact of technology? The final chapter then discusses the overall implications and significance of this research and presents new guidelines for an integrated whole-school approach to helping students develop SRL skills.

Chapter 5

Towards a whole-school approach to developing students' SRL skills

5.1 Introduction

Chapter 1 outlined the research questions for this study and highlighted the significance of this research: exploring SRL from the innovative perspective of a whole-school integrated approach to helping students develop SRL skills in an Australian secondary school context. This is distinct from defining or measuring SRL, or investigating the development of students' SRL skills by individual teachers, which has been the focus of previous research in the field. The second chapter of this thesis synthesised the considerable body of SRL literature into a framework of practices for teachers to help students develop SRL skills, as shown in Table 2.4, page 66.

In this chapter, I use the framework outlined in Table 2.4 as a basis to analyse the case school data on whole-school practices. From this analysis, I am able to present new evidence-based guidelines for an integrated whole-school practice approach to helping students develop SRL skills.

Chapter 3 described and detailed the overall methodology, outlining the two phases of this study: the initial online survey of 54 schools and the in-depth case study of an Australian secondary school selected due to the evidence of a systematic whole-school approach to developing students' SRL skills. Students, parents and teachers at this school completed online questionnaires and interviews were undertaken with executives and teachers at the school. Data from the surveys, interviews and relevant documents gathered from the school were coded and analysed thematically. Chapter 4 explored the data from the initial online survey of 54 secondary schools. The findings from this first phase of the research highlighted the lack of consistency across schools in approaches to developing students' SRL skills and the overall lack of a whole-school approach.

This chapter, and the subsequent two chapters (chapters 6 and 7), explore the phase 2 findings, based on analysis of the case study data drawn from questionnaires, interviews and school-based documents. The questionnaires and interviews of the case school participants uncovered a number of innovative whole-school measures employed to systematise a whole-school approach to helping students develop SRL skills: learners who are motivationally, metacognitively and behaviourally active participants in their own learning experiences.

The final chapter (chapter 8) outlines overall findings and discusses the significance of these findings. The chapter also includes evidence-based guidelines developed from this study to assist in systematisation of a contemporary whole-school approach to helping students develop SRL skills. The concluding chapter also discusses the limitations of the study and offers recommendations for future research directions.

5.1.1 Case school background

The case school selected from the phase 1 participants was an Australian co-educational, non-government secondary school in Western Sydney. Final Year 12 examination results had been consistently below state average since the school was established in the 1980's, and students had been perceived by teachers as having low self-efficacy and motivation for academic studies. The student body of 12 to 18 year olds was diverse, with students from a range of socio-economic situations and representing Sudanese, Pacific Islander, Lebanese, Italian, Maltese, Asian and Anglo Australian ethnic backgrounds. The school could cater for just over 1000 students and had around 950 students enrolled. Some of the students came from nearby new estates. Others were living on acreage in the region or came from reasonably wealthy market gardener families. Yet others were from the lower socio-economic areas of Western Sydney where parents may have been out of work for some time. The size of the school, the highly diverse demographics of the students

and the socio-economic backgrounds of the families were relatively typical

for this region of Sydney.

At our first meeting, the Director of Mission made the point that for

many of these families, school and education had not been a high priority;

their focus was on family and their businesses. He believed this had been

reflected in the academic results of the school and the overall negative

attitudes of the students towards school and learning. Six years before this

study, with the appointment of a new Principal, the school had radically

overhauled their approach to helping students become better learners in

order to address these negative results and attitudes.

The intense scrutiny on student learning outcomes was reinforced by

pressure from the regional administration office. At that time, the focus was

on the improvement of learning gain and the use of student learning gain as

an indicator of success and a key performance indicator for schools. The

regional office was carrying out a quality teaching survey over five years.

Schools in the diocese submitted learning goals to the central office. The

regional office wanted schools to understand where the school took a student

to in terms of results and learning and how this could be improved. The term

learning gain had become a part of the school vernacular, with a number of

students referring to this in the online questionnaire. For example, a student

stated that: "Rather than just analysing a student's grades, the school looks at

the improvement made from Year 7 onwards. They commend students on their learning gain and not just grades" (respondent 64/256 of student online questionnaire, phase 2, 2012).

Not only did the changes over this six-year period lead to improvements in students' attitudes (as demonstrated in examples such as the quotation above), but teachers also reported positive changes in student approaches to learning and the school saw tangible outcomes in academic results. In 2011, for the first time, the Year 12 cohort reached the state average in their Year 12 final external examination results. Students and parents were also noticing the school's efforts in this regard, with 68% (n=214) of student and parent questionnaire respondents explaining that they felt their school was doing an effective job in helping students at the school develop SRL skills.

5.1.2 Contribution to SRL theory

Data was collected from interviews of teachers and executives at the case school, responses from parent, student and teacher questionnaires and the examination of a number of key school documents. This data was used to map the whole-school approach of the case school to the framework from the SRL literature on individual classroom practices developed in chapter 2 (and outlined in Table 2.4, page 66).

The data revealed that schools could embrace an integrated approach to helping students develop SRL skills by establishing whole-school practices that:

- develop teachers' capabilities to build students' SRL skills

- build teacher expectations and student belief in students' academic capability

- create a school environment conducive to SRL skills development

- facilitate peer interaction to support SRL skills development

- model and scaffold SRL strategies for students

- embed opportunities for students to reflect on their SRL skills development and gain feedback from teachers.

Although the framework discussed in chapter 2 also refers to teachers outlining content relevance and providing choice and control, no evidence was collected from the case school around whole-school practices in this area.

One of the unique aspects of this research is its examination of whole-school approaches to helping students develop SRL skills and the use of previous research as a framework for analysis. In essence, the categories uncovered in the literature for individual teacher practices for developing students' SRL skills were used as the basis through which to interrogate the

case school's whole-school practices and generalise themes for a whole-school approach to developing SRL skills. The outcome of this analysis is a set of evidence-based guidelines for helping students develop SRL skills in a systematic and integrated whole-school approach as shown in Table 5.1, on the following two pages. Table 5.1 demonstrates the relationship between:

- the theoretical framework developed from the synthesis of literature on recommendations for classroom teachers for helping students develop SRL skills (described in chapter 2 in Table 2.4 and reproduced in column 2 of Table 5.1 on the following pages)

- overview of the guidelines for a whole-school approach to helping students develop SRL skills, informed by the findings of the second phase of this study (displayed in the third column of Table 5.1 and discussed in the following sections of this chapter).

The guidelines for a whole-school integrated approach to developing students' SRL skills provide a major contribution to the field of SRL. These guidelines open up a new area for researchers to further explore the perspective of a whole-school approach to helping students develop SRL skills leading to recommendations for future research (discussed in chapter 8). The guidelines also provide a synthesis of findings addressing the first of the research questions for this study: How can secondary schools embrace a whole-school integrated approach to helping students develop SRL skills?

Table 5.1: Overview of guidelines emerging from this study for a whole-school approach to developing students' SRL skills

Category	Framework of background literature (see Table 2.4, page 66)	Guidelines emerging from this study for an integrated whole-school approach to developing students' SRL skills
Developing teachers' capabilities to build students' SRL skills	T1. Teacher is educated in and understands SRL (Dignath & Buttner, 2008; Effeney, Carroll & Bahr, 2013)	S1. To develop teachers' capabilities to build students' SRL skills, the school: S1.1 develops the school leadership team S1.2 establishes teaching enrichment days S1.3 develops an open classroom policy to foster peer learning S1.4 establishes comprehensive support programs for new scheme teachers and existing teachers
Building teacher expectations and student belief in students' academic capability	T2. Teacher believes in students' abilities to achieve and builds students' self-belief (Corno, 2008; Zimmerman, 1989)	S2. To build teacher expectations and student belief in students' academic capability, the school: S2.1 challenges teacher perceptions of students' abilities S2.2 works to nurture student self-belief and sense of self and persuade them of their ability to achieve S2.3 implements an award system for students
Creating a school environment conducive to SRL skill development	T3. Teacher plans to integrate SRL skills into classroom teaching and practice (Butler, 2002; Schunk & Zimmerman, 2007)	S3. To create a school environment conducive to SRL skill development, the school: S3.1 articulates and embeds a clear vision for the school with a school focus on deep learning S3.2 reassesses the professional language used S3.3 formalises procedures affecting SRL skill development S3.4 makes evidence-based decisions on whole-school SRL practices S3.5 systematises accountability and continual improvement
Teachers facilitating peer interaction to support SRL	T4. Teacher facilitates social experiences and peer interactions for students during learning activities (Paris & Paris, 2001; Pressley, 2005)	S4 To facilitate peer interaction to support SRL skills development, the school: S4.1 improves students' interpretation of assessment questions using peer interaction e.g. HPF (Highlight, Peer, Feedback) S4.2 offers small group study sessions

Category	Framework of background literature (see Table 2.4, page 66)	Guidelines emerging from this study for an integrated whole-school approach to developing students' SRL skills
Teachers modelling and scaffolding SRL strategies for students	T5. Teacher uses modelling and scaffolding of SRL skills (Hadwin & Oshige, 2011; Wolters, 2011)	S5: To systematise opportunities for modelling and scaffolding of SRL strategies for students, the school: S5.1 highlights to students strategies the school is targeting S5.2 develops students' summarising skills
Teachers embedding opportunities for students to reflect on their SRL skill development and gain feedback	T6. Teacher provides guidance and feedback during monitoring with opportunities for reflection (Paris & Winograd, 2003; Zimmerman & Cleary, 2006)	S6. To embed opportunities for students to reflect on their SRL skills development and gain feedback from teachers, the school: S6.1 develops achievement criteria for students to self-assess and receive teacher feedback on subject learning outcomes S6.2 evaluates progress of students and has teachers giving regular feedback S6.3 schedules additional teacher feedback opportunities S6.4 schedules reflective activities and goal setting tasks S6.5 strengthens the concept of learning preparation (homework) as an opportunity for feedback S6.6 sets benchmark standards and encourages resubmission
Teachers outlining content relevance and providing opportunities for choice	T7. Teacher outlines content relevance and students are given a measure of choice and control in their learning (Patrick & Middleton, 2002; Reeve, Ryan, Deci & Jang, 2008)	The literature discusses the importance of ensuring teachers outline the relevance of content to be learned to students and that students are given a measure of choice and control in their learning. However there was no data collected from the case school to inform this dimension from a whole-school practice approach.

Table 5.1 (continued): Overview of guidelines emerging from this study for a whole-school approach to developing students' SRL skills

In the following sections I discuss and provide evidence for each of the guidelines outlined in the third column of Table 5.1, developed from analysis of the case school's whole-school approach to building whole-school practices in each of these areas.

5.2 Developing teachers' capabilities to build students' SRL skills

Greene, Robertson and Croker Costa (2011) argue that educators need to develop a detailed understanding of effective SRL in order to foster this skill in students. Few schools in phase 1 of this study provided evidence that teachers were being supported in developing their own skills for fostering students' SRL skills. Much of the SRL literature focuses on the development of teacher skills at a pre-service level, during tertiary training for teachers. However, the research literature does not outline how schools, as opposed to teacher training programs, could provide this support if teaching staff need it. In this section I explore data collected from the case school to uncover insights into approaches schools could take to ensure that teachers were educated in how they could most effectively build students' capacities as learners by integrating SRL practices into classroom teaching. These approaches are briefly summarised below then discussed in the subsequent sections.

In order to achieve culture change across the school, the Principal at the case study school believed there needed to be a focus on building teacher capacity and educating teachers in their role as facilitators of learning. The Principal explained:

> It's probably the one thing I'm most passionate about, I really do believe [in] the work in this school, and I believe it should [be] in all schools too, [the focus of all schools] should be to improve teaching. (interview with Principal, phase 2, 2012)

A number of measures were put in place by the school to build teacher capacity, as outlined in the following sections. These included developing the school leadership team (section 5.2.1), establishing Teaching Enrichment Days (section 5.2.2), developing an open classroom policy to foster teacher peer learning (section 5.2.3), and creating comprehensive support programs and structures for both existing teachers and new-scheme teachers (section 5.2.4 and section 5.2.5). All of these measures discussed in the following sections contributed towards developing teachers' capabilities to build students' SRL skills.

5.2.1 Developing the school leadership team

The Principal explained that when he first arrived at the school the executive raised the notion that for too long there had been a disconnect between the day-to-day management of the school and the management of learning. As

administrators, the executive believed they needed to see themselves foremost as educators with the focus being on the process of student learning, not on day-to-day administration. The school dedicated two days every year to professional development for the leadership team, looking at topics such as leadership styles, learning conversations and accountability, as well as building and maintaining relationships. The Principal believed that, to help students achieve academically, teachers needed professional development and support from the leadership team.

Therefore within the first year of the Principal's arrival at the school a new role was created to focus on supporting teachers: an Assistant Principal of Teaching. This role was supported by a Head of Teaching focused on meeting teacher needs. The existing Assistant Principal of Learning and Head of Learning were then able to focus on student needs. With traditional administration tasks delegated elsewhere, the Assistant Principal of Teaching explained that this meant he had the space and time to explore a range of improvement projects: "Well, my prime responsibility is to build the capacity of our teachers…" (interview with Assistant Principal of Teaching, phase 2, 2012). This was a role specifically established to support and mentor teachers and improve teaching in the school. When evaluating the role, the incumbent described the position in this way:

If developing teacher quality, identifying teacher leaders and finding a way that teachers could learn from them were such significant priorities for a school, it made sense to us to assign overall leadership for their achievement to a significant leader in the school, an Assistant Principal Teaching: a parallel leadership exercised in collaboration with the Principal. (*Assistant Principal Teaching: A Case Study*, Collected School Document, 2009, p.4)

The philosophy behind the creation of this role was that the Principal believed it was impossible to improve students' skills for learning without giving the teachers the support they needed to develop their skills as facilitators of SRL. The Principal explained: "It's falling onto the role of the schools to actually educate these teachers" (interview with Principal, phase 2, 2012). The school executive team believed that many teachers at their school—both teachers who had recently completely tertiary studies, as well as teachers with many years' experience—did not have these skills in place.

5.2.2 Establishing teaching enrichment days

One of the innovations the Assistant Principal of Teaching introduced to improve the quality of the teaching and to allow teachers to develop the skills needed to help build students' SRL skills was the establishment of Teaching Enrichment Days (TED). Here, teachers were scheduled to observe and discuss colleagues' lessons with a targeted theoretical focus. The

Principal explained that the purpose was to examine the structure and approach teachers took in lessons and the materials they used, with the goal of "actually mentoring that teacher as to how they could be more effective with the materials that they're using with the students and the way in which they're actually engaging the students in their learning" (interview with Principal, phase 2, 2012). The aim was to put in place measures to ensure that teachers were given opportunities to reflect on approaches taken, set goals for their own skill development and build their knowledge of effective teaching strategies, all essential for the development of SRL.

The structure of the TED revolved around viewing other teachers at the school during lessons. In each of the school's four 10-week terms a number of teachers were released from class to view other teachers' lessons. In addition to the formal TED program for the early career teachers, general teachers nominated classes they'd like to observe. The Assistant Principal of Teaching developed a schedule of classroom viewing and also videotaped lessons for discussion. After each teacher viewed a separate lesson during the morning of the TED, the teachers then met to discuss what they had observed and what lessons they could take from these observations to improve their own teaching.

The Assistant Principal of Teaching believed from staff evaluations and feedback that this had proved to be a worthwhile and energising

experience for all teachers involved. There was usually a specific theoretical

focus for the observation and discussion, covering classroom management,

feedback, pace, lesson structure, and expert teaching. A newsletter was

released to all staff afterwards where those who had viewed the lesson

commented on what they admired or would like to use in their own lessons.

Boekaerts (1997) emphasised that "teachers should be trained to create

powerful learning environments in which students can learn to self-scaffold

their learning process" (p.174). However, this focus has often centered on

what happens at the tertiary training level. The approach outlined in this

section provides evidence of a whole-school approach to further developing

teacher capacity by building opportunities for in-house professional

development, taking advantage of the resources that already existed in the

school, namely, the school's experienced and effective classroom

practitioners.

5.2.3 Developing an open classroom policy

To ensure that ideas from the Teaching Enrichment Days and other

professional development activities were being implemented, the school

decided to embrace an open door policy for all classrooms. While in the

business world employees are used to having their performance constantly

evaluated, teachers have traditionally been resistant to having others watch

their lessons. This makes it very difficult for a school to really know what is

going on in classrooms and to evaluate the calibre of the teaching taking place. When the Assistant Principal of Teaching role was created, the executive took the view that they would not focus on all the reasons why teachers did not want to have people watch their classes, for example the traditional association with unsatisfactory performance or being a student teacher. The executive team decided that classrooms would become more open. To change the perception of the open-door practice the executive began by visiting the lessons of teachers with good teaching reputations, as opposed to those struggling with classroom management. The opportunity to visit teachers' classrooms was then extended to other teachers in the school. The Assistant Principal of Teaching described how the new teachers found this experience: "And they came back … and they were absolutely astounded. But not only astounded, they just had such energy around seeing that it could be done and just observing some of these things" (interview with Assistant Principal Teaching, phase 2, 2012). This reinforced for the school the value of fostering such opportunities. The open door policy became part of the efforts to build new teacher capacity. As one executive explained, "no more do we have closed classrooms, anybody walks in anytime, nobody's fazed" (interview with Head of Teaching, phase 2, 2012). The focus was on teachers as assets, not deficits.

Previous research (outlined in section 2.2.5) has emphasised the importance of ensuring teachers are educated in the skills they need to develop students' SRL skills. By creating an open environment focused on improving and developing teachers' skills, the school was able to create a whole-school approach to ongoing education and support for teachers. The school made building teacher capacity a high priority. An open classroom policy contributed to creating an environment where teachers who needed support could be identified and allowed teachers to learn from colleagues with well-developed teaching skills.

5.2.4 Focusing on new teacher development

The school also recognised that new or beginning teachers needed additional support as they embarked on their teaching career. The Assistant Principal of Teaching was assisted by the Head of Teaching who had two primary roles: working with new scheme teachers (also known as early career teachers) and focusing on improving literacy in the school.

The Head of Teaching took new scheme teachers through a comprehensive two-year induction period. During this process they attended in-service training to become accredited as competent teachers:

I did an in-service this week for the second year out teachers, and we go through what this school expects of them, and what the teaching profession means to them. We go through all the strategies that are

used in the school, and also look at the pedagogy in the classroom and

what motivates them to teach in a certain way, where they and we can

see their weaknesses and where they feel that their strengths lie and

they can build on those. (interview with Head of Teaching, phase

2, 2012)

Every fortnight over the two-year period, each new scheme teacher had a

timetabled meeting one-on-one with the Head of Teaching so they could

discuss challenges they were experiencing with their teaching. This meant

that as soon as there was an issue, it could be addressed. They were also

encouraged to visit the Head of Teaching anytime they had any concerns

they wanted to discuss, so they did not need to wait for their fortnightly

meeting.

First year new scheme teachers were in-serviced twice a term on two

full days, undertaking a variety of different activities. For second-year

teachers it was once a term. In keeping with the open classroom policy, new

scheme teachers would also give a demonstration lesson for their peers or

view an experienced classroom teacher's lesson.

The Head of Teaching also observed the new scheme teacher's lessons,

evaluating them using the *NSW Institute of Teachers* standards. Feedback from

these lessons was then discussed, along with feedback from reports

submitted by the two other executives: the Leader of Learning and Leader of Mission.

The new scheme teachers also attended a PEEL (Project for Enhancing Effective Learning) meeting every fortnight. At this meeting, both new scheme and experienced teachers shared beneficial teaching strategies. This was found to be particularly useful for the new scheme teachers who needed to build their repertoire of teaching strategies. The Head of Teaching explained that the aim was to build the skills of teachers so that they could modify their teaching as needed. The aim was that students would feel a sense of confidence and self-empowerment with their own learning, motivating them to take risks and be prepared to embrace learning opportunities. The Head of Teaching explained that: "Teachers very rarely say, what am I doing wrong? How can I alter what I'm doing?" (interview with Head of Teaching, phase 2, 2012). The Head of Teaching believed that this school was focused on constant attention to these questions, which in turn empowered students to feel confident so that they could give their best to their learning and feel as though they had accomplished something from their efforts. Having this self-belief in their ability to succeed was an essential factor for students to move towards a self-regulated level of learning.

The Head of Teaching believed that the message of these meetings was also that teachers needed to be open to change. Although new teachers

learned a lot at university, it was recognised that when they were on the ground in the classroom, theory did not always match practice; they needed to be prepared to experiment, to integrate new techniques and explore new methods to respond to the needs of their students.

Admitting the demanding nature of this process, the Head of Teaching stated: "They work for it, and we know at the end that we've got excellent teachers" (interview with Head of Teaching, phase 2, 2012). The amount of release time given to new teachers to enable them to go through this process demonstrated the importance the school placed on ensuring teachers were equipped with the skills they needed to help students become better learners and ultimately develop SRL skills. This was also reflected in the recognition given in front of the school when teachers achieved accreditation. The Director of Mission explained that not only were teachers given recognition for their efforts and achievements at staff briefing meetings, but when new teachers had achieved accreditation status (usually in the first few years of teaching), there was a public recognition process:

> The Principal announces it to the whole school in assembly and all the teachers stand up and are clapped. So it's like made a really big deal that they've now become a qualified teacher. I haven't seen that in other places before. (interview with Director of Mission, phase 2, 2012)

The school was attempting to validate the skill development of their teachers and celebrate the new scheme teacher achieving a milestone in their career. The school wanted to ensure they had systems in place to give all teachers the support and training they needed not just to reach this milestone but to move along the path to become a highly accomplished teacher. The premise was that if students are to develop as self-regulated learners, highly accomplished teachers are essential to guide them in this journey.

5.2.5 Offering additional staff support structures

The school also had a number of other structures in place to support all teachers, not just for those who were beginning teaching. The Head of Learning explained why the teachers at the school should have felt well-supported:

> There's always someone they can go to confer or to collaborate with in order to be able to do their work. Because there's nothing worse when you're in this game and you just feel like you're sailing along by yourself. (interview with Head of Learning, phase 2, 2012)

Structures also included buddy systems for different aspects of their teaching role, such as curriculum development or report writing.

5.2.6 Overview of section: contribution to whole-school approaches SRL theory

This section has explored how the case school took a whole-school approach to developing teachers' capability to build students' SRL skills. The literature reviewed in chapter 2 demonstrated that building teacher capacity is necessary so teachers can be effective in helping students develop SRL skills, although the past research has focused on pre-service training programs.

The findings from the case school provide new guidelines for schools and policy makers who discover their teachers do not have all the skills in place to foster SRL skills in students. Schools can develop the school leadership team (section 5.2.1), ensuring that there is leadership in the school that focuses on building teacher capacity. Programs such as Teaching Enrichment Days (section 5.2.2) that are scheduled into the school year and are inclusive of all teachers allow teachers opportunities to learn from colleagues and develop the skills they need to build the SRL skills of their students. An open classroom policy (section 5.2.3) brings a measure of accountability to the whole-school practices, ensuring that teachers' skills are monitored and evaluated so that gaps in training can be addressed through support structures for teaching staff. The data also uncovered the emphasis the case study school placed on teacher development (section 5.2.4 and section 5.2.5) by establishing structures and mentoring. The two-year induction program the school put in place ensured that new teachers had

regular scheduled time with a mentor, additional professional development training, the opportunity to observe lessons and be observed giving lessons with feedback provided. The strength of the case school's approach was that the comprehensive and whole-school approach was embedded into their school practices to ensure teachers were supported in developing themselves as facilitators of SRL skills.

5.3 Building teacher expectations and student belief in students' academic capability

Numerous studies (discussed in chapter 2), such as those by Pintrich and De Groot (1990) and Corno (2008), have emphasised the importance of a strong sense of self-efficacy if students are to achieve self-regulated learner status. Further, in order for students to have belief in themselves, it is also essential that teachers also believe students have the potential to succeed in their academic studies. How then can a school build these expectations and beliefs across the whole school? The executive team of the case school felt strongly that belief in students' academic capabilities needed to be fostered in both the student and teacher population at their school. Again they took a whole-school approach to tackle this issue. To do this, they challenged perceptions of the teaching staff (section 5.3.1), and then focused on nurturing student self-belief (section 5.3.2) through affirmative programs such as an awards system for students (section 5.3.3).

5.3.1 Challenging teachers' perceptions of students' abilities

The challenge the case school first faced in creating a sense of optimism about students' chances of achieving academically was to change any negative teacher perceptions of what the Principal called the 'postcode lottery'. This was the perception that students who lived in a particular part of Sydney (in this case the Western Suburbs) were unlikely to excel academically. On arriving at the school, the Principal was surprised to find such wide-ranging negative perceptions of the students' abilities to succeed and recounted his early experiences at the school with the teaching staff:

> When I came here … the first thing that was said to me and … I had to shut down very quickly, "Oh, but you're in the Western suburbs area now." And I said, "What does that mean?" and they said, "Well, you know, the kids don't too well out here." And I said, "I was born and raised in the Western suburbs." I said, "What are you saying to me?" And I said, "How many of you are from the Western suburbs?" and 99% of them were. I said, "So what are you saying? So you're saying that where you were raised has an impact on your ability to learn?" The reality is we can't even allow that to seep into our thinking.
>
> (interview with Principal, phase 2, 2012)

The Principal initially addressed these teacher beliefs by holding a staff meeting and asking the teachers to identify what they believed to be

excellent schools, schools they would be proud to teach in, and what characteristics made these schools excellent. None of the teachers listed their own school in this group. He asked the staff if they could conceive that it was possible to make changes at their own school that would allow them to build these characteristics in their own school. If teachers were unable to be a part of the vision, and did not believe that change on this scale was possible, the Principal made it clear that there was no longer a place for them at this school. The Principal explained that he concluded this meeting by saying: "If you continue to believe that we will never achieve what you've just said is the pinnacle or the goal, then I want you to look for another job in another school" (interview with Principal, phase 2, 2012). There was a strong belief that there needed to be a shared vision: if teachers did not believe it was possible for the school to change the culture and help students at the school succeed academically, they would hold the school back. Many teachers found this confronting and a number did leave at the end of the year.

The goal was to create a sense of optimism, first among the teachers, then the students, to make it clear that there was a shared vision that would allow the school to move in the direction of creating a positive learning environment where all students could achieve their personal academic best. The Principal strongly believed that every student had the potential to

achieve and explained that the focus was on creating a culture of learning at the school that was independent of students' backgrounds:

> I'm a big believer that once kids step through the gates of this school ... we create the culture of learning. So the culture of learning in this place has to be exactly what we're trying to set up. (interview with Principal, phase 2, 2012)

The school did not expect all students to achieve perfect scores, but they did want to create a culture where students believed they could achieve regardless of where they lived, their home environment or the education level of their parents. While accepting that a supportive home environment would make a difference, the Principal aimed to challenge the negative perception that students from certain backgrounds were incapable of achieving academically.

This led to the school constantly encouraging students, and this was demonstrated in a number of the student questionnaire responses. For example, a student stated:

> They have developed learning techniques which have helped us to work more independently. They give endless encouragement and always look to improve our skills as independent learners. They

motivate us and tell us to believe in our potential. (respondent 188/256

of student online questionnaire, phase 2, 2012)

The attitude shown by this student highlights the success the school was

experiencing in changing the attitudes of the teaching staff to ensure the

teachers were giving positive messages to the students.

5.3.2 Nurturing student self-belief

In addition to working on teachers' perceptions, students' self-belief also

needed to be addressed in order to achieve a positive attitude to learning. A

classroom teacher explained, "[the] biggest challenge is getting these kids to

believe in themselves, that they are capable of succeeding" (interview with

Teacher 2, phase 2, 2012).

When the Principal first arrived at the school, he discovered through

discussions with the teaching staff that many teachers at the school shared

the perception that there was a critical mass of students who were

disrespectful and who didn't care about school. Teachers perceived this as

difficult to address and felt powerless in the face of such negativity. While

some students would achieve academically irrespective of environment, the

disruption to learning in the classroom by the negative students had a large

impact on the academic development of the majority of students at the

school.

By taking a consistent approach across the school, putting systems in place to improve learning (and, indirectly, the attitude to learning), the whole demeanour of students at the school changed and students became more receptive to learning and developing their skills. Much of what teachers do now in the school is encourage and motivate the students to counter the lack of self-belief. Changing students' thinking and addressing their lack of self-belief was seen to be one of the biggest challenges in this school. The Head of Learning highlighted this, explaining that a lot of what the school had to do was "to encourage them and motivate them to say that we're providing you with the skills and the support that you need, but you've got to start believing that you can do these things" (interview with Head of Learning, phase 2, 2012).

The school aimed to create a culture where the expectation was that students would and could achieve academically and were constantly encouraged to do so by the teaching staff and school executive. Very few parents from this school had completed Year 12 or were tertiary trained. For many parents tertiary study was not an option they had previously considered for their child. For many families it would mean the student was the first in their family to undertake tertiary studies. The school faced a number of challenges in being able to change entrenched student and parent thinking on limitations and possible future pathways.

The school believed that one way to help students have faith in their ability was to give them tools to achieve, to show them how they could move their results to the next level. The school approached this by putting policies and structures in place to provide students with strategies to help them achieve at a higher level. At the 'Celebrating 25 Years of Learning' assembly in 2012, the Principal told the students "Your ideas are limited only by the fears of what you cannot do" (Principal, phase 2, 2012). The school was working hard to make the students believe they could succeed. The Principal believed that gradually improving results in the Year 12 final external examinations were making the community believe that academic success was something that they could indeed strive for. He stated:

> The change in the last, say, six years, is quite dramatic actually amongst students. Even just their own perception or their own belief in themselves, you can see it changing, you know. (interview with Principal, phase 2, 2012)

Evidence of the school constantly encouraging students was demonstrated through the student questionnaire responses. When asked how the school was helping students develop SRL skills, 12% (n=31) of the students referred specifically to the school building their belief in themselves. While this may not seem a large percentage, it is significant that this topic of self-belief was even raised by students of this age group. References to the school believing

in their ability to succeed were also common. An example was this student response: "They motivate us and tell us to believe in our potential. The school tries to make us believe that we can achieve the highest that we can" (respondent 71/256 of student online questionnaire, phase 2, 2012).

The school fostered the attitude that education was a precious gift that students should be grateful for. One student described it this way: "They always encourage us to do our best in every subject, whether we like the subject or not. They believe that every student should try as we are all gifted with the gift of education" (respondent 96/256 of student online questionnaire, phase 2, 2012). Students were encouraged to see education as a possible pathway to different futures as shown in this student response: "My school motivates me because my school shows me all the different opportunities that life has" (respondent 207/256 of student online questionnaire, phase 2, 2012). This was reinforced in one of the executive interviews: "The change over the last five years has students believing in the college more and hence believing in their capacity to do well" (interview with Assistant Principal Teaching, phase 2, 2012).

The repeated references in students' online questionnaire responses to the concept of working towards their personal best demonstrated that students were not only encouraged to strive for high marks. Students understood the message: they had to believe in themselves and their ability;

they had to work to their potential and take pride in what they did. A student explained this saying "my school does foster that students should believe in their ability to achieve" (respondent 144/256 of student online questionnaire, phase 2, 2012). Another student gave a more concrete example:

> Our school always encourages us to do our best and believe in ourselves. Every time we have assessment the teacher always reminds us to do our best which I think is great. (respondent 121/256 of student online questionnaire, phase 2, 2012)

Students were given the message that they could change outcomes through hard work and focus. A number of students mentioned messages they had retained from talks by the Principal. One student explained why this was useful:

> Our school helps us be a more self-regulated learner by the encouragement from our Principal and how he shows us what the outcomes are of being a self-regulated learner. (respondent 59/256 of student online questionnaire, phase 2, 2012)

Another student outlined the message they had retained, explaining that the school had helped them to be a more self-regulated learner:

They help us be self-regulated by teaching us how to achieve our

goals by staying motivated and enthusiastic. Our Principal regularly

tells us how we can achieve our goals by working hard at something,

even if you do not like it. (respondent 162/256 of student online

questionnaire, phase 2, 2012)

One student stated their view in a very definitive way:

Honestly, my Principal and his speeches really motivate me and make

me think I've got to pull my head in and listen and be successful.

(respondent 183/256 of student online questionnaire, phase 2, 2012)

These responses indicate evidence that many students were absorbing the

school's message of self-belief, an essential factor of self-regulation.

5.3.3 Implementing an award system for students

Positive reinforcement and building self-esteem, essential to the

development of SRL skills, were also fostered through the school merit

system. One of the parent respondents in the online questionnaire explained

that "the progress reward scheme creates an atmosphere of pride in

achievement" (respondent 8/59 of parent online questionnaire, phase 2, 2012).

This contributed to building the motivation students needed as part of their

SRL skills development. The award system was seen by the executive to be

instrumental in shifting the critical mass of the school towards the positive

students.

Students could achieve two types of certificates: merit certificates for

working actively in the class, for excellent learning preparation, for

persistence and improvement; and certificates for achievements in specific

subjects. Students needed five of each to apply for a bronze certificate and

five bronzes to be awarded a silver certificate. It was also tied to leadership:

students needed a silver to be a college leader. Achieving silver was also

based on setting academic goals, striving to achieve them and contributing

service to the school. When achieved, the student's name and picture were

published in the newsletter and on the noticeboard at the front of the school

and they were eligible for a position on the school leadership team. Gold was

similar to silver but students also needed to perform service in the

community across two terms. In recognition of their achievement, successful

students joined the procession of school leaders at an assembly to receive

their badge as a peer mentor and their name was placed on an honour board.

Parents expressed great satisfaction with this system, with a parent

explaining:

The award scheme is a great initiative and I have found my daughter

has excelled as a result of this scheme she tries harder in her bench

mark test … She never had that kind of drive in primary school.

(respondent 54/59 of parent online questionnaire, phase 2, 2012)

Parents were seeing tangible benefits from the incentives offered by the

school award system. Many believed the success of this system was due to

the focus at the school on setting attainable goals and acknowledging

students when they achieved these, with a parent explaining:

Making goals attainable is the key … Students are also made

responsible and accountable for their actions. Our school has very

high standards for their students, and in return teaches students to

have high standards for themselves. (respondent 44/59 of parent

online questionnaire, phase 2, 2012)

By rewarding not just academic endeavours but also favourable learning

behaviours, students received positive reinforcement of actions that

contributed to a positive learning experience and in turn increased the

student's sense of self-worth. This parent's view also reflected the view

expressed by the Principal: to build student belief, standards needed to be

established for students in all areas that affected learning.

5.3.4 Overview of section: contribution to whole-school approaches SRL theory

This section explored how the case school took a whole-school approach to

fostering students' self-efficacy, a construct research has found to be essential

for students to develop as self-regulated learners (Pintrich & De Groot, 1990).

McCombs and Marzano (1990) found that teachers play an important role in

building students' sense of self-efficacy. The research data showed that the

case school first focused on ensuring the teachers at the school believed

students had the ability to succeed academically (section 5.3.1 and section

5.3.2). School leadership was explicit in the requirement that all teachers

subscribe to the school's vision. The school encouraged teachers to ensure

that all communications with students reinforced the message that the school

believed that with hard work and using the techniques outlined by the

school, students could achieve academically whatever their personal

backgrounds. Through encouragement at both an individual teacher level

and at whole-school meetings by the executive, the case school created a

culture where students' belief in their ability to succeed was encouraged and

actively fostered. The award system the school established also contributed

(section 5.3.3). The findings within this section are significant as they reveal a

whole-school approach to building students' self-efficacy and provide

guidelines for schools and policy makers.

5.4 Creating a school environment conducive to SRL skills development

Schunk and Zimmerman (2007) highlighted the importance of teaching self-

regulation skills in context and giving students multiple opportunities to

practise these skills in live social settings. While individual teachers may

establish such practices in their classroom, this research explores methods for a whole-school approach. Whole-school practices were established at the case study school to ensure teachers integrated these practices into their classroom teaching. This entailed changing the school culture to ensure the school community had a shared vision for the school and was receptive to this approach. The school communicated this vision by creating a leadership team with developing students' SRL skills as its focus (section 5.4.1), by reassessing the language used in the school (section 5.4.2), by formalising a number of whole-school classroom procedures (section 5.4.3), making evidence-based decisions on whole-school practices (section 5.4.4), and making teachers accountable for their implementation (section 5.4.5).

5.4.1 Emphasising the school's focus on 'deep learning'

When the Principal arrived at the school he developed a clear vision and direction for the school to deliberately facilitate a culture change. There was a feeling that the school was spending too much time focusing on administration and other aspects of the school to the detriment of a focus on learning. The decision was made to bring this focus on learning to the forefront and to tie all activities in the school to this focus. In this context, learning refers to students' learning of the academic curriculum. All other goals that schools might also have, such as developing a well-rounded individual, fostering responsibility and so on, while still important, were

seen as secondary. There was a deliberate intention to highlight the business of student academic learning as the focus and core goal of day-to-day activities.

The school adopted a new motto, switching from the previous motto of 'a caring learning environment' (which the Principal believed meant the teachers had good relationships with the students but low expectations) to 'it's all about learning'. The new phrase was repeated in numerous interviews with teachers and by multiple respondents in the online questionnaires of students, parents and teachers. The aim was to highlight student academic learning as the central priority of the school. The Principal and the leadership team developed this vision and then ensured it was reflected in all policies and procedures. Leaders of Learning (head of department for a particular subject or faculty) at the school translated this vision to the curriculum, while Leaders of Mission focused on the pastoral aspects for students. The new focus filtered down to every teacher with the focus on developing "whole-school practices that actually deepen the learning" (interview with Assistant Principal School, phase 2, 2012).

The aim was to ensure that all decisions made and policies implemented were brought back to the core value of learning. This message had been communicated to parents. A parent explained: "It is drummed into students that it is all about learning and achieving and you are responsible

for your achievements" (respondent 30/59 of parent online questionnaire,

phase 2, 2012). Students too, had absorbed and understood the new vision for

the school. A student explained: "My school is all about learning and it

focuses on teaching students like it's supposed to" (respondent 209/256 of

student online questionnaire, phase 2, 2012). All explanations to students of

why things at school were a certain way or why they had to perform

particular tasks were repeatedly brought back to the vision of the school, as

articulated by this student: "Well they always remind us to achieve well and

that it's all about the learning" (respondent 17/256 of student online

questionnaire, phase 2, 2012). The explicit articulation of the school's vision

had a profound effect on all aspects of the school, starting initially with the

language used in the school.

5.4.2 Reassessing professional language

To ensure the language used at the school was in line with the vision of the

school, much of the terminology used in the school was changed. The use of

the word 'learning' was introduced into many areas of the school.

Traditional labels such as the 'homework diary' were renamed as the

'Student Learning Planner' and the term 'homework', which the school

believed had negative connotations, was re-labelled 'learning preparation'.

The motto 'it's all about learning' appeared on the front of the diary.

The intention was that by using the word learning all the time, the construct was changed. Students were constantly reminded why they were at school and the central purpose of the school. This focus on learning was also reflected in policies, procedures and the structure of the executive. No longer did the school have Heads of Department and Year Coordinators. Instead there was a 'Head of Learning' who managed the 'Leaders of Learning', and a 'Head of Mission' who managed the 'Leaders of Mission'. Students were asked at the end of recess to 'move to your next period of learning'. At the end of the day the message went over the loudspeaker, 'Our day of learning has come to a close'. Assemblies became part of the learning, as did parent information nights; the school endeavoured to explicitly link every event back to learning. Even in the area of discipline, if a student did something inappropriate, they were asked: 'What did you learn from this? What is the learning from this?'

The school constantly looked for opportunities to bring the focus back to 'it's all about the learning' and to emphasise not only why students were at school, but that they had a large part to play in taking responsibility for their own learning. The message the school was promoting was that students were ultimately responsible for the outcomes of their own learning. The school would direct the learning, but ultimately students had to choose to

engage in their own learning and take action in order for them to become self-

regulated learners.

5.4.3 Formalising procedures affecting SRL skills development

The school established whole-school practices not only around traditional

matters such as uniform and discipline but also on everything that affected

learning: how policies and programs were written and reviewed, how

lessons were structured, how feedback was given, scheduling of

opportunities for reflection and extra guidance, the modelling of strategies

for learning, and accountability practices for students and teachers. Whole-

school practices for the classroom were outlined in the *Staff Handbook 2012*

and were monitored by the leadership team. For example, the Assistant

Principal of Teaching wrote:

> In the course of visiting lessons it became apparent that there was
>
> wide variance in the beginning and especially the end of lessons.
>
> Accomplished teachers began lessons with revision, goal setting in
>
> terms of an outline of the lesson, and clear procedures to teach the
>
> subject specific terminology of the lesson. They also began to close the
>
> lesson in time to revise key points and terminology. The Principal
>
> worked a process with the whole staff to discern, in part, practices that
>
> needed to be a part of every lesson. From this process, whole-school

practice to begin and end lessons was drawn up. (*Assistant Principal Teaching: A Case Study*, Collected School Document, 2009, p.11)

The school also realised that unless every teacher in the school was approaching their class in a consistent way, the work the school was doing with the students could be undermined by the different approaches of relief or casual teachers. So relief teachers were renamed 'visiting teachers' and systems were put in place to ensure that these teachers supported the vision of the school, even if they were only in the school for a day. A comprehensive folder was put together for these teachers along with a reporting system for students demonstrating poor behaviour. The school was making it clear to both students and teachers what was expected and what was unacceptable in all classrooms at that school. The document given to visiting teachers stressed that there were three main areas the school was focusing on, one of which was "consistency in applying whole-school practices" (*Visiting Teachers Handbook,* Collected School Document, 2012, p.4). These school practices, which covered areas from entering classrooms to learning strategies, were listed in the *Visiting Teachers Handbook*.

While the concept of making students accountable for completion of work may initially seem counter-intuitive to the concept of SRL, one of the Leaders of Learning explained: "One thing I have learnt from the Principal, in order to empower kids you have to disempower them" (interview with

Leader of Learning, phase 2, 2012). Students were aware of expectations around whole-school practices that made students accountable for completing their work. The school monitored students to ensure they handed in work consistently. One student commented: "It is a whole-school practice for teachers to continually assess students so they know what level each student is at" (respondent 190/256 of student online questionnaire, phase 2, 2012). By disempowering students through taking away their choice to do schoolwork, students were empowered to improve their performance by the learning and feedback they received.

One of the key strengths of this school was that it did not just hope teachers would implement ideas or strategies. Instead, systems were put in place with checks to ensure a consistent approach. The Principal explained that it was difficult to ensure students took responsibility for their learning if they were encountering a myriad of different teacher practices across different classrooms: "And so we set up a whole number of practices, what we call whole-school practices in the school, just so that there was consistency from one class to another" (interview with Principal, phase 2, 2012). The aim was to ensure that teachers were implementing whole-school practices that were designed to deepen the learning in their classrooms. This allowed particular learning strategies to be integrated into classroom practices across all subject disciplines (discussed further in section 5.6).

5.4.4 Making evidence-based decisions on whole-school SRL practices

In order to determine which whole-school practices to implement, the school

based as many decisions as possible on evaluation and evidence. Whenever a

new idea was implemented, data was collected, evaluated, reflected upon

and reacted to. The Head of Learning discussed the nature of the school's

approach:

> We're very data-driven, so we're always looking at any form of data
>
> that we're getting. We're … saying what's that telling us about the
>
> learning? So we're continually evaluating our practices. (interview
>
> with Head of Learning, phase 2, 2012)

Evidence collected by the school in their evaluations was analysed by the

school leadership team and stored with the particular policy or process. This

ensured the school had rigorous evidence needed to make informed

decisions. The Principal insisted on a certain level of rigour in the evaluations

and demanded that changes should be based on evidence: "Let's not just

have anecdotal evidence all the time. We were great at anecdotal evidence"

(interview with Principal, phase 2, 2012). The school became data driven,

measuring and evaluating all practices and basing decisions on research

literature and data collected. It was not uncommon for the executive to quote

educational researchers during their interviews. For example, one

interviewee stated in an interview: "Teachers were informed of Hattie's work

and the importance of feedback" (interview with Assistant Principal School, phase 2, 2012). The school was interested in making decisions that were grounded in sound educational research and the executive team was flexible in their approach, allowing new ideas to be integrated. The Head of Teaching emphasised the fluid nature of their approach:

> You've got to adapt in this school. It's not a place that we've set something in concrete and that's it, Amen. At our executive meetings we take every single thing we've done and re-look at it and revamp it. (interview with Head of Teaching, phase 2, 2012)

This constant evaluation of policies, practices and evidence-based decision making allowed for accountability and continual improvement, as discussed in the following section.

5.4.5 Systematising accountability and continual improvement

With comprehensive, evidence-based whole-school practices in place and a strong open door policy for all classrooms, teacher accountability was high at this school. The Principal's approach and attitude to accountability was at first very challenging for some teachers. He would call teachers in for a personal discussion if he felt they were not fulfilling their role or needed to lift their game. One interviewee explained: "There are no free-loaders here. If you don't want to work, don't come here. If you are going to stay in the old

way of teacher versus students don't come here you won't last two minutes"
(interview with Teacher 3, phase 2, 2012).

Every semester an audit of all programs and school documentation
also took place. The executive felt that, at times, teachers were not preparing
enough in advance, so the school built in processes to ensure that all
academic matters were signed off before teachers taught that work. In Terms
2 and 4 each of the Leaders of Learning brought in their documentation for
the next semester—their teaching and learning programs, their assessments
and their outcomes—to ensure that forward planning was taking place and
that curriculum materials complied with education body requirements.

Even though the concept was never mentioned, this was a school that
embraced the idea of kaizen (i.e. continual small improvements). The school
constantly evaluated their practices to look for slight changes and made staff
and students on the frontline accountable for those changes. One student
explained:

> The school is continuously improving and bringing new learning
> methods to the college. From a personal perspective I think our school
> does a lot more than expected to help improve and widen our
> knowledge for the nearby future. (respondent 253/256 of student
> online questionnaire, phase 2, 2012)

Goals were reassessed regularly and new focuses determined. Another example of this was the Year 12 exit survey where teachers received a report collated from comments from the students in their class. The school was constantly looking for ways to have teachers evaluate their teaching. The Principal explained:

> I think as teachers, we don't stop enough to say, "Why am I doing this?" We keep doing something but we're not asking ourselves the right question. Well, why am I doing it and what impact is it having? And could there be a better way of doing something? (interview with Principal, phase 2, 2012)

For many teachers, this was an exciting place to work. Teachers were given opportunities to innovate and improve. The Principal was supportive of further investigating ideas floated during conversations. For example, as the result of a casual conversation the school was exploring gender and identity issues and how those might affect learning.

The executive team had high praise for the staff. The executive felt that most of the teachers who stayed with the school knew the vision and could see how the approach the school was taking made a difference. The students were also aware that a whole-school approach was being implemented to assist them in their learning and this added to the accountability in the school. As a student commented:

I think that the school helps us a lot with this talking about a school-

wide level. They always are encouraging us to study and giving us

ways to improve ourselves to do the best we possibly can. (respondent

187/256 of student online questionnaire, phase 2, 2012)

The leadership team's expectations that the teaching staff would implement

the vision of the school led to greater accountability to and for the student

body. This accountability was an important factor for the school to succeed in

a whole-school approach to helping students develop SRL skills.

5.4.6 Overview of section: contribution to whole-school approaches SRL theory

This section explored how the case school took a whole-school approach to

creating a whole-school environment conducive to SRL skills development.

The school established a clear vision and focus and ensured this was

communicated to the school community (section 5.4.1). The school-based

terminology was reassessed and changed to reflect and reinforce the school's

focus on learning (section 5.4.2). Procedures and policies affecting SRL skills

development were formalised (section 5.4.3), including classroom procedures

for teachers. To improve accountability, the school collected data to monitor

the effectiveness of these policy and procedure changes (section 5.4.4 and

section 5.4.5).

5.5 Facilitating peer interaction to support SRL skills development

Pressley (2005) found that peer interactions were an important factor in the development of self-regulation as peer discussion raises awareness of approaches to developing SRL skills. The case school wanted to establish whole-school practices around peer discussion, firstly by selecting a strategy to foster reflective discourse and then by implementing it across all subjects and year levels. For example, the school developed a specific technique to aid students in deconstructing questions (section 5.5.1). HPF was an abbreviation for 'highlight peer feedback' which meant *highlight* the key words when learning; *peer* share or explain ideas in your own words; and seek and take on *feedback* from peers and teachers. Small group study sessions (section 5.5.2) provided further opportunities for peer interaction.

5.5.1 Improving question interpretation

The school was interested in improving the way students deconstructed and interpreted questions as this was a key cognitive resource strategy necessary for SRL. Teachers realised many students struggled because they did not read the question or know how to break it down. Instead, students guessed the meaning of the question or asked the teacher what it meant. Students were then struggling in exam situations when they had to interpret questions themselves. To address this concern, the school introduced the HPF concept to students.

The first step in the HPF process was for students to highlight the key words and circle directive words (the words that told students to do something). Then students engaged in peer sharing, where they told the person next to them why they had selected those words. This allowed students to explain the question to one another. After peer sharing, students then re-wrote the question in their own words to make sure they understood it. Feedback came from the teachers and other students and the students annotated the question. By giving students a structure and process to follow, the HPF protocol gave students tools they could use to understand questions in an examination situation. The Head of Learning explained how, in this learning process, deconstructing questions became a whole-school practice:

> I thought, you know what, this isn't a Year 11 and 12 problem, this is a whole-school problem. We've got to go back and be teaching these skills all the way through. (interview with Head of Learning, phase 2, 2012)

Not only did the school explain the technique, they also ensured students understood the rationale behind it and the benefits to peer sharing. Twenty-three students (9%) referred to this technique when discussing in their responses to the online questionnaire how the school helped them to develop SRL skills.

This concept of using mnemonics as a scaffold for students was extended into other subjects to give students structure around what they were learning. For example, the school used the mnemonic SEXY. This meant first give a *statement* that lists some of the answers to the question; then give an *explanation* of what it means in context; follow this by an *eXample*; then explain *whY* they took this approach to answering the question. Another example from a different department in the school was that of SEAL: provide a *statement*, *explain* why, give an *exAmple*, and *link* to other sections of the syllabus that might be relevant to other parts of the topic.

The school also encouraged teachers to use peer marking activities in class. This was highlighted by a student who stated: "The school gets us to do things like self-assess tasks and peer marking activities that help us to become independent learners" (respondent 201/256 of student online questionnaire, phase 2, 2012).

It was interesting that there were students however who felt the need for greater opportunities for peer interaction. Seven of the 256 respondents to the online student questionnaire suggested the school could provide more opportunities for group work. One student stated:

> You remember what you teach others rather than what you learn
> yourself. We should have group work every now and then as it

creates confidence in each other and we all encourage each other.

(respondent 90/256 of student online questionnaire, phase 2, 2012)

Although the school had created some whole-school practices around peer

interaction, questionnaire responses like this one were common, indicating

that the student body would welcome greater emphasis on peer interaction.

5.5.2 Offering small group study sessions

An additional opportunity for peer interaction was provided through the

Wednesday afternoon study sessions in the library. Students could ask a

teacher to join a small group in the library to work on an area they were

struggling with, or teachers would invite students to join them if they were

having difficulties. This allowed students to work in small groups and gain

feedback on their work and their approach. A parent also mentioned similar

sessions held at lunchtime where students could get assistance with the areas

that they were struggling with: "This is voluntary so it encourages the

students to motivate themselves to attend" (respondent 27/59 of parent

online questionnaire, phase 2, 2012). A number of the student respondents in

the online questionnaire referred to these help sessions. One student

explained: "Some things I think my school does to help me be a self-

regulated learner is the afternoon study sessions in the library and the extra

help that teachers offer to us students." (respondent 54/256 of student online

questionnaire, phase 2, 2012).

By providing students with formal structures where they could get help as needed from both peers and teachers, the school gave students opportunities to enact self-regulatory help-seeking processes.

5.5.3 Overview of section: contribution to whole-school approaches SRL theory

This section outlined further ways schools can embrace a whole-school integrated approach to helping students develop SRL skills. Given the complexity of the construct of SRL, it is not surprising that whole-school procedures to developing students' SRL skills will need a multi-faceted approach. Sections 5.2, 5.3 and 5.4 focused on the motivational and behavioural aspects of SRL, looking at building teacher capacity, enhancing student self-efficacy and creating a school environment that fostered SRL skills. This section and the next one focus on building students' cognitive strategies. Once students believe in their own ability to succeed, they need tools to assist them to develop their SRL skills. While giving students strategies to learn more effectively is not new, a targeted whole-school approach for strategy development using peer interaction, as illustrated in this section with the HPF strategy, is an area that warrants further research.

5.6 Modelling and scaffolding SRL strategies for students

In addition to the HPF peer sharing technique outlined above, in order to build students' skills the school chose a number of techniques to model and

scaffold across the whole-school. The Principal believed, as Paris and Paris (2001) have emphasised, that certain SRL skills needed to be explicitly taught. In order to address this from a whole-school approach, the school ran courses for every year group at the beginning of each year, teaching students the skills necessary for independent learning. The Principal believed that many schools had been making false assumptions about the knowledge level of students in this area:

> We never used to teach it … we've just assumed that people know how to do things … But now we're saying, no, let's not assume anything. Let's teach them how to do the things that we assume they can do. (interview with Principal, phase 2, 2012)

This perspective aligns with that of Weinstein, Ridley, Dahl and Weiner (1988), who argue that "many students do not develop effective learning strategies unless they receive explicit instruction in their use" (p.17). What is unique in the case study data is the attempt to develop these skills using whole-school practices such as highlighting targeted strategies (section 5.6.1) and developing across the school students' summarising skills (section 5.6.2).

5.6.1 Highlighting targeted strategies

To highlight the importance of the learning strategies the school had chosen to model, the case school adopted another whole-school practice. 'Our Game Plan to Success' was a card given to students annually. The card outlined the

strategies the school was promoting based on the current needs of the student body. A number of the students referred to this card in their online questionnaire responses. A student wrote:

> We were also given cards with 'Our Game Plan to Success' which helps motivate me to study more. (respondent 170/256 of student online questionnaire, phase 2, 2012)

This small laminated card also contained general information including key exam dates, how much schoolwork the students should do each day at home, and a prayer. The card was referred to on a weekly basis at assembly, where students were given additional study tips. A student stated:

> Every Monday morning, the Assistant Principal goes through a card he has made that will lead to success. Some strategies on the card are reading, revising, study cards etc. (respondent 52/256 of student online questionnaire, phase 2, 2012)

The front of the card also displayed the school motto 'It's all about learning'. This card gave students a tangible focus for the whole-school practices the school had implemented and in the online questionnaire a number of students referred to this card as supporting their SRL skills development.

5.6.2 Developing students' summarising skills

An example of the different strategies the school highlighted for improving

learning was the use of study cards. Students summarised the material they

were learning on cards (and, importantly, received feedback on how well

they had summarised the information). The strategies the school was

focusing on each year were introduced in the study skills sessions that the

Assistant Principal of Teaching ran at the start of the year. The strategies

were then reinforced in weekly assemblies by the Leaders of Mission.

Throughout the year, the strategies were integrated into faculty programs to

ensure modelling and scaffolding in the classroom and to provide

opportunities for students to practise them in context. Thirty-six student

respondents (14%) of the online questionnaire discussed these study skills

sessions and year meetings. One student explained what was useful about

these sessions:

> Our school helps students become self-regulated learners through the
>
> use of study sessions and the encouragement of goal-setting,
>
> organising a study time table and how to take notes effectively.
>
> (respondent 243/256 of student online questionnaire, phase 2, 2012)

Another student specifically mentioned the study cards in this context:

> The school fosters the development of study skills with regular year
>
> meetings focusing on tips, advice and information about how to create

study cards. I find the seminars helpful. (respondent 221/256 of

student online questionnaire, phase 2, 2012)

The concept of study cards was introduced to give students a systematic and

consistent way to revise their learning. The school criteria for study cards

stated that students would be able to "construct effective, well-presented

study cards which accurately prioritise and summarise even difficult

information/skills steps and which use a variety of effective memorising

strategies" (*Study Cards Criteria*, Collected School Document, 2012, p.2).

At the end of every topic, teachers gave students a summary or outline

of perhaps two or three pages. Students would tick off what they knew and

did not know and expand on the areas they did not know. Students would

then create study cards based on this outline. The library at the school had

blank cards students could use. Students would hand these cards in to

teachers and receive feedback on them. They were encouraged to colour-code

and to use these cards to help strengthen their examination responses. The

school also modeled colour-coding with all notices and generic school

information sheets colour-coded to the year groups (for example, information

and exam cover sheets for Year 7 were on green paper).

Thirty three students (13%) found this a useful strategy, with student

respondents from the student questionnaire referring to the study cards when

asked how the school helped students develop SRL skills. One student explained:

> The school fosters self-regulated learning very well because of the ways of study they have provided us with. For example study cards were introduced which have sometimes been set as homework in some classes which helps the student be even more prepared for their next lesson. (respondent 141/256 of student online questionnaire, phase 2, 2012)

Students mentioned that the cards helped them to prepare for tests and to be more organised. For example:

> They provide several strategies to help you extract the most significant information in a specific topic so you can find it a lot easier to understand what is being said. They also teach you how to make small notes and study cards about the work to help you be more organised. (respondent 210/256 of student online questionnaire, phase 2, 2012)

Teaching these SRL skills was scheduled into all of the faculty teaching programs to ensure these skills were embedded in each course. Teachers found that use of the study card strategy increased students' understanding of what they needed to do in order to study. By modelling and scaffolding

the use of study cards, students were given the opportunity to move through

Zimmerman's (2002a) levels of development from emulation to self-

regulation, discussed in section 2.2.3. As this study cards strategy was

implemented across the whole-school, every student was given the

opportunity to develop their skills in this area.

5.6.3 Overview of section: contribution to whole-school approaches SRL theory

This section contributed further to answering the research question: How can

secondary schools embrace a whole-school integrated approach to helping

students develop SRL skills? The findings from the case school uncovered an

innovative approach to integrating in a systematic way the modelling and

scaffolding of SRL strategies for students (section 5.6.1). By selecting

strategies to be modelled and scaffolded across all subjects, such as the use of

study cards to summarise course content (section 5.6.2), the school ensured

that all students were given the opportunity to develop these skills. By

highlighting these strategies to students in assemblies and by giving students

a laminated card that displayed that year's targeted strategies, students were

constantly reminded of the strategies and the importance the school placed

on them. These findings further illustrate the significance of this study's

focus on a whole-school integrated approach to helping students develop

SRL skills. The case study shows how schools can implement strategies and

policies that result in comprehensive and effective whole-school programs to help students develop SRL skills.

5.7 Embedding opportunities for students to reflect on their SRL skills development and gain feedback from teachers

A number of whole-school practices were established by the case school to embed reflection and feedback opportunities for their students. Pressley (2005) emphasised that, to be effective, monitoring needs to occur in diverse ways. The challenge, not previously addressed in the literature, was how to manage student reflection and feedback opportunities from an integrated whole-school perspective.

The case school approached this by first developing achievement criteria for assessing subject learning outcomes (section 5.7.1). These criteria helped students to determine the level they were currently achieving in their subjects and to identify what they needed to do to move to a higher grade. The significance of this lay in the way these criteria were used across the school for systematic reflection and feedback opportunities. Criteria were printed onto bookwork slips that students pasted into their books on a regular basis and then evaluated themselves against. Students received feedback from their teachers on their self-evaluation of these criteria (section 5.7.2). A number of other whole-school opportunities for students to reflect on their approach to their learning were scheduled by the school. These

included regular times for teacher feedback on written bookwork (section 5.7.3). Scheduling time for formal reflections when school reports were received also added to the opportunities for students to assess their skills as self-regulated learners (section 5.7.4). The repositioning of homework as 'learning preparation' created a valuable reflection experience (section 5.7.5), supported by small group study sessions for those needing additional feedback. Benchmark quizzes allowed students to identify issues in their learning (section 5.7.6).

5.7.1 Developing achievement criteria for students to self-assess and receive teacher feedback on subject learning outcomes

When the Principal arrived at the school, he discovered that all programs and policies needed to be rewritten as policies were non-existent, inadequate or incomplete. Once the programs were in place, the Principal examined the feedback given to students, in particular in student reports. The Principal found that these too were lacking: "So I then started looking at student reports and seeing that the information was so scant that there was nothing a student could do with it" (interview with Principal, phase 2, 2012).

The school began collaboratively creating criteria frameworks to ensure every student in every subject was given meaningful feedback. The aim was to establish differentiated achievement criteria for all aspects of learning in each subject. Feedback was needed to explain the grade students

were given and indicate the steps students needed to take to improve to the next grade. The Principal explained that it was about fairness and students understanding the criteria for marking:

> We've got to be absolutely transparent as to what it is we're trying to do with them, so that there are no secrets and it's not special teacher's secret business or anything like that. (interview with Principal, phase 2, 2012)

This led to a review of the assessment process, ensuring that criteria for marking were clearly outlined on all assessments and used a standard template.

Teachers started with the end in mind when they collaboratively formulated A to E criteria for different syllabus areas in each subject. The grade of D needed to be achievable by 90% of students and an A grade needed to have a degree of difficulty that equated with student achievement at the state level—there were to be no more cheap A's. The Principal explained the rationale behind putting explicit self-regulating criteria into place:

> They've got to have really good criteria to determine whether or not they are really making the changes that they need to make in terms of their learning. (interview with Principal, phase 2, 2012)

The aim was to create clearly differentiated criteria for all subject outcomes as well as more effective strategies for students to use to make improvements from one grade to the next.

The school also decided to re-evaluate the way feedback was given to students. Reports were redesigned with new, more descriptive criteria for application, participation and as subject outcomes for all subjects. The Assistant Principal of Teaching explained this process:

> Students self-assess against these criteria and set goals for themselves. This is whole-school practice and we would have 90% take-up on these practices. (interview with Assistant Principal Teaching, phase 2, 2012)

The introduction of the A to E criteria frameworks opened up a number of possibilities for self-assessment. By creating standardised criteria, and in particular descriptions of the strategies needed to move to higher grades, students were given access to a powerful tool to help them develop SRL skills. The use of this approach was documented in the *Staff Handbook 2012* as a whole-school procedure, with teacher expectations outlined as follows:

> Analyse the A – E criteria as part of the classwork and make consistent reference to this criteria throughout the semester. Check that the A - E criteria is pasted into the workbook and used for student self and peer

assessing. Give students feedback on their self and peer assessment.

(*Staff Handbook,* Collected School Document, 2012, p.41)

The aims were for students to assess themselves and participate in peer assessment. The teacher gave feedback on students' perceptions of their progress both in their learning and their application. This allowed students to see where they were currently achieving for the topics they were learning in class. Students could pinpoint their performance level using the A to E criteria. The Head of Learning explained that the expectation was that teachers would be continuously saying: "We've just finished this particular element, could you now stop and rate where you believe you are on the scale here? What do you need in order to move beyond where you currently are?" (interview with Head of Learning, phase 2, 2012). Students would then set learning goals based on this assessment, allowing them to self-monitor, regulate their learning and subsequently demonstrate responsibility for their own learning behaviours. The advantage of embedding the criteria framework into classrooms was that students had a consistent process to follow across different subjects. This facilitated regular ongoing reflection and goal setting in context.

5.7.2 Evaluating progress of students and teachers giving regular feedback
Rather than students receiving major feedback from teachers about their progress predominantly at report time, the school created a process where

students were given slips with the report criteria at regular intervals.

Students pasted these into their books, self-assessed their progress and later

received teacher formative feedback. Students found this useful. A student

explained:

> The school also gives students a criteria at which they are being
>
> evaluated against, this makes it easier for students to set out goals and
>
> know what they need to do in order to achieve it. (respondent 227/256
>
> of student online questionnaire, phase 2, 2012)

These bookwork slips, with the subject achievement criteria on them,

provided an opportunity for students to reflect. One student described this

process:

> They also allow us to be self-regulated learners every 3rd, 6th and 9th
>
> week of each term. Teachers hand out bookmark slips in weeks 3 and
>
> 6 which allow students to self-assess what grade their bookwork
>
> meets and then your teacher tells you if they agree or disagree. In
>
> week 9 of every term, students are asked to glue in a piece of paper
>
> into every one of their books so that they can self-assess their
>
> application and participation in each class/subject. (respondent
>
> 246/256 of student online questionnaire, phase 2, 2012)

The aim was that students would have a realistic view of how they were performing, not just from being told by their teacher, but through guided reflection and self-assessment. One of the teachers explained the advantages of this:

> So that means when they get reports, no surprises. It's transparent, so if any kids have a surprise we'd be saying well, how is it that you're surprised when you look at the evidence here, here, and here? (interview with Teacher 2, phase 2, 2012)

Throughout the semester students had indications of their progress and level of achievement as they were monitoring their own learning and receiving formative feedback.

A parent discussed the advantages of the self-reflection processes the school had implemented in terms of goal setting:

> I think that the self-assessments in week 9 of each term is great, as the students make their goals for themselves to achieve and will not want to let themselves down, as well as their teachers. (respondent 58/59 of parent online questionnaire, phase 2, 2012)

During these self-assessments students focused on application, participation and overall progress, then set themselves new goals to improve.

5.7.3 Scheduling additional teacher feedback opportunities

An additional part of this process was the close bookmarking in weeks 5 and 10 of each term. Close bookmarking involved students nominating a piece of work they thought was good and a piece that could be improved. The teacher gave feedback on these pieces of work in their books. The close bookmarking process allowed teachers across all subjects to examine in-depth particular pieces of work, ensure students had completed set pieces of work and their self-assessments and had set goals. The school also incorporated peer sharing in this process by teaching students how to assess the work of other students in class.

All of these procedures were placed in the school calendar and in the *Staff Handbook 2012*. Processes were in place that meant the office staff automatically copied and distributed the bookmark slips.

5.7.4 Scheduling reflective activities and goal setting tasks

A number of formal opportunities for reflection and goal setting were timetabled at the school. When students received their reports, time was set aside to complete a report reflection and goal setting activity tailored to the different year levels. One student explained:

> The week after the reports are given out to students, the Leader of
>
> Mission and year group meet and discuss their results and set goals

for next report. (respondent 161/256 of student online questionnaire,

phase 2, 2012)

This type of goal setting was a regular occurrence which one of the students

stressed in their response: "they promote goal setting which is conducted

every term" (respondent 156/256 of student online questionnaire, phase 2,

2012). Students also set goals at the start of each semester and revisited their

earlier goals, assessing strengths and weaknesses and determining the

changes needed.

Report results did not come as a surprise to either parents or students

at the school. In addition to gaining feedback from teachers, students and

parents were also able to check their actual grades at any time through the

online reporting and learning management system at the school (Engrade).

The Assistant Principal explained the benefits of this system:

It reflects their report. So straight away, a parent is not going to get a

shock anymore because on the Engrade it's saying where the kid is at.

(interview with Assistant Principal of Teaching, phase 2, 2012)

At the start of the school year, students were also given a copy of their report

from the previous year to help them with their goal setting. A parent

summarised it this way:

The students are asked to choose the goals they want to achieve in learning and participation for each subject at the beginning of each term. (respondent 14/59 of parent online questionnaire, phase 2, 2012)

The students also re-evaluated their goals at the end of each term to evaluate their progress in achieving their goals.

Teachers went through a similar process when they received the Year 12 external examination results for their subject, writing reflective comments, talking to the Head of Teaching, then revisiting these the following year. This approach was also used with the senior students. When doing major exams, these students would use feedback from teachers to fill out a grid analysing the strengths and weaknesses in the paper before they received their final grade. The aim was to reflect on the experience without focusing only on the mark. This focus on reflection had been noticed by parents. For example, a parent commented:

At each teacher and parent interview the teacher will ask my son 'How do you think you have done?', 'Could you improve?' and 'Are you happy with the way things are going?' (respondent 1/59 of parent online questionnaire, phase 2, 2012)

The school provided opportunities for feedback to students in a variety of different formats. A student remarked: "They give active feedback to help us

become more confident which leads to more successful self-regulated learning" (respondent 192/256 of student online questionnaire, phase 2, 2012). The school also ensured that teachers were given training in giving effective feedback by making this a focus at the TED (Teaching Enrichment Days). One such TED discussed four types of feedback: feedback about the process; feedback about the task; feedback about the self; and feedback at the self-regulation level.

Other feedback mechanisms included more traditional methods such as one-on-one or small group assistance and learning preparation (homework). The school also used benchmark quizzes as a vehicle for providing feedback. Other feedback strategies have been discussed in previous sections such as the use of criteria frameworks (section 5.7.1), completion of bookwork slips (section 5.7.2) and close bookmarking by teachers and peers (section 5.7.3).

5.7.5 Revisiting learning preparation

One of the traditional mechanisms in schools for students to receive feedback is through homework. At the case school, homework was renamed 'learning preparation' as the word homework was believed to have negative connotations. The Head of Teaching explained the rationale for the change: "You explain this to the child, we're not doing this, you are preparing yourself" (interview with Head of Teaching, phase 2, 2012). Learning

preparation meant students were actively preparing themselves, as stated by

this student:

> Learning preparation prepares us for the learning that we will
>
> experience the next day. (respondent 162/256 of student online
>
> questionnaire, phase 2, 2012)

Teachers would not always set work to take up all of the allocated time for

learning preparation as students were expected to do other things like study

cards. The school's *Student Learning Planner 2011* (school diary) outlined for

students the school's perspectives on this policy. This document was

significant for the explicit way the school outlined their expectations of

learning preparation:

> The College values the importance of learning preparation and study.
>
> In line with the College's mission we seek to provide a learning
>
> environment that is comprehensive, inclusive and responsive to
>
> individual needs of the students in our care. Homework and Study is
>
> very important as it builds responsibility and reinforces the concepts
>
> that are taught in class. Learning preparation and Study is not new
>
> learning but practice of already introduced skills. Learning
>
> preparation and study provides students with an opportunity to
>
> develop skills that complement those learnt in the classroom.
>
> Homework and Study provides training for students in organising

their time and provides parents with insight into what is being taught in the classroom. (*Student Learning Planner,* Collected School Document, 2011, p.35)

The school was positioning home study as a reflective opportunity for students, a time to review and build on the skills learned that day at school.

A number of students also referred to the role of the *Student Learning Planner* in helping them be more self-regulated, for example:

One thing that allows students to be self-regulated learners at our school is the diary/ learning planner system. This allows us to be more organised in relation to homework/ learning preparation and lessons. (respondent 48/256 of student online questionnaire, phase 2, 2012)

Each year students and parents signed an 'annual confirmation of enrolment' in the *Student Learning Planner*. One of the conditions students accepted in signing this learning contract was as follows:

Realising the importance of my education, I agree to assume responsibility, with the support of my teachers and parents, for my work ethic, completion of coursework and study for the submission of assessment tasks (essays, projects etc.) and other learning requirements including mandatory learning preparation each night. (*Student Learning Planner,* Collected School Document, 2011, p.18)

Students and parents were committing to the process of completing learning preparation as part of their reflection and feedback opportunities on their learning.

5.7.6 Setting benchmark standards and encouraging resubmission

The introduction of benchmark quizzes was another innovation at the school that improved the feedback mechanisms. These were short quizzes, perhaps 10 or 15 minutes in length, taken after every topic that allowed students to see if they had reached the benchmark for that subject. Students were allowed to take an alternative benchmark quiz at a later date if they did not achieve the benchmark the first time. These results were recorded both on a poster on the wall and in Engrade (the online reporting and learning management system that students and parents could access). Some departments in the school (e.g. the Physical Education Department) also had resubmission policies. Students could learn from their mistakes and resubmit a task to move their results to a higher grade, a feature that the following parent found useful:

> I love the fact that if a student hands in their work and it isn't satisfactory the teacher asks them to do a better job, explains to them what it is they did wrong and how they could improve. (respondent 46/59 of parent online questionnaire, phase 2, 2012)

5.7.7 Overview of section: contribution to whole-school approaches SRL theory

To help students develop SRL skills, Butler (2002) and Paris and Winograd (2003) emphasised the importance of students having opportunities to reflect on their learning and be given regular feedback. In order to ensure all students in the school received these reflection and feedback opportunities, the case school put in place measures to both systematise and integrate these processes. These included developing achievement criteria for students to self-assess and receive teacher feedback on subject learning outcomes (section 5.7.1), giving students feedback at regular intervals (section 5.7.2 and section 5.7.3), scheduling reflective activities and goal setting tasks (section 5.7.4), revisiting learning preparation (section 5.7.5), setting benchmark standards and encouraging resubmission (section 5.7.6). These findings show how a comprehensive approach and innovative ideas ensure students' needs for reflection and feedback opportunities are met.

5.8 Outlining content relevance and providing opportunities for choice

The conceptual framework presented in chapter 2 (Table 2.4 on page 66) was used as a framework for the analysis of the case-school data and to investigate the whole-school approaches to helping students develop SRL skills. There were seven categories outlined in this framework, the final one being that teachers should outline content relevance for their subject material and give students a measure of choice and control.

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Unlike the other categories presented in previous sections, for this category there was no data collected from the case school that provided evidence of a whole-school approach in outlining content relevance across subjects (that is, how the curriculum being studied was relevant to the student), nor was there evidence of a whole-school approach for ensuring that students had choices in the process of learning.

It is important that this is acknowledged in order to be true to the methodology and the data and this is shown in Table 5.1 on page 132 and page 133. Although there was no evidence of a whole-school approach in this area, the data validated the need for further research in this area with respondents highlighting needs that were currently not being addressed.

Patrick and Middleton (2002) discussed the importance of teachers using motivationally rich curricula that contain inherently interesting and relevant content with opportunities for student choice and control. Not only was no data collected from the case school providing evidence of a whole-school approach in this particular area, there was, in fact, some evidence of the opposite: data at the school indicated a growing concern about not allowing students opportunities for choices in their techniques for self-study.

When suggesting ways the school could improve, a teacher highlighted the need to make the learning relevant to students, stating: "I believe it would be important for students not only to learn about study

skills, but teach students how and why they should do these things"

(respondent 8/24 of teacher online questionnaire, phase 2, 2012).

In the student questionnaire, 14 students (5% of the 256 respondents) made reference to the idea that the school needed to allow students to have more choice when it came to study techniques instead of requiring students to use the school's techniques. Students wanted more freedom to learn in a way that suited their learning style. One student explained that they believed:

> the school should be flexible with how they teach kids and if different methods work then different methods should be used not forcing students to conform to one teaching style. (respondent 238/256 of student online questionnaire, phase 2, 2012)

Another student explained their perspective on the study techniques taught at the school:

> I think the school should teach students different study methods, because they need to understand that each individual is different, no matter what research and studies say. (respondent 75/256 of student online questionnaire, phase 2, 2012)

The need for greater choice was also recognised by a teacher who stated:

We may need to focus on more individualised learning strategies to better meet the needs of the students. (respondent 1/24 of teacher online questionnaire, phase 2, 2012)

Although individual teachers at this school could have been outlining content relevance and giving students opportunities for choice and control in their classrooms, there was no evidence of a whole-school practice approach to this. Future research across a number of different schools may be needed to uncover practices in this area.

5.9 Conclusion

Drawing on thick description of data (Geertz, 1983), this chapter has explored the elements of the whole-school approach the case school was adopting to improving students' SRL skills. The conceptual framework presented in chapter 2 (Table 2.4 on page 66) was used as a framework for the analysis of this data to address the first of the research questions: How can secondary schools embrace a whole-school integrated approach to helping students develop SRL skills?

The findings presented in this section provide a unique insight into whole-school approaches to helping students develop SRL skills and will be useful to both educators and researchers as they seek to create a school environment that fosters the development of SRL skills. The overall approach taken by the case school and outlined in the chapter is summarised in this

concluding section, where new guidelines are extrapolated from the findings to facilitate integrated whole-school approaches to helping students develop SRL skills.

The school was proactive in providing teacher professional development opportunities and support for teachers in how to build students' SRL skills. This was implemented through the introduction of regular Teaching Enrichment Days where teachers observed and analysed colleagues' lessons—a by-product of the open classroom policy the school fostered. Early career teachers were provided with additional support, including regular teaching strategy meetings and one-on-one opportunities.

In order to foster both teacher expectations and students' belief in their ability to achieve academically, the executive first challenged the teachers' negative perceptions of the ability levels of some students. Many of the teachers believed that students from the socio-economic background represented by the school were incapable of succeeding academically. Once teachers' perceptions had been addressed, the focus moved to the students. The school reinforced the message that all students had the potential to succeed. An award system was implemented to provide positive reinforcement and build self-esteem—essential components for SRL skills.

SRL skill development was integrated into classroom contexts by first ensuring that the school community had a clear, shared vision for the school.

This was reinforced in the creation of a new school motto: 'It's all about learning'. This vision was enacted by the school adopting language that focused on learning across all aspects of daily life at school. The school's leadership team provided the guidance to implement the vision, formalising the whole-school practices and making evidence-based decisions. Increased accountability and a focus on continual evaluation and improvement helped the school ensure that the vision was translated into effective action.

Measures were in place to foster peer interaction. The school developed a technique labelled HPF (highlight, peer sharing, feedback) which was successfully implemented at a whole-school level.

The school also established additional school-level policies for whole-school practices on modelling and scaffolding learning techniques by choosing specific strategies to be used across the school. Study cards were integrated into the school's vernacular and formed part of the school's 'game plan for success', which was printed on a laminated card for every student.

Reflection and feedback opportunities were timetabled and embedded in the daily life of the school. A collaborative staff project developed comprehensive criteria frameworks with guidelines for improvement. This led to the establishment of bookwork slips for regular reflection and feedback from teachers about students' perceptions of their personal SRL skills development. Whole-school goal setting and report reflections were also

placed in the school calendar. Students were encouraged to view their daily learning preparation (homework) as an opportunity for self-reflection. Teacher feedback on approaches to learning was provided in small group sessions if students needed additional support.

While it is not possible to generalise from a single school, this research provides guidelines and a starting point for further investigation of whole-school approaches to helping students develop SRL skills. The findings from the first phase of this study, discussed in chapter 4, highlighted the lack of consistency in approaches across schools and the overall lack of a whole-school approach to helping students develop SRL skills, thus underscoring the importance of developing new guidelines.

Chapter 6 moves on to address the second research question by exploring parent, teacher and student perceptions around the development of students' SRL skills, looking at how these groups believe the role of the development of SRL skills should be undertaken. Chapter 7 explores the third research question, looking at perceptions on the impact of technology on students' SRL skills development. The final chapter then discusses the implications and significance of this research, highlights the emergent guidelines for implementing an integrated whole-school approach to helping students develop SRL skills in the secondary school context and provides recommendations for future research.

Chapter 6

Perceptions of key responsibilities for developing students' SRL skills

6.1 Introduction

The first two chapters of this thesis outlined the context for this study that investigated whole-school approaches to helping students develop SRL skills. Chapter 3 detailed the two-phase methodological approach, and chapter 4 outlined findings from the initial online survey of 54 secondary schools in the Sydney region. The data revealed that the approach taken by many schools to helping students develop SRL skills was not in line with the research findings for best practice outlined in chapter 2. In chapter 5 I explored the case study data, examining the approach taken by one best-practice secondary school, chosen because it had taken a proactive whole-school approach to fostering students' SRL skills. In this chapter, I examine further the case study data, concentrating on responses to one of the questions from the online questionnaires completed by parents, students and teachers from the case school.

As chapter 5 explained, the case school was a Year 7 to 12 co-educational non-government school located in Sydney's western suburbs. This was a school that had always had Year 12 final external examination results below the State average. Students at this school had traditionally been perceived by teachers as having low self-efficacy and low motivation for their academic studies. Six years prior to the commencement of this study, a new Principal instigated widespread changes in the school. The school's motto became: 'It's all about learning' and this was reflected in the new approach taken by the school. In the year prior to this study, the school reached the State average in their overall Year 12 final external examinations results for the first time and teachers were recognising positive changes in student approaches to learning.

Findings from the case study questionnaire data demonstrated that there were diverse views within the school community as to whose role it is to help students develop SRL skills. These viewpoints varied within and across the parent, student and teacher groups.

In summary, the majority of parent respondents did not believe any responsibility for SRL skills development lay with the students. Instead, they viewed it as a shared responsibility between parents and teachers (see Figure 6.1, page 207). The remainder of the parent respondents had widespread

opinions as to whose responsibility it was to help students develop SRL skills.

In contrast, as shown in Figure 6.2, page 210, over half the student participants believed the responsibility for being self-regulated was at least in part their own responsibility. A third of the student participants believed it was a joint responsibility between students, parents and teachers; a quarter believed both students and teachers shared the responsibility for developing these skills; while a quarter believed this should be the sole province of the teachers.

Figure 6.3, page 213, illustrates that half of the teacher respondents believed students did have some responsibility. More than a third of teacher participants expressed the view that developing students' SRL skills was a joint role between parents, teachers and students, while a quarter saw it as a joint responsibility between teachers and parents. These findings are explained below.

6.2 Parents' perceptions of whose role it is to help students develop SRL skills

While there was a clear majority view amongst the parents as to whose role it is to develop SRL skills, there was also a wide diversity of parental views as shown in Figure 6.1 on the next page.
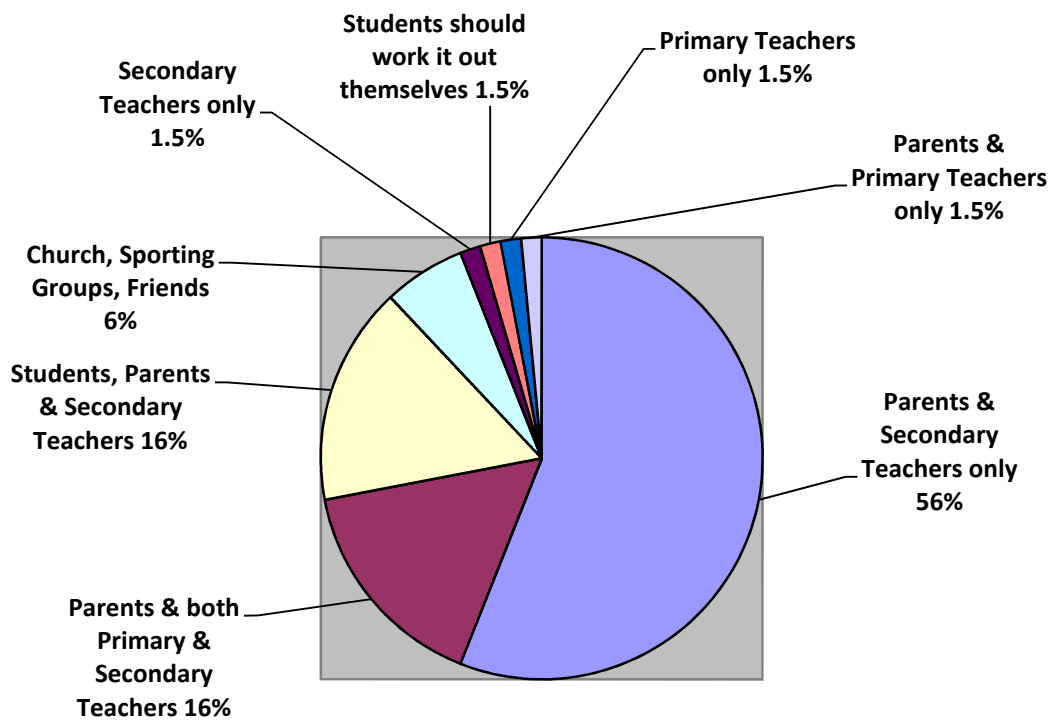
Figure 6.1: Parents' perceptions of whose role it is to develop SRL skills (n = 59)

Of the 59 parents who responded to the online questionnaire, 16% (n=9)

believed that helping students develop SRL skills was a joint responsibility

between parents, students and teachers. A parent explicitly outlined their

view of the differing roles of each party:

> The school's role would be to encourage these skills and create the
>
> learning environment that supports and facilitates such skills. Parents
>
> have a role to play in also ensuring that they create an enabling and
>
> supportive environment and show an interest at all times in their
>
> children's learning. I also believe the student needs to take on some
>
> responsibility. (respondent 22/59 of parent online questionnaire, phase
>
> 2, 2012)

However, 72% (n=42) of parents emphasised the need for a dual role between parents and teachers, with a parent explaining that "both the home and school environment needs to be consistent for the message to get through and the behaviour to change" (respondent 3/59 of parent online questionnaire, phase 2, 2012). It was interesting to note that despite the word 'self' featuring in SRL, a significant percentage of parents did not see this role as being shared by students, unlike the majority of student and teacher respondents. Sixteen per cent of these parent respondents specifically mentioned that both primary and high school teachers have a role to play in the development of SRL skills. These parents stressed that it was important for students to lay foundations and develop good learning habits before transitioning to secondary school.

Many of the parent participants who supported a dual role between themselves and the school also expressed doubt about how helpful parents could actually be. They explained that they often lack the time, expertise and confidence to teach these skills to their children and they expressed the desire for greater communication from the school explaining how they could help with particular issues their child was facing. A number of parents also believed the school, as opposed to the home environment, was the appropriate place to develop these skills. A parent explained that "many

parents are time poor and aren't conversant with the methodology of education" (respondent 4/59 of parent online questionnaire, phase 2, 2012).

A few parents had differing viewpoints. There was the suggestion that community involvement such as church and sporting groups also contributed to SRL skills development. Another possibility raised was the role of friendships or other people; a parent stated that students "should use whatever avenue presents itself" (respondent 9/59 of parent online questionnaire, phase 2, 2012). Other parents did not feel the secondary school had a role to play. Some believed it was a role to be shared between parents and primary schools only, while others felt it was the sole province of primary schools, "as when they hit high school, it is too late" (respondent 45/59 of parent online questionnaire, phase 2, 2012). Only one parent believed it was up to the students "to work it out themselves" (respondent 55/59 of parent online questionnaire, phase 2, 2012).

6.3 Students' perceptions of whose role it is to help students develop SRL skills

Figure 6.2 on the following page displays the range of students' viewpoints on whose role it is to develop SRL skills. Unlike the parent respondents, none of the student respondents referred to primary school teachers having a role.
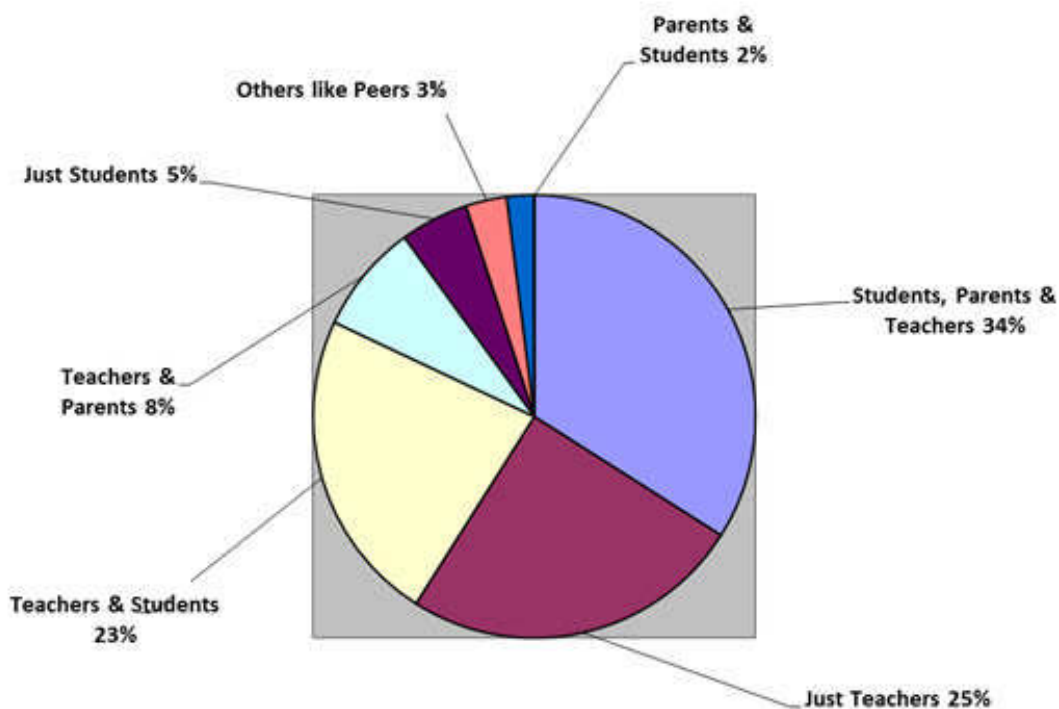
Figure 6.2: Students' perceptions of whose role it is to develop SRL skills (n = 256)

Over a third (34%, n=87) of the 256 student respondents believed that

developing students' SRL skills was a shared role between students, parents

and teachers. A student explained:

> It is a student's role to manage their own work and learning;
>
> organisation, time management and commitment are the basic
>
> necessities for pushing one's self to achieve. However it is pertinent
>
> for parents to support and help sustain the student's focus and a
>
> suitable studying environment. A school has the role to give the
>
> student the information and the techniques to derive knowledge from
>
> and learn, so that when the time comes they are prepared to perform

at their best. (respondent 227/256 of student online questionnaire,

phase 2, 2012)

However, a quarter (25%, n=64) of the student respondents believed that

developing students' SRL skills was solely the province of the teachers, with

a student expressing the view that "it's the teacher's role to keep us

motivated, organised and help us manage our time effectively" (respondent

54/256 of student online questionnaire, phase 2, 2012). Responses such as this

demonstrated that a significant proportion of the students were not prepared

to take any responsibility for the development of their own SRL skills, nor

did they place expectations on their parents.

Almost another quarter (23%, n=59) of the students believed it was a

joint role between students and teachers. A student explained that "the school

should provide basic guidelines on how to study, be motivated etc., but it is

up to us as students to motivate ourselves and set goals" (respondent 63/256

of student online questionnaire, phase 2, 2012). The respondents in this

category did not feel the parents had a role to play, with a student stating:

> I think it is the teacher's role to keep me motivated to want to learn
>
> and engage and participate in the learning in class. However, it is my
>
> role to keep organised, manage my time effectively, study and set
>
> goals because it is my schooling not my parents. (respondent 151/256
>
> of student online questionnaire, phase 2, 2012)

The majority of students felt that it was, at least in part, the teachers' responsibility to develop students' SRL skills. Only 10% (n=26) of the student participants believed the teacher did not have a role in helping students develop SRL skills. For example, a student wrote: "I believe it is my responsibility to be motivated, organise, manage my time, study, and set my own goals. I don't believe the school has a role in this part of my learning" (respondent 182/256 of student online questionnaire, phase 2, 2012). Thirty-six per cent of students did not believe that they had any role in developing their own SRL skills. A student stated the role is "a combination of the school and parents—they have more experience and knowledge" (respondent 26/256 of student online questionnaire, phase 2, 2012). However, a small group (5%, n=13), believed it was solely up to them, as evidenced in this student's response:

> I think it's my role to help myself learn in these ways because you can't be forced to do work, it's self-motivated. It is my future and no one else can do it for me. (respondent 33/256 of student online questionnaire, phase 2, 2012)

6.4 Teachers' perceptions of whose role it is to help students develop SRL skills

As with the students, the largest consensus with teachers was that developing students' SRL skills should be a shared responsibility between

teachers, parents and students. The breakdown of responses is shown in

Figure 6.3.
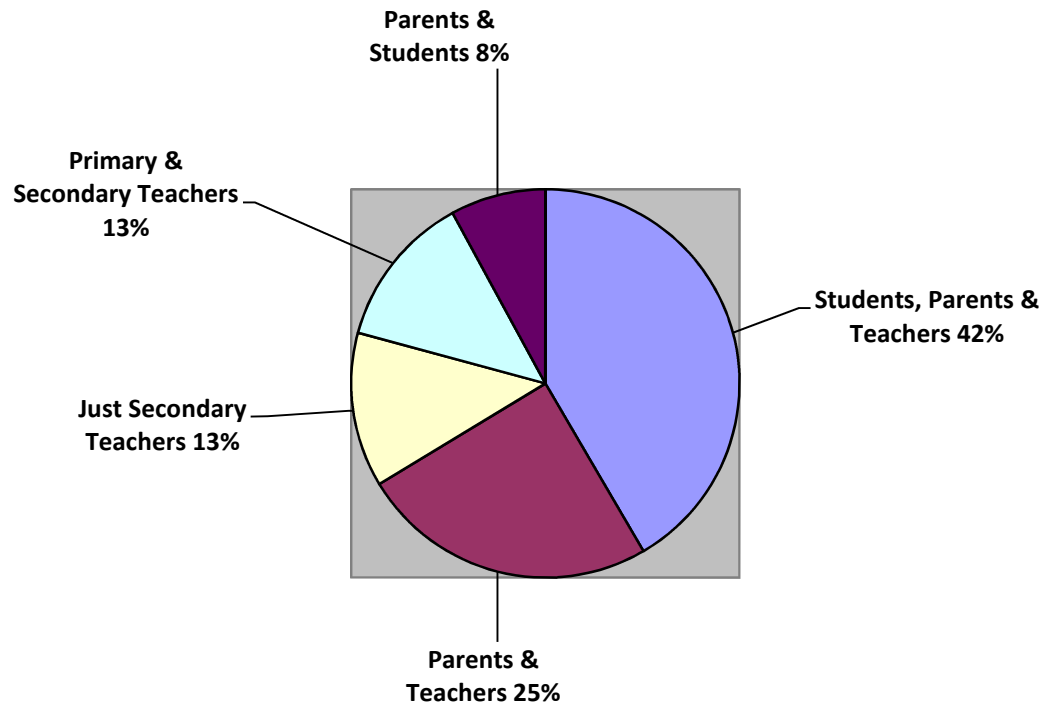
Figure 6.3: Teachers' perceptions of whose role it is to develop SRL skills (n=24)

Although only 24 teachers completed the questionnaire, it was interesting to

see the range of responses within a small sample. Forty-two per cent of the

teacher respondents believed it was the joint responsibility of the school

community to help students develop SRL skills: teachers, parents and

students all had a role to play. One teacher explained how "it takes a 'village

to raise a child', and there are valuable contributions that can be made by

everyone in the community" (respondent 5/24 of teacher online

questionnaire, phase 2, 2012).

However, 13% (n=3) of teachers believed the responsibility should lie solely with the secondary school, with a teacher emphasising that "teachers are responsible for teaching their students the skills they need to learn, grow, develop and lead lives independently" (respondent 5/24 of teacher online questionnaire, phase 2, 2012). An additional 13% (n=3) of teachers also thought it was only the responsibility of teachers, but cited both primary and secondary teachers as having a role to play. Another conceded that teachers also had an important role to play as "many parents lack the skills and understanding to foster this in their children" (respondent 1/24 of teacher online questionnaire, phase 2, 2012). However, a small number (8%, n=2) of teachers believed the responsibility was with the parents and students. For example, a teacher wrote that "parents set the standard from a young age" (respondent 4/24 of teacher online questionnaire, phase 2, 2012).

One teacher expressed the following opinion, echoing the need to develop the 'skill' and the 'will' (Corno, 2008) in students:

> In terms of developing a positive attitude towards self-regulated learning skills, a child must firstly develop the skills required and then develop the motivation to use those skills. This is where the school needs to have a regulatory process in place to hold the students accountable for their behaviours. Schools need to develop processes so the completion of learning activities 'is just what we do'. It is not

dependent on the parents cajoling their children to complete the work

in a negative environment. If the school has a process where there are

real and consistent consequences for non-completion, they complete

the expectation. Then, over time, they develop normalcy about that

behaviour. (respondent 1/24 of teacher online questionnaire, phase 2,

2012)

Unlike the parent and student respondents, none of the teachers believed

that developing students' SRL skills was solely the province of the students,

perhaps demonstrating an educator's understanding of the need for support

in developing students' SRL skills.

6.5 Comparison of stakeholders' perceptions

Figure 6.4 on the following page compares stakeholders' perceptions of

whose role it is to develop students' SRL skills and highlights the contrasts in

viewpoints. Developing students' SRL skills was seen as a shared role

between all stakeholders (parents, students and teachers) by 16% (n=9) of

parents, 34% (n=87) of students and 42% (n=10) of teachers. However, 56%

(n=33) of parents, 8% (n=21) of students and 25% (n=6) of teachers believed

that the role should be shared between parents and secondary teachers only.

From this perspective, students did not have the responsibility to develop their

own SRL skills, an interesting viewpoint from quite a large number of

respondents given the 'self' in self-regulated learning. Further, 1.5% (n=1) of

parents, 25% (n=64) of students and 13% (n=3) of teachers believed that not only did students have no role to play in this development, but neither did parents. In other words, developing students' SRL skills should be the province solely of secondary teachers.
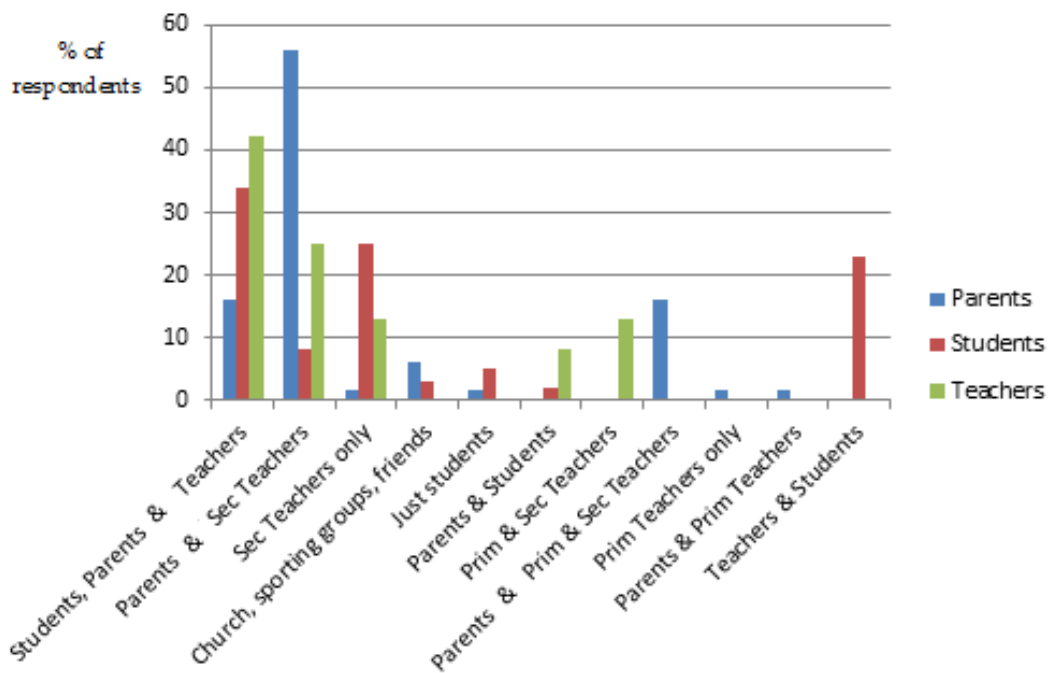
Figure 6.4: Comparison between parent, student and teacher perceptions on whose role it is to develop SRL skills (n=339)

Figure 6.4 also highlights the diversity of viewpoints. The results suggest that because stakeholders in a school could hold such differing views on whose role it is to develop students' SRL skills, it is essential that schools first gain an understanding of the perspectives of their stakeholders. With this information, schools can make informed decisions about the approach they will take. Even within the teaching body different teachers may have different approaches, some believing they have a role to play in developing

students SRL skills and others not. By understanding stakeholder

perspectives and by using these to inform a school policy or approach to

developing students' as self-regulated learners, schools can ensure they are

taking steps to meet the needs of their students. If schools have expectations

of students and parents, these need to be communicated and the appropriate

support provided.

6.6 Conclusion

There has been little prior research into the perceptions of students, parents

and teachers of the key responsibilities of developing students' SRL skills,

especially in the contemporary Australian secondary school context. This

study gives insight into the roles each group may play in developing

students' SRL skills.

As stakeholders' perceptions of who is responsible for developing

students' SRL skills are informed by a diverse range of background

experiences, it is not possible to generalise from this data. Instead this study

demonstrates the need for schools to investigate the views of stakeholders in

order to understand the expectations of their particular school community.

This knowledge can then inform the approach taken by the school to

developing students' SRL skills. An important finding from this research is

that few in this school community believed it was solely the province of the

student to develop their own SRL skills, with most stakeholders believing

that both parents and teachers had a role to play. This strengthens the argument for the need for further investigation into the nature of a whole-school approach to helping students develop SRL skills, and the school support needed by students, parents and teachers. The study highlights how viewpoints may differ not only between the different groups of parents, teachers and students but also within these groups. The research also suggests that secondary schools should explore the feasibility of primary schools helping students develop SRL skills before they transition to secondary schools.

While there was consensus that students alone are not responsible for developing their own SRL skills, the findings illustrate diverse views about how this responsibility should be shared. This underscores the importance of schools clarifying the roles they require their teachers, students and parents to play in helping students develop SRL skills. It is also necessary that schools explicitly communicate these expected roles to all parties in order to ensure the community has a shared understanding of the school's approach to developing students' SRL skills. Without this transparency, there will be conflicting views within and between each group and unmet expectations. Ultimately, this will affect students' opportunities to develop their SRL skills. A cohesive and consistent approach would ensure that all students, teachers and parents clearly understood the school's expectations of them. Once the

school had clarified expectations and communicated these to all parties, a plan could then be established and communicated. The school may need to provide appropriate training and support for the stakeholders so they can fulfil the roles outlined by the school.

In summary, this research has uncovered a number of recommendations for educators as part of a whole-school approach to developing students' SRL skills. Educators need to:

i) clarify the roles individual schools require their teachers, students and parents to play in helping students develop SRL skills

ii) explicitly communicate these expected roles to all parties

iii) establish and communicate a plan to provide appropriate training and support for the stakeholders.

These recommendations add to the guidelines already established in chapter 5 for a whole-school approach to developing SRL skills and are consolidated together in Table 8.1, page 257.

This chapter has explored the second research question, interrogating the views of stakeholders around responsibilities for developing SRL. The next chapter examines the third research question, looking at the impact of

technology on students' SRL skills development. In the final chapter I then

discuss the overall implications and recommendations for future research.

Chapter 7

Perceptions of the impact of technology on SRL

7.1 Introduction

Chapter 5 introduced the case school studied in phase 2 and examined the

approach taken by the school to develop students' SRL skills, exploring the

first research question as outlined in Section 1.3. In the previous chapter I

addressed the second research question, exploring how the case school

respondents perceived key responsibilities for developing SRL skills and the

implications of this.

This chapter focuses on the third research question, examining

stakeholders' perceptions of the impact of technology on students' SRL skills

development. It is important to note that this research question is not

exploring what technology can do to enhance students' SRL or indeed what

the impact of technology is on SRL skills development. Instead it is focused

on the perceptions of the stakeholders, understanding their viewpoints on

how they perceive the technology in their lives is impacting on students' SRL

skills development.

Technology was not given a narrow definition in this research question. Indeed, the 2014 National Assessment of Educational Progress (NAEP) Technology and Engineering Literacy Framework defines technology as "any modification of the natural world done to fulfil human needs or desires" (p.1). The definition does not specify individual devices or platforms such as iPads, tablets, laptops, Google, Facebook or Instagram. As this research is examining the stakeholders' perceptions it is interesting to note from their responses that there was a consistent perception of what is meant by 'technology'. In terms of hardware, it was computers, tablets and mobile devices and with respect to software, it was the Internet, productivity software such as word-processing applications, as well as social media sites, Apps and computer games.

In the context of this study, the case school had around 600 Mac laptops (for a student body of 950), with laptops assigned to teachers who then used them with their classes. In addition to this, many students brought their own laptops or tablets to school. A number of teachers had embraced technology in their classroom, for example, by creating Apps, exploring iBook authoring, wikis or robotics. However, many were only using technology in more traditional ways such as PowerPoint presentations. Overall, the school was becoming more relaxed and accepting of the use of personal devices, for example allowing students to take photos of the board

with their mobile phones. All teachers had to become competent in the use of Engrade, the online reporting system where parents and students could see student grades, comments and attendance information. Engrade also acted as a learning management system, with chat and email facilities that students and parents could use to contact teachers.

This chapter explores findings from the case study online questionnaire data, exploring the perceptions of students and parents of the impact of technology on students' SRL skills development. There were insufficient responses from teachers to the question on technology in the online questionnaire and the lack of meaningful data meant teacher responses could not be discussed in this chapter.

From a student body of 950, 256 (27%) students (age range 12 to 18) voluntarily completed the online anonymous questionnaire of five open-ended questions. Fifty-nine parents also participated. As part of the five-item online questionnaire, participants were asked: "How do you think technology is impacting the area of self-regulated learning?" During the pilot study the questionnaire was trialled to test the rigour of the survey instruments and feedback led to the following explanation being added to this question: "Some of the areas to consider might be: Is technology changing the skills needed for students to be self-regulated learners? Can technology be used to support the development of self-regulated learning skills? Is technology

impacting on any other areas of self-regulated learning for students?" While

self-regulated learning was defined using language students could

understand and relate to, technology was deliberately not defined to prevent

limiting the responses.

Findings demonstrated that the majority of the student and parent

respondents expressed positive perceptions of the impact of technology on

SRL skill development. In particular they viewed technology as providing a

speedier and more convenient research tool, helping students to be more

efficient and encouraging students to complete their schoolwork. However,

concerns were expressed about how technology also proved to be a

distraction from students' studies. By understanding student and parent

perspectives, educators can provide the support needed to ensure students

can make informed decisions about using technology to support SRL.

7.2 Students' perceptions of the impact of technology on SRL

Of the 256 respondents, 65% (n=166) expressed only positive viewpoints on

the way technology was impacting on them as self-regulated learners, while

8% (n=21) outlined only negative impacts. Figure 7.1 on the next page shows

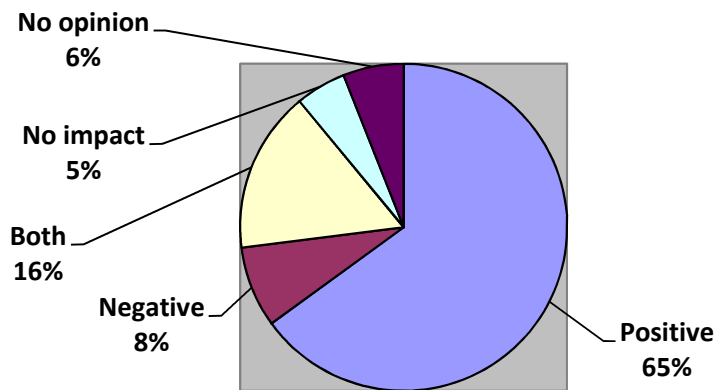the breakdown of students' perceptions of the impact of technology on SRL.

Figure 7.1: Students' perceptions of the impact of technology on SRL (n=256)

While 16% (n=41) of student respondents could see both sides, expressing both positive and negative responses, the majority of students had firm and decided opinions. Only 5% (n=13) stated they did not believe technology had any impact on the area of SRL. There were only a small number of students who seemed uncertain with 6% (n=15) of respondents not expressing an opinion.

7.2.1 Students' negative perceptions of the impact of technology on SRL

Out of the 259 student respondents, 24% (n=62) of students outlined negative perceptions (this includes data from those who expressed negative only or both positive and negative perceptions). These students expressed a range of reasons as to why they believed that technology was having a negative impact on the area of SRL, with the common themes identified in Figure 7.2 on the next page.
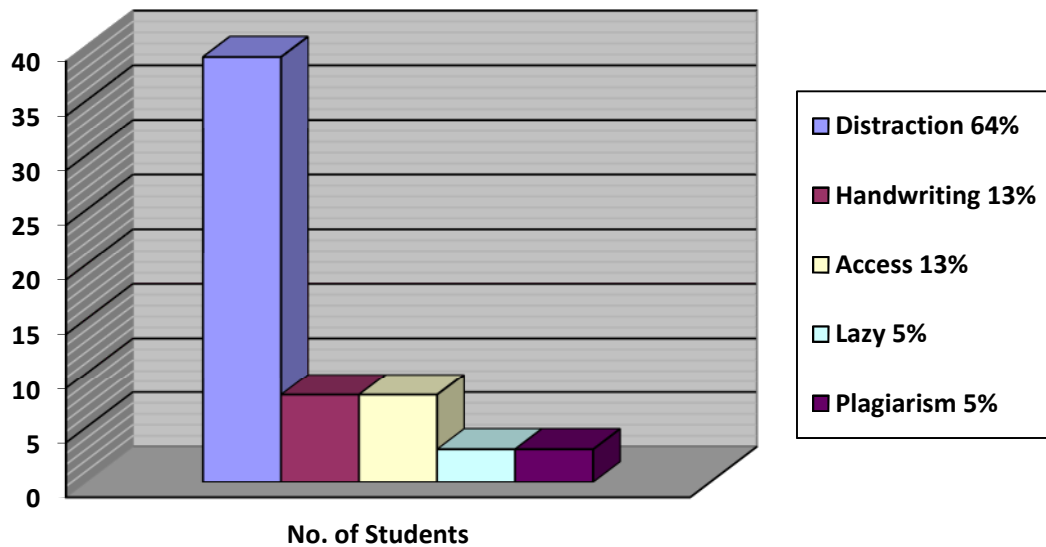
Figure 7.2: Students' negative perceptions of the impact of technology on SRL (n=62)

Three students (5% of the negative responses) stated that technology was making them lazy. A similar number of students (5% of the negative responses, n=3) raised the issue of plagiarism, with a student explaining that "some students just 'copy and paste' rather than putting it in their own words" (respondent 90/256 of student online questionnaire, phase 2, 2012). Students in these two categories were suggesting that the motivation needed for SRL was eroded through the use of technology as they were able to take short-cuts that negated them being active participants in their own learning.

Eight students (13% of the negative responses) were concerned about the inequity that could arise due to the unavailability of technology for all students or because some students had poor technological skills. A student stated: "These days if you don't have the Internet you are at a huge

disadvantage" (respondent 219/256 of student online questionnaire, phase 2, 2012). These students viewed technology as a tool to optimise their learning, making them more efficient and effective in their studies and so in turn more self-regulated in their approach to learning. Without access to this tool, or lacking the skills to use technology efficiently, these students felt they were being impacted in a negative way with respect to SRL. A student explained that submitting work online "can be daunting for others if they are not tech savvy" (respondent 219/256 of student online questionnaire, phase 2, 2012).

It was interesting that although the questionnaire asked specifically about the impact of technology on SRL skills, the effect on handwriting skills was a concern raised by a number of students (13% of the negative responses, n=8). A student wrote: "many have become dependent on technology way too much, which is impacting on their writing skills, spelling, grammar, punctuation and research skills" (respondent 151/256 of student online questionnaire, phase 2, 2012). Although this seems to be an issue unrelated to SRL, students saw the erosion of handwriting skills as an area of concern that they wanted to raise, as they believed poor handwriting could negatively impact their Year 12 final external examination results.

Despite this range of concerns, the overwhelming response from those with negative perceptions of technology indicated that technology was a distraction from students' studies (64% of the negative responses, n=40),

making it challenging for students to work effectively as self-regulated

learners. While many students simply stated in their questionnaire responses

that technology was a major distraction (often with added emphasis), some

students provided more details about their obsession with technology and

how it was preventing them from concentrating and focusing on their work,

both at school and in the classroom. For example, a student stated that

"students only think about technology" (respondent 133/256 of student online

questionnaire, phase 2, 2012). Respondents frequently mentioned that social

networking led to procrastination and took students off task. A student

explained the result as follows: "it is affecting our marks because of

Facebook" (respondent 32/256 of student online questionnaire, phase 2, 2012).

One respondent wrote that the school's policy of blocking Facebook on

the school network was helping students who found it difficult to regulate

their technology use. There was an awareness that it was not inherently

technology, but the "limitless amounts of entertainment and leisure activities"

(respondent 237/256 of student online questionnaire, phase 2, 2012) available

on the Internet that was the issue. Another student had the maturity to

observe that technology has a negative impact on SRL, depending "on the

students and their personal motivation" (respondent 75/256 of student online

questionnaire, phase 2, 2012). The following response captures the

predominant feeling of a number of the students:

For me personally, and I'll be honest, technology has gotten in the way of my learning at school. Sometimes I don't get to do my homework or assignments until later on because technology has greatly distracted me. It's a hinder and a blessing in one, to be honest. (respondent 106/256 of student online questionnaire, phase 2, 2012)

Given these responses it is timely to return to Zimmerman's (1986) definition of SRL as students who are motivationally, metacognitively and behaviourally active participants in their own learning process. Students who found technology a distraction were less focused on completing learning activities for school. Self-regulated learners are intrinsically motivated to set goals, to implement behaviours to optimise learning, and undertake metacognitive activities such as self-reflection and self-observation in order to assess their approach to their learning and make modifications as needed. Students who were struggling with technology as a distraction found it difficult to set learning goals they were able to achieve. A student explained this: "Technology does impact on my learning as social networking websites have become an addiction to the routine of someone in my age group" (respondent 92/256 of student online questionnaire, phase 2, 2012). Students struggling to manage technology as a distraction indulged in behaviours that negated rather than optimised learning and the

metacognitive processes they undertook were often associated with guilt and

a sense of helplessness to address or resolve this issue.

7.2.2 Students' positive perceptions of the impact of technology on SRL

Despite the strong evidence that a number of students struggled with the

distracting elements of technology, the majority of students (65% of student

respondents (n=166) as shown in Figure 7.1) had only positive perceptions of

the impact of technology on SRL. The breakdown of all positive student

responses (including those who expressed both positive and negative

perceptions: n=44, as well as positive only responses: n=166) is shown in
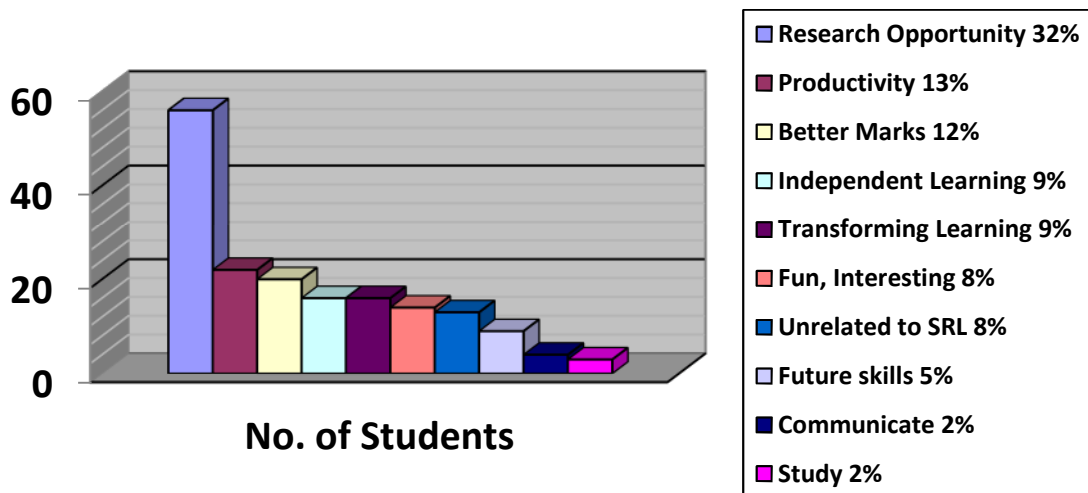
Figure 7.3.

Figure 7.3: Students' positive perceptions of the impact of technology on SRL (n=210)

A student explained their perceptions of the benefits:

> I believe that the use of technology has had a good effect on me personally because I find myself working much better. The teachers may have noticed that technology is keeping a lot of the students more on task most of the time. (respondent 175/256 of student online questionnaire, phase 2, 2012)

Yet another student could see opportunities to become a more self-regulated learner:

> By learning to ignore such distractions, most notably Facebook, I believe one builds a stronger self-regulating learning routine in turn benefiting one in the long run. (respondent 174/256 of student online questionnaire, phase 2, 2012)

Ease of research and timely access to information were commonly reported benefits (32% of the positive responses, n=67). One student explained that "technology allows us to have better access to information that in turn will help speed up the process of learning, communicating and sharing" (respondent 53/256 of student online questionnaire, phase 2, 2012). These students were focusing on the efficiency and behavioural aspects of SRL, better access to information allowed them to optimise procedural aspects of their learning, improving their planning and organisational SRL skills.

Other students looked beyond the compulsory work for school—technology allowed them to access further knowledge on topics of interest, thus increasing their incentive to learn. One student stated the advantages as follows:

> The Internet if used correctly can be a big asset of our daily learning. It allows us to seek more in-depth explanations and knowledge. (respondent 204/256 of student online questionnaire, phase 2, 2012)

Without technology, this research would be more difficult and time-consuming, decreasing the desire to learn and apply themselves to their work that is necessary for a self-regulated learner.

One student explained that a perceived benefit was that "technology allows us to research our own topics independently allowing us to scout our own information" (respondent 88/256 of student online questionnaire, phase 2, 2012). This ability to work independently with technology was a surprisingly minor theme (9% of the positive responses, n=19). However a number of students did see this as a benefit, for example, a student stated that "it teaches us to learn for ourselves and to become more independent" (respondent 23/256 of student online questionnaire, phase 2, 2012).

Others liked the fact that they could discover and learn on their own "without the teacher spoon-feeding you" (respondent 36/256 of student

online questionnaire, phase 2, 2012). This encouraged them to "develop work in our own way" (respondent 160/256 of student online questionnaire, phase 2, 2012), a hallmark of a self-regulated learner. Students also liked the flexibility so they could "continue learning within our homes" (respondent 162/256 of student online questionnaire, phase 2, 2012) and use it wherever they were with minimal assistance. One student pointed out that "much of the classwork is going online which is good as it can be easily accessed at home at any given time" (respondent 219/256 of student online questionnaire, phase 2, 2012). For these students technology was impacting on their SRL skills in a very positive way, allowing them autonomy over their learning, giving them choice and control and building their confidence in themselves as learners.

The value to productivity was also highlighted (13% of the positive responses, n=27). Students cited the speed and ease at which they could retrieve information and also use technology to be more organised, for example, by putting due dates into their phones. One student observed that "technology is impacting SRL because our generation does heavily rely on it to keep us updated and remind us about certain things" (respondent 33/256 of student online questionnaire, phase 2, 2012). Surprisingly few students (8% of the positive responses, n=17) referred to technology as being more fun, engaging or interesting than non-technology-based learning.

An important aspect of a self-regulated learner is that they have a strong sense of self-worth and self-efficacy (Schunk, 1991). While the following responses may at first glance not seem to be contributing directly to SRL, students who felt they were developing useful skill sets through their use of technology were building their sense of self-worth. For example, a small number of students (5% of the positive responses, n=11) were aware of the possible benefits in their future of mastering present day technology. One student explained the benefits of "learning how to work through a new set of skills which will benefit us in the future" (respondent 160/256 of student online questionnaire, phase 2, 2012). Students viewed the use of technology as training in skills they may need later in life or in the workplace. One student explained that "it is helping us keep up with the developing world and allows us to expand our horizons to see more" (respondent 64/256 of student online questionnaire, phase 2, 2012). In these instances technology was impacting students through building their sense of self-worth, this in turn contributes to goal orientation and motivation levels, leading to students taking actions that optimise their learning – all aspects that contribute to the development of a self-regulated learner.

In a similar fashion, students' experiences of learning in the classroom were impacted by technology. Some students recognised that technology had transformed the way they experienced their classes at school, with a student

giving the example that "teachers are able to broaden their teaching activities" (respondent 247/256 of student online questionnaire, phase 2, 2012). Multi-modal activities (for example videos, images) were given as illustrations of the ways students could now better engage with what they were learning, or gain a different perspective on concepts. There were a number of comments (9% of the positive responses, n=19) indicating that technology "has changed the learning environment at our school" (respondent 6/256 of student online questionnaire, phase 2, 2012). Students were finding the use of technology in their learning improved their engagement, again contributing to their development as a self-regulated learner.

While a number of students (12% of the positive responses, n=25) perceived technology as helping them get better marks, there was no explanation as to how technology was providing this benefit. Interestingly, a few students stated it would decrease marks (due to being a distraction).

Unexpectedly few students (2% of the positive responses, n=4) mentioned the benefits of technology as a communication tool that allowed them to find assistance if they needed it. One student did mention that "it is giving students the option to contact friends about work" (respondent 138/256 of student online questionnaire, phase 2, 2012), but none of the students (unlike the parents) discussed contacting teachers, despite there

being an online mechanism in place at this school (Engrade) to allow students to do so. Similarly, only a few students (2% of the positive responses, n=4) mentioned that they used technology to help them study for a test, for example, a student explained "we now can use our laptop at lunch time to study for up-coming tests" (respondent 58/256 of student online questionnaire, phase 2, 2012).

7.3 Parents' perceptions of the impact of technology on SRL

Of the 59 parent respondents, 42% (n=25) expressed only positive viewpoints on the way technology was impacting on students as self-regulated learners, while 10% (n=6) outlined only negative impacts. Figure 7.4 shows the breakdown of parents' perceptions of the impact of technology on SRL.
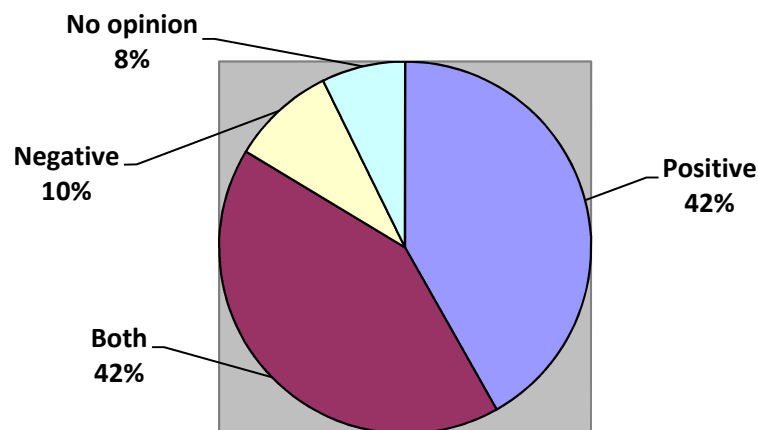

Figure 7.4: Parents' perceptions of the impact of technology on SRL (n=59)

A number of parents could see both sides, with 42% (n=25) expressing both positive and negative responses. The remainder, 8% (n=5), were unsure or did not express an opinion.

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7.3.1 Parents' negative perceptions of the impact of technology on SRL

Among the negative impacts of technology on SRL perceived by parents, technology as a distraction was of the greatest concern. This mirrors the findings from the student data. The breakdown of the parent responses on negative perceptions (including data from those who expressed negative only or both positive and negative perceptions) is shown in Figure 7.5.
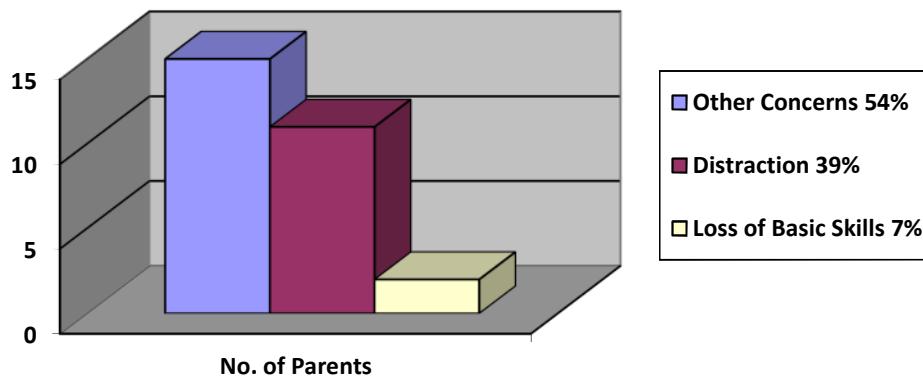
Figure 7.5: Parents' negative perceptions of the impact of technology on SRL (n=31)

This large percentage allocated to the 'other concerns' category highlights the diversity of responses from the parents. Concerns were numerous and wide-ranging and in this category each concern was raised by a single parent. In many cases the concerns outlined were unrelated to SRL and therefore irrelevant to this study. Areas of perceived negative impact raised by a parent respondent were concern that the ease of access to information made students lazy and "inhibits or stifles the get-up-and-go to meet and discover the practical reality of learning as an experience"

(respondent 17/64 of parent online questionnaire, phase 2, 2012). Parents

believed that many students saw technology, and in particular the Internet,

as a bandaid solution when it came to their research needs. One parent was

concerned that "Google makes finding information simple and 'cut/paste' is

just too easy to do and doesn't help students absorb information"

(respondent 40/64 of parent online questionnaire, phase 2, 2012). The issue

was raised of students sometimes taking answers from the web, without

doing background readings to gain an insight into the topic. As with the

student concerns in this area, parents perceived that the ease of accessing

information was counter-productive to students developing SRL skills.

Other areas of perceived negative impact discussed by parent

respondents were unrelated to SRL: the loss of basic skills (such as spelling

and grammar); handwriting issues; the pitfalls around anonymity; privacy

and discretion; the expense; reduced interaction between students and

teachers; dependence on technology and lack of resilience when technology

fails; the impact on creativity and original thinking; lack of scaffolding for

technology use; the possibility of students perceiving technology as novelty

rather than a tool (an instance where parents and students had contrasting

viewpoints); constant changes and difficulty in keeping up with changes; and

over-reliance on technology leading to neglect of other learning tools and

experiences.

Technology as a distraction was by far the largest single response (39% of the negative responses, n=12) while the other concerns were numerous and wide-ranging (however all categories were less than 5% each, usually a single respondent) and in some instances unrelated to SRL.

The following response captured the feelings of a number of parents about the impact of technology on SRL: "As much as I love technology, I also fear what technology could do to our children" (respondent 51/64 of parent online questionnaire, phase 2, 2012). Parents definitely had a number of concerns around the use of technology as a tool to support students in developing their SRL skills. Many parents felt that technology was making it difficult for students to be self-regulated learners as it distracted them from completing their work for school. This was not unlike the students' perceptions (39% of negative parent responses, n=12 compared to 64% of negative student responses, n=40). Parents had found that technology was a "hindrance to maintaining focus" (respondent 13/64 of parent online questionnaire, phase 2, 2012). There was concern that students tended to stray off task, for example, a parent wrote:

> Sometimes the student will be side-tracked whilst on technology and
> not much learning is achieved. I also find that it is taking a lot longer
> to complete tasks as friends are contacting without my knowledge

> while it is study time. (respondent 33/64 of parent online
>
> questionnaire, phase 2, 2012)

Parents seemed unsure how to manage this situation, with a parent stating:

> Students are spending more time in Facebook and other social
>
> network sites. School/Parent need to have some guidelines on how to
>
> use these sites productively or limit their use. (respondent 19/64 of
>
> parent online questionnaire, phase 2, 2012)

Parents did not know how to help minimise the distractive impact of technology on SRL skills. When it came to the negative impacts of technology on SRL, the majority of parents were very focused on how they could help their students become more self-regulated when choosing between using technology for their learning, or technology for leisure activities.

7.3.2 Parents' positive perceptions of the impact of technology on SRL

Parents saw the main advantage of technology for SRL to be its use as a research tool (cited by 22% of positive parent responses, n=11) shown in Figure 7.6 on the following page.
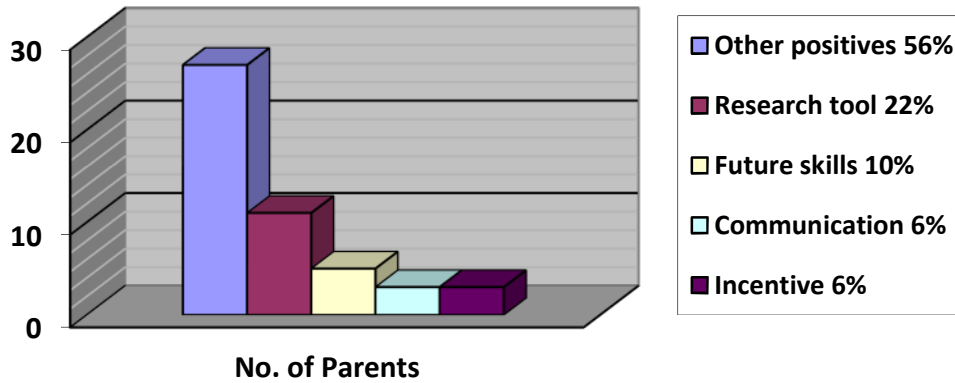
Figure 7.6: Parents' positive perceptions of the impact of technology on SRL (n=50)

As with the negative concerns, the large percentage allocated to the 'other positives' category highlights the lack of consensus among the parent respondents as to their perceptions of the impact of technology on students' SRL skills development. While there were more categories uncovered in the positive perceptions than the negative perceptions, many parents again gave responses that were unrelated to SRL or this research. Some of the individual responses listed were technology giving equal opportunities, reducing the number of textbooks needed and helping students to explore more.

Parents perceived that technology was being used as a tool to make students more efficient in their learning. While students focused more on the ease of use and speed of accessing research materials, parents also pointed out the advantage of having current information, drawing a contrast with the days of printed encyclopedias. A number of parents also pointed out that the

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Internet gave students access to multiple sources of information, allowing them broader research scope. Parents perceived that this access improved motivation levels to learn as students were more engaged in their learning, particularly given the currency of the information they were working with.

Two parents (6% of the positive responses, n=3) also discussed how working independently with technology gave students a greater incentive to learn:

> It is making the students a lot more independent … working with technology seems to make them want to learn … they enjoy using computers. (respondent 26/64 of parent online questionnaire, phase 2, 2012)

Building motivation to learn is an essential factor in students becoming self-regulated (Entwistle & McCune, 2004). One parent commented that "I love how technology is used, I love how the students are motivated to be creative with schoolwork" (respondent 32/64 of parent online questionnaire, phase 2, 2012). Capturing students' interest so that they are motivated to do their schoolwork leads to students looking for cognitive and resource strategies to plan and organise their learning; hallmarks of a self-regulated learner (Weinstein, 1988).

Like the students, parents (10% of the positive parent responses, n=5) also pointed out the importance of students being kept up to date with technological skills they might need in the future. Having skills in place to make learning more efficient helps builds students' sense of self-efficacy. Some parents also expressed satisfaction about the fact that technology made communication easier (6% of the positive responses, n=3). A number of these parents discussed the school's introduction of Engrade, the school's online reporting and learning management system, which allowed parents to stay informed about their child's progress and students to seek help:

> Engrade is our online service for parents and students to check their progress in class. Students can self-assess and ask for help from teachers if needed with the click of a button. (respondent 44/64 of parent online questionnaire, phase 2, 2012)

Self-regulated learners need access to feedback in order to self-evaluate their progress and modify their learning behaviours accordingly (Paris & Winograd, 2003). Parents were pleased that the technology was in place to make this easier for students. A number of parents also discussed how technology allowed peers to support each other through online communication tools such as Skype and Facebook.

7.4 Comparison of parents' and students' perceptions of the impact of technology on SRL

The comparison between the perceptions of students and parents of the

impact of technology on SRL is shown in Figure 7.7.
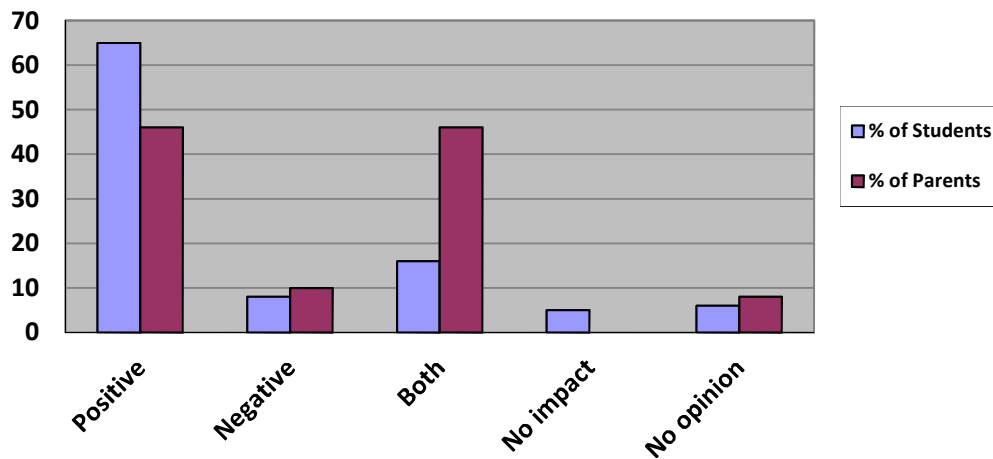
Figure 7.7: Comparison of parents' and students' perceptions of the impact of technology on SRL

A similar percentage of parent respondents, 10% (n=6), compared to 8%

(n=21) of students, expressed reservations that technology was having a

negative impact on SRL, while 46% (n=27) of parents (compared to 65% of

students, n=166) expressed a positive view. Eight per cent of parents (n=5)

and 6% (n=15) of students either did not express a view or stated that they

did not know or had no idea. More than double the number of parents than

students could see both positive and negative impacts (37% or n=22 of

parents compared to 16% or n=41 of students). Perhaps this is due to parents,

with greater life experiences, being able to see more issues of how technology

is impacting students' SRL skills. While most students had a definite opinion,

parents were often unsure or divided in their opinion of the impact of technology on SRL, and were more able to see both sides of the issue. For example a parent stated that "the use of technology in the educational system is a double edged sword" (respondent 28/64 of parent online questionnaire, phase 2, 2012).

7.5 Conclusion

The majority of students and parents at the case study school saw technology as a tool to encourage and empower self-regulated learners, giving them ease of access to information at the time and in a manner of their choosing. This was perceived to enhance students' sense of self-control and efficacy, building positive self-perceptions contributing to the motivational basis for self-regulation.

Use of technology as a productivity tool was also reflected in the findings from the case study. Technology was recognised as a helpful tool to assist with research by the majority of students. Parents and students appreciated the opportunities technology gave for research and perceived that the speed and ease of use led to individual investigations beyond the set curriculum, building students' stimulus for learning. Anderson and Balsamo (2007) referred to the concept of 'just-in-time' learners. This term refers to students whose past experiences have given them the confidence that they will be able to quickly locate information when needed. Students in the case

school displayed this confidence about their ability in this area. The case study findings demonstrated that technology use contributed to students' development as self-regulated learners by providing them with tools to be more efficient learners and enabling them to take greater control of their learning.

While it is encouraging that many students perceived that technology offered benefits that educators have long aimed for, not all students recognised the same benefits, or at least did not articulate these in their responses. For example, over 90% (n=230) of students did not mention the ability to work independently as one of the impacts of technology on SRL. Nor did many students (only 2% of the positive student responses, n=4) perceive that technology was impacting their access to communication and feedback; a likely benefit suggested by Jonassen (2008). From these findings it seems that for schools to ensure that students are maximising their use of technology as a tool to help students become self-regulated, schools may need to first determine how technology could be used to promote SRL then clearly articulate this to students.

Just giving students access to technology, without targeted support, is not enough. Charsky et.al (2009) argued that even millennials need training in how to use technology as a communication tool that can facilitate teamwork. For example the case school could have trained students to use the

Engrade system (the school's online reporting and learning management system) to contact teachers when help and feedback was needed, help-seeking being a key characteristic of a self-regulated learner (Paris & Paris, 2001). The school could also suggest to students other collaborative and sophisticated productivity tools such as 'Evernote' for social note-taking. Rose and Meyer (2002) pointed out that one of the great powers of digital media is the flexibility and versatility of these forms of interaction.

Other uses of technology such as collaborative online flashcard sites, collaborative wikis to build group study notes, making podcasts or mp3 recordings of notes are further examples of how students could be trained in technology use to build the range of strategies needed by a self-regulated learner: A learning environment where there is a community of learners supports the acquisition and development of SRL strategies (Beishuizen, 2008). Few students in the case school showed any evidence that they were taking advantage of the opportunities that existing and emerging technologies offered for communication, feedback and new approaches to studying.

Despite the overwhelmingly positive perception of the role of technology in supporting SRL, the questionnaire responses highlighted concerns around students' challenges in self-regulating their use of technology. It was clear that students needed more assistance in developing

strategies to manage the balance between technology used for school work and technology used for recreational purposes. While the lines between these may be blurring (students using their personal Facebook accounts to ask friends a question about an assignment, for example), the data revealed that many students were struggling to control their addiction to certain forms of technology, from Facebook, to gaming, to simple web surfing. Ebner, Nagler and Schön (2012) found that students' addiction to Web technologies has increased.

Parents were also unsure how to manage this problem. As this is something that is happening outside of school hours, it is an area that educators tend not to address. In order to help students become more self-regulated in their learning, educators need to provide students with practical support in how to deal with technological addictions and distractions. Bennett, Maton and Kervin (2008) also made the interesting point that although students use a wide range of technologies in their lives, it is dangerous to assume that they are all competent in the use of all forms of technology. They argued that context and individual experiences must be taken into account.

This research has therefore uncovered a number of recommendations for educators to take a whole-school approach to supporting students to

engage with technology in a way that will facilitate the development of SRL skills.

Educators need to:

> i) provide strategies, guidance and tools on how to manage technology as a distraction in order to modify the impact on the behavioural aspects of SRL

> ii) identify available tools and approaches in both existing and emerging technologies that can be used to develop students' metacognitive, motivational and behavioural SRL skills.

These recommendations add to the guidelines already discussed in the previous two chapters for a whole-school approach to developing SRL skills and are presented as overall guidelines in Table 8.1, page 257.

Chapter 4 described how phase 1 of this study identified across schools four common approaches to helping students develop SRL skills: explicit teaching in pastoral and welfare programs, curriculum integration, use of mentors, and a technology-mediated approach. However, the use of technology-mediated processes focused only on the school intranet, class portal, or Moodle as a tool for helping students become self-regulated. The findings from analysis of the phase 2 case study online questionnaire data outlined in this chapter indicate that schools may need to educate students

about ways to use technology (as a learning and communication tool), and ways to manage technology (when it proves to be a distraction) to further foster SRL. The work of Prensky (2001) on digital natives has led many educators to assume that their students are technically savvy by virtue of being a member of the 'net generation'. However, Bennett, Maton and Kervin (2008) in a critical review of the research evidence concluded that membership of a particular generation is not sufficient to account for differences in how learners use technology. They found that there was no empirical research to support the idea of a 'digital native'. This research indicates that students at the case school were not using technology in the diverse and innovative ways that might be expected. Therefore empowering students to engage more broadly with technology will play an important role in a whole-school approach or framework to developing students' SRL skills.

The final chapter of this thesis will explore the implications of the findings from both phases of this study and will make recommendations for future research.

Chapter 8

Discussion and conclusion

8.1 Introduction

The first chapter of this thesis introduced the main research question: How can secondary schools embrace a whole-school integrated approach to helping students develop self-regulated learning (SRL) skills? Two secondary research questions were also established relating to perceptions of key responsibilities in developing students' SRL skills and perceptions of the impact of technology on SRL skills. The significance of this research was outlined, arguing that a coherent and systematic whole-school approach to developing SRL is needed. This thesis addresses this gap in the literature by developing guidelines for educators grounded in both the considerable body of SRL literature and the findings from this research project.

The second chapter reviewed the literature around SRL, exploring the social cognitive perspective of SRL and establishing a framework for the data analysis based on recommendations for classroom teachers to help students develop SRL skills. Chapter 3 introduced and justified methodological

choices and outlined the two phases of the study: the initial online survey of 54 secondary schools and the in-depth case study of the selected best practice school. As research into SRL has been dominated by quantitative studies the qualitative perspectives included in this study were intended to broaden the scope of research in the SRL field. Chapters 4 to 7 presented the research findings. A significant outcome of this thesis is the new research-informed guidelines developed from these findings and presented in section 8.3 (Table 8.1, p.257), for an integrated whole-school approach to helping students develop SRL skills in secondary schools. These new guidelines for policy and decision-makers address the gap in the literature in this area.

This final chapter provides an overview of all findings and sets out the implications of this research. Section 8.2 uses the findings discussed in chapter 4 from the phase 1 online survey of 54 schools to highlight the need for a whole-school approach to developing students' SRL skills. Section 8.3 outlines the overview of guidelines for a whole-school approach developed from the phase 2 case study data and discussed in chapters 5, 6 and 7. These guidelines emerged from the findings discussed in these chapters. Analysis was based on the theoretical framework developed from the synthesis of literature on recommendations for classroom teachers for developing students' SRL skills (described in chapter 2).

Section 8.4 uses the findings from chapter 6 to argue the importance of schools clarifying and communicating expected roles for stakeholders in the development of students' SRL skills. Section 8.5 argues that parents' and students' perceptions of the impact of technology on SRL skills development, discussed in chapter 7, create a dual role for schools. Schools need to help students find ways to use technology as a tool to empower the development of students' SRL skills while simultaneously helping students with strategies to manage their personal use of technology. Section 8.6 discusses the limitations of this research, section 8.7 outlines recommendations for future research and section 8.8 concludes the thesis.

8.2 Highlighting the need for a whole-school approach to SRL

The main research question focused on how secondary schools can embrace a whole-school practice approach to helping students develop SRL skills. To answer this question it was necessary to understand how schools view their role in helping students develop SRL skills and to examine the approaches taken by schools. This was the purpose of the first phase of this research project.

The outcome of phase 1, as discussed in chapter 4, was an understanding that there is a lack of consistency across schools in the strategies taken and an overall absence of whole-school approaches to helping students develop SRL skills. These findings underscored the

importance of developing guidelines for an integrated whole-school approach. In Australia there is no nationwide 'self-regulated learning curriculum'. Nor is there a national or state-wide policy on how schools should approach the development of SRL skills. The findings from the first phase of the research discussed in chapter 4 revealed that schools were not using best practice to develop students' SRL skills. Instead, there were four main ways schools were attempting to address development of students' SRL skills:

- explicit teaching in school pastoral and welfare programs

- use of mentors for struggling students

- curriculum integration where possible

- use of technology-mediated approaches.

The first of these four approaches, explicit teaching in school pastoral and welfare programs, was used by 48% (n=26) of respondents who indicated that they did not attempt to take an integrated, whole-school approach to the development of SRL skills. Instead they targeted students in a particular year for skill development through study skills seminars. Most schools developed their own material for these seminars, while two schools mentioned inviting guest presenters. Mentoring was viewed by 20% (n=11) of the respondents as an effective approach at their school as it allowed the individualisation of

skill development. Curriculum integration, an approach more in line with the research outlined in chapter 2, was the focus of 13% (n=7) of survey respondent schools. Only 10% (n=5) used technology-mediated approaches such as an online learning log or a learning management system such as Moodle.

Apart from the school selected as the case school, not one of the schools surveyed in phase 1 had school-wide policies and practices in place to ensure that SRL skills were being developed across the school. Yet all respondents believed the school had a responsibility for the development of students' SRL skills. The data revealed a wide variance among school leaders in their perceptions of the role of the school and its approach to helping students develop SRL skills. Two of the surveyed schools could not actually recount any proactive steps their school was taking in fostering SRL skills. Only a quarter of those surveyed had any policies in place to address the development of SRL skills. As argued in chapter 4, the phase 1 survey revealed a distinct lack of consistency and various piecemeal approaches to developing students' SRL skills. Only the school selected to be the case school for phase 2 demonstrated any evidence of a coherent, whole-school approach that gave students the strategic guidance and resources to help them develop SRL skills.

The lack of consistency in the approaches of the 54 Australian secondary schools surveyed, the diversity of viewpoints on the role the school should play in SRL development, and the focus of previous research on single-teacher approaches to developing students' SRL skills are findings that underscore the importance of interrogating comprehensive whole-school approaches.

8.3 Overview of guidelines developed for a whole-school approach to SRL

Through the in-depth case study described in chapters 5, 6 and 7 this research was able to identify whole-school strategies for helping students develop SRL skills. The strategies were analysed using the theoretical framework developed in chapter 2. This analysis led to the development of evidence-based guidelines for a contemporary whole-school approach to helping students develop SRL skills.

Table 8.1 on the following page brings together guidelines developed from the findings discussed in:

- chapter 5 (guidelines 1 to 6)

- chapter 6 (guideline 7)

- chapter 7 (guideline 8).

Guidelines for an integrated whole-school approach to developing SRL skills	
1. To develop teachers' capabilities to build students' SRL skills, the school:	1.1 develops the school leadership team
	1.2 establishes teaching enrichment days
	1.3 develops an open classroom policy to foster peer learning
	1.4 establishes comprehensive support programs for new scheme teachers and existing teachers
2. To build teacher expectations and student belief in students' academic capability, the school:	2.1 challenges teacher perceptions of students' abilities
	2.2 works to nurture student self-belief and sense of self and persuade them of their ability to achieve
	2.3 implements an award system for students
3. To create a school environment conducive to SRL skill development, the school:	3.1 articulates and embeds a clear vision for the school with a school focus on deep learning
	3.2 reassesses the professional language used
	3.3 formalises procedures affecting SRL skill development
	3.4 makes evidence-based decisions on whole-school SRL practices
	3.5 systematises accountability and continual improvement
4. To facilitate peer interaction to support SRL skills development, the school:	4.1 improves students' interpretation of assessment questions using peer interaction e.g. HPF (Highlight, Peer, Feedback)
	4.2 offers small group study sessions
5. To systematise opportunities for modelling and scaffolding of SRL strategies, the school:	5.1 highlights to students strategies the school is targeting
	5.2 develops students' summarising skills
6. To embed opportunities for students to reflect on their SRL skills development and gain feedback from teachers, the school:	6.1 develops achievement criteria for students to self-assess and receive teacher feedback on subject learning outcomes
	6.2 evaluates progress of students and has teachers give regular feedback
	6.3 schedules additional teacher feedback opportunities
	6.4 schedules reflective activities and goal setting tasks
	6.5 strengthens the concept of learning preparation (homework) as an opportunity for feedback
	6.6 sets benchmark standards and encourages resubmission
7. To ensure the school community has a shared view of the roles of all stakeholders, the school:	7.1 clarifies the roles individual schools require their teachers, students and parents to play in helping students develop SRL skills
	7.2 explicitly communicates these expected roles to all parties
	7.3 establishes and communicates a plan to provide appropriate training and support for the stakeholders
8. To take a whole-school approach to the use of technology to foster positive impacts on developing students' SRL skills, the school	8.1 provides strategies, guidance and tools on how to manage technology as a distraction in order to modify the impact on the behavioural aspects of SRL
	8.2 identifies available tools and approaches in both existing and emerging technologies that can be used to develop students' metacognitive, motivational and behavioural SRL skills

Table 8.1:Guidelines for an integrated whole-school approach to developing SRL skills

Guidelines 7 and 8 evolved from the findings in chapters 6 and 7 and are discussed in section 8.4 (guideline 7) and section 8.5 (guideline 8).

The first research question focused on whole-school approaches to developing students' SRL skills. The in-depth case study in phase 2 and the findings outlined in chapter 5 led to guidelines 1 to 6 summarised in Table 8.1. Guidelines 1 to 6 were initially presented in Table 5.1 on page 132 and page 133. Table 5.1 brought together the following:

- the theoretical framework used for data analysis (developed from the synthesis of literature on recommendations for classroom teachers for helping students develop SRL skills and described in chapter 2)

- guidelines for a whole-school approach to helping students develop SRL skills (informed by the findings of the second phase of this study and discussed in chapter 5).

These guidelines indicate that, in order for a whole-school approach to be successful, schools need to provide support for implementing whole-school practices, regularly evaluate the practices and put in place processes to ensure teacher accountability. For the case school an open classroom policy with scheduled viewing of lessons helped the school to create an atmosphere of accountability. It is also necessary that schools develop teachers' professional skills in SRL such as the Teaching Enrichment Days

the case school implemented. By establishing processes and systems schools can provide teachers with the support they need to implement SRL strategies.

This research gives school leaders, practitioners and policy makers an evidence-based framework for exploring implementation of a whole-school approach to SRL skills development. By providing researchers with a framework to explore this new perspective on SRL, this study has laid the groundwork for future studies to explore further the implementation of innovative whole-school SRL practices. Recommendations for future research in this area are outlined in section 8.7.

8.4 Clarifying and communicating expected roles for stakeholders

The second research question focused on stakeholders' (parents, teachers and students) perceptions of key responsibilities for developing students' SRL skills. Little prior research had explored this question of perceived responsibilities for SRL skills development, especially in contemporary Australian secondary education contexts.

Chapter 6 outlined the implications of the viewpoints expressed in the student, parent and teacher questionnaires of the case study school. The responses indicated that parents and students in the case school held varying attitudes about their roles and the role of the school in developing students'

SRL skills. Viewpoints differed not only between the groups, but also within them. Of the parents who completed the questionnaire, 56% (n=33) viewed SRL skill development as a shared role between parents and teachers only, as did 25% (n=6) of the teachers. Yet 64% (n=164) of the students believed that becoming a self-regulated learner was at least in part their own responsibility.

This divergence in perspectives demonstrates the importance of schools eliciting the views of stakeholders in order to understand the expectations of their school community. These views can—and should—inform the approach taken by schools to helping students develop SRL skills and should be integrated into schools' SRL policies and practices. If schools do not address explicitly the diverse perspectives within the school, then it is likely to be difficult for school communities to work together to develop students' SRL skills. In the case school there were a wide range of perspectives as to whose responsibility it was to develop students as self-regulated learners as shown in Figure 6.4 on page 216. Without clarification and transparency, conflicting views within and between each group may result in unmet expectations and a lower likelihood that students will develop SRL skills.

These findings also emphasise the need for schools to clarify roles and determine explicitly how schools will meet the goal of helping students develop SRL skills. Schools need to communicate these roles and the actions

taken to ensure that the school community has a shared and consistent understanding of the approach to SRL skills development and stakeholders' various roles and contributions. Schools may need to educate stakeholders in order to better align the school's position and the views of its stakeholders.

After schools clarify expectations and communicate these to the stakeholders, schools would then need to provide appropriate training and support to all parties for their role in developing students' SRL skills. For example, many parents are eager to help but they lack the confidence or knowledge to do so, as their responses revealed in chapter 6.

It may seem paradoxical that self-regulated learning—which seems to imply a solitary activity on the part of the student—requires parental and teacher support. The 'self' in self-regulated learning could suggest that developing SRL skills was solely the responsibility of the student. However an important finding from this research is that the majority of stakeholders believed that students need help from both parents and teachers to manage their SRL skill development. This strengthens the argument for further research into whole-school approaches to helping students develop SRL skills and investigation into how schools can provide the support that parents, teachers and students need to fulfil their role in the development of students' SRL skills. Recommendations for future research in this area are outlined in section 8.7.2. Schools therefore need to clarify and communicate expected

roles as outlined in guideline 7 in Table 8.1 as it is clear that parents and

teachers have an important role to play in the development of students' SRL

skills.

8.5 Facilitating students' engagement with technology to enhance SRL

The final research question explored stakeholders' perceptions of the impact

of technology on students' development of SRL skills. The findings discussed

in chapter 7 uncovered a tension between the use of technology as a tool to

help students be more self-regulated (such as the use of electronic reminders

or tools to manage resources) and the potential for technology to become a

distraction from their studies (for example, through gaming and social media

addictions). Managing this tension is the challenge students face as self-

regulated learners.

The majority of the student and parent respondents were positive in

their perceptions of how technology was affecting students' SRL skill

development. Despite this, students at this school were not leveraging

technology to its full potential as a learning tool or using it to empower

themselves as learners in the ways discussed by Shank and Cotten (2014). A

significant proportion of the students (32%, n=67) explained that for them

technology impacted on their SRL skills as it improved their efficiency and

motivation for research. Only a small number of students discussed the use of

technology for other activities that could support the development of SRL

skills such as improving productivity (13%, n=27) or communicating with

peers or teachers (2%, n=4). These figures echo findings by Cranmer (2006),

who found that the main use of the Internet by children and young people

was simply to locate information using similar techniques they would use in

more traditional research. Although young people sometimes used revision

sites to prepare for exams, they seldom used email to seek advice; nor did

they take advantage of other possibilities on the Internet to help them with

their learning. Her conclusion was that in some ways the Internet has simply

become a new reference tool for students. The findings outlined in this thesis

show that few students were taking advantage of the opportunities available

in existing and emerging technologies for increased communication or

enhanced learning experiences. Feedback is essential for a self-regulated

learner to engage in the metacognitive process of assessing their approach to

learning and adjusting their approach with respect to the tools they are using

for their learning or the way in which they are using these tools (Schunk,

2001).

Of particular interest was the high level of concern among both

students and parents about technology as a possible distraction from learning

in particular in the home environment. Respondents suggested that

technology was negatively affecting students' abilities to self-regulate their

learning due to these distractions. Of the students who felt technology was impacting on their SRL skills in a negative way, 64% (n=40) found technology to be a major distraction from their learning, a view echoed by 39% (n=12) of parents in this category. Parents also expressed anxiety at not knowing how to manage this situation. This concern echoes discussions in the literature. For example, Bowman, Levine, Waite and Gendron (2010) found that students multi-tasking with technology (using technology for learning activities simultaneously with leisure activities) will take an extended time to complete academic tasks. The findings outlined in chapter 7 underscore the importance of giving students assistance in exploiting the benefits of technology as a tool for promoting SRL skills (such as using Skype for discussions or wikis for collaborative note-taking) while also helping them manage its potential distractions (by, for example, using blocking tools such as SelfControl and Cold Turkey).

This exploration of views about how technology is affecting students' SRL skill development suggests that schools could benefit from regular audits of technology use in their school. This would give schools a greater understanding of the ways in which students are using technology as a tool for learning. For example, schools could uncover productivity tools students are using to remind them of academic deadlines. Perhaps more importantly, schools could also discover how students are *not* using technology. For

example, the students in the case school were not taking advantage of the opportunities to use technology as a communication tool to support their learning, despite having access to a mechanism in place to do so (Engrade, the school's online reporting and learning management system). Regular technology use audits in schools could provide detailed information about students' training needs.

This research has indicated that there is much more to learn as to how technology might be used to foster SRL approaches. While parent and student perceptions provide interesting insights into perceived positive impacts of technology, this research highlights the need for researchers to explore interactions between technology use and the development of SRL skills, as discussed in guideline 8 in Table 8.1 and the recommendations for further research in Section 8.7.3.

8.6 Limitations of the research

Although the field of SRL has attracted extensive research since the 1980s, published studies have not addressed SRL from a whole-school perspective. This thesis therefore represents a pioneering endeavour in this area, heralding an innovative and productive direction for future SRL research.

A limitation of the phase 1 online survey of 54 schools was that all the schools surveyed were secondary schools from the Sydney metropolitan region only. This demographic restriction was necessary for logistical

reasons. The restriction means that the school approaches to developing students' SRL skills uncovered and described in chapter 4 are from a narrow geographical band. Future studies could explore experiences from a greater range of schools. The desirability of broadening the research from secondary schools to explore whole-school approaches to developing students' SRL skills in primary schools and in tertiary education is discussed in the recommendations for future research in section 8.7.

A limitation of the case study in phase 2 of this research lies in the nature of the case study methodology. While the case study methodology allows detailed insights into a school's whole-school practices for developing students' SRL skills, the findings reflect a snapshot of only a single school, albeit a best practice approach. The perceptions of the stakeholders and participants on technology in SRL development are only a function of a single case. The case school was selected from the phase 1 participants as the school demonstrated evidence of a systematic whole-school approach to developing students' SRL skills. Despite this purposive sample, it is not possible to generalise from a single case (Yin, 2009). However, broad implications and guidelines can be drawn from this in-depth case study analysis and these can then be further developed in future research, as discussed in the next section. It is also important to note that constraints on time led to a limited view of the life of the case school. Ideally the researcher would like to be immersed in the

culture of the school to gain a deeper understanding of the case. As a doctoral study, resources were limited and time needed to be apportioned accordingly. This constraint on time also meant that questions such as why the case school was taking such a different approach to the other schools examined was not able to be explored. Therefore this research, while giving an accounting of one school's school-wide SRL practices, does not explore how they were assembled in this place and time and how they were sustained.

Self-reporting—as in the online survey and questionnaires—is also an issue to be considered. One of the limitations of self-reported data is that it can rarely be verified independently. This is particularly so when the survey explores individual attitudes and perspectives. For example, a respondent who completed the online survey for phase 1 may not have been aware of all of the actions taken in that school to develop SRL. In phase 2 a measure of verification was possible through the follow-up interviews with a number of teachers and executives in the school. While this allowed verification or explanation of school approaches, individual experiences with SRL skills outlined in the questionnaire could be subject to personal bias and selective memory. Follow-up focus groups could have been used to address this issue in phase 1, but were not possible within the scope and time frame of this

study. Section 8.7 looks at recommendations for future research to address

the limitations discussed in this section.

8.7 Recommendations for future research

This section outlines possible future directions for research suggested by the

findings. The importance of further development and evaluation of the

guidelines for a whole-school approach to helping students develop SRL

skills is discussed in section 8.7.1. Section 8.7.2 explores recommendations for

researchers to further clarify the roles expected of stakeholders in helping

students develop SRL skills. Section 8.7.3 outlines recommendations arising

out of the third research question of perceptions on the impact of technology.

8.7.1 Further development and testing of guidelines for a whole-school approach to helping students develop SRL skills

Larger scale studies, similar to the one undertaken in phase 1 of this study

but with greater scale and broader geographical boundaries, would assist in

further developing the guidelines established in this pioneering study. This

would allow researchers to uncover and aggregate innovative approaches

that different schools may be taking to develop students' SRL skills.

It would also open up the possibility of identifying a significant

number of best practice cases. Multiple case studies with cross-case

comparisons could then be used to refine further iterations of the guidelines

this study has developed — this was beyond the scope of this research

project. Future research in this area could thus develop and evaluate iterations of the guidelines across different contexts contributing to a strengthening of the rigour of the guidelines for use by educators.

The efficacy of the guidelines would need to be tested across different types of schools, with a range of teachers and students, perhaps also evaluating long-term effectiveness in longitudinal studies. This could lead to development of context-specific guidelines or guidelines that are tailored to particular demographics or school characteristics.

Action research would allow communities of practice, for example independent boys schools' networks, to explore SRL skills development in their particular school environment and develop research-based solutions to the problem of how to implement an integrated whole-school approach to developing students' SRL skills. This could then be expanded further to look at other sectors by extending the research from the secondary school to focus on both primary and tertiary areas.

Further research of the type outlined in this section would benefit teachers and schools, furnishing much needed information and ideas that could then enable schools to make informed, evidence-based decisions about the approaches and policies they establish to develop students' SRL skills. More importantly perhaps, it could also inform state or nationwide policies in

this area or perhaps act as a catalyst to policy-makers to initiate such policies which currently are not in place in Australia.

8.7.2 Clarifying and communicating expected roles for stakeholders

Larger scale studies interrogating the viewpoints of students, parents and teachers about their roles in the development of students' SRL skills could uncover generalisations across particular demographics. For example, research could probe attitudinal differences across gender, background, literacy abilities and different types of schools. Guidelines could then be tailored to the demographic context.

While this research project focused on secondary schools, the study also uncovered issues around the role of primary schools in helping students develop SRL skills. This study highlights the need for researchers to further explore the role of primary schools in helping students develop SRL skills. Part of this exploration will be to determine the potential role primary schools can play and what tools can be used to aid in the crucial primary to secondary transition. Research in this area could help schools to determine how to share the responsibility for helping students develop SRL skills between primary and secondary schools in this transition phase.

Further investigation is also needed to determine how schools can best clarify and effectively communicate to the school community their approach to developing students' SRL skills, given the particular viewpoints of their

community. Policy development based on these investigations may also be necessary for large school sectors such as the NSW Department of Education and Communities. Training needs for all stakeholders would also need to be assessed and guidance provided where necessary to students, parents and teachers to assist them to fulfil their role in developing students' SRL skills. This research therefore also has implications for teacher educators, who need to ensure that prospective teachers are educated in how to help their own students develop SRL skills. Skilled teachers will be essential to the establishment and successful execution of whole-school practices.

8.7.3 Whole-school approach to enhance SRL through student engagement with technology

This study uncovered a tension between the use of technology as a tool to develop students' SRL skills and its potential as a distraction that could adversely affect students' ability to self-regulate. Further research is therefore needed into how students can be educated in, and encouraged to use, technology as a tool for enhancing SRL. Indeed, Mooij, Steffens and Andrade (2014) have recently claimed that the main research question around SRL and technology is to determine conditions and procedures which can enhance the improvement of personal SRL. For example, new research could look at strategies to help students use technology to plan and schedule their work for assessments, to work collaboratively with other students to keep motivation levels high and to encourage students to keep

learning journals to reflect on their progress. Connectivity leads to collaboration, and November (2010) emphasised that collaboration is one of the most important 21st century skills. Research could also explore use of technology in less formal spaces through hand-held devices and Apps, creating flexible learning opportunities to develop students' SRL skills.

However, for technology to enhance SRL, future research is also needed to explore strategies to assist students in managing adverse aspects of technology use. Harris (2006) stated it is unreasonable to think that social networking sites will go away. Instead of simply banning these sites he proposed that schools take steps to exploit students' interest in them to promote learning. He suggested, for example, that schools could use popular social networking sites as a springboard to discuss relevant issues such as copyright infringement and to encourage dialogue about what is appropriate text and imagery for public and private display. The idea is that educators need to take technologies that interest and engage adolescents and integrate these into learning activities in the school environment. This will help to foster the motivation to engage in the type of learning necessary for a self-regulated learner. A large-scale study that explored the impacts of technology on SRL could uncover innovative ways students might use technology to mediate their development of SRL and how as students they are managing technology as a distraction, for example, by using blocking software. In

addition to future research on this area using similar methodologies as this study, researchers could also explore the use of interventionist, design-based research or action research studies, for example to explore innovative use of social media to foster SRL skills. This type of study could uncover how social media could be used to enhance communities of learners, encourage reflective thinking and build students' self-efficacy by providing them with greater levels of support for their SRL in the home environment.

Research also needs to explore what steps can be taken to encourage students to engage more broadly with technology as a means of seeking and receiving help with their learning (an important process for self-regulated learners) through communication tools such as Skype and as an aid to studying both at home and at school. For example, students may benefit from learning how to use tools and mobile applications ('Apps') that allow them to interact with other students while building their own knowledge, for example StudyBlue for sharing online flashcards. Watson (2006) explains that technology can engage learners in critical thinking, creating categories of use such as semantic organisers or dynamic modelling tools. Warlick (2006) expanded on this in his hypothetical discussion of how the latest social networking and other web-based tools used by adolescents could be harnessed to transform the learning experience in the school environment. Steffens and Underwood (2008) highlighted the idea of using technology to

personalise learning experiences, which in turn allows students the choice and control necessary for SRL. More research is needed on how technology can further enhance SRL skills development in formal, semi-formal and informal learning spaces.

However, students will need to be explicitly taught strategies to maintain a healthy balance between using technology to enhance their SRL and using it as a distraction from learning. This also will help to alleviate parental concerns about students' use of technology.

8.8 Conclusion

This study has provided a greater understanding of how an integrated whole-school approach can foster the development of students' SRL skills. The study has also furnished greater insights into the perspectives and viewpoints of students, parents and teachers around the issues associated with SRL skill development, including student use of technology. By examining the context of SRL in practice, evidence-based guidelines have emerged to assist schools in implementing a whole-school approach to helping students develop SRL skills. These guidelines are relevant not only to schools, but also to researchers and policy and decision-makers.

SRL research over the past 30 years has demonstrated that students equipped with SRL skills are able to navigate school academic expectations in a way that makes their school experience more efficient, less stressful and

ultimately more rewarding (Schunk, 1991; Zimmerman & Martinez-Pons, 1986). This helps students move towards achieving their personal academic potential at school (Cleary, Platten & Nelson, 2008). Given this established literature base, it is surprising how few secondary schools participating in phase 1 of the study ensured that all of their students were equipped with these essential skills. Many schools assumed students had these skills in place while others did not view the development of SRL skills as explicitly their responsibility. Some individual teachers with an interest in this area may take steps to address this gap. However, this is an unsatisfactory, uncoordinated approach as it means that not all students will necessarily be given the help they need to develop these critically important skills.

If schools believe their role is to help students become more effective learners, then they have a responsibility to ensure that all students are given the skills they need to become self-regulated learners. A well-planned, integrated whole-school approach ensures that not only is this critical need met, but that the findings from over 30 years of SRL research can be incorporated into effective whole-school practices that are grounded in past research and in new findings such as those outlined in this study.

This study therefore advocates that SRL researchers explore further this new direction of whole-school approaches to helping students develop SRL skills. While researchers have continued to focus on smaller scale,

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individual and typically quantitative interventions for developing students'

SRL skills, this study is a call to action for more audacious, ambitious projects

that research innovative larger scale approaches to developing students' SRL

skills and that include qualitative methodologies. This research also

challenges SRL researchers to embrace longer-term studies in this area. While

it is a challenging area to study, the rewards to schools, school leaders,

teacher educators, policy-makers, researchers and of course students will be

considerable.

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Appendices

Appendix A

Ethics approval

Appendix A1—UTS Ethics Approval Letter

20 August 2010

Dr. Matthew Kearney
Education Group
KG02.02.87
UNIVERSITY OF TECHNOLOGY, SYDNEY

Dear Matthew,

UTS HREC 2010-271 -KEARNEY, Dr. Matthew, SCHUCK, Associate Professor Sandy (for SALTER, Ms Prue, PhD student)-"Developing self-regulated learners exploring the role of secondary schools"

Thank you for your response to my email dated 19/0810. Your response satisfactorily addresses the concerns and questions raised by the Committee, and I am pleased to inform you that ethics clearance is now granted.

Your clearance number is UTS HREC REF NO. 2010-271A

Please note that the ethical conduct of research is an on-going process. The *National Statement on Ethical Conduct in Research Involving Humans* requires us to obtain a report about the progress of the research, and in particular about any changes to the research which may have ethical implications. This report form must be completed at least annually, and at the end of the project (if it takes more than a year). The Ethics Secretariat will contact you when it is time to complete your first report.

I also refer you to the AVCC guidelines relating to the storage of data, which require that data be kept for a minimum of 5 years after publication of research. However, in NSW, longer retention requirements are required for research on human subjects with potential long-term effects, research with long-term environmental effects, or research considered of national or international significance, importance, or controversy. If the data from this research project falls into one of these categories, contact University Records for advice on long-term retention.

If you have any queries about your ethics clearance, or require any amendments to your research in the future, please do not hesitate to contact the Ethics Secretariat at the Research and Innovation Office, on 02 9514 9772.

Yours sincerely,

Professor Jane Stein-Parbury
Chairperson
UTS Human Research Ethics Committee

Appendix A2—DET Ethics Approval Letter

NSW GOVERNMENT | **Education & Communities**

Miss Prue Salter
PO Box 9
NEUTRAL BAY NSW 2089

DOC 11/134746

Dear Miss Salter   SERAP Number **2010109**

I refer to your application to conduct a research project in New South Wales government schools entitled *Developing self-regulated learners: Exploring the role of secondary schools*. I am pleased to inform you that your application has been approved. You may now contact the Principals of the nominated schools to seek their participation. **You should include a copy of this letter with the documents you send to schools.**

This approval will remain valid until 25/07/2012.

The following researchers or research assistants have fulfilled the Working with Children screening requirements to interact with or observe children for the purposes of this research for the period indicated:

Name	Approval expires
Prue Salter	25/07/2012

I draw your attention to the following requirements for all researchers in New South Wales government schools:

- School Principals have the right to withdraw the school from the study at any time. The approval of the Principal for the specific method of gathering information for the school must also be sought.
- The privacy of the school and the students is to be protected.
- The participation of teachers and students must be voluntary and must be at the school's convenience.
- Any proposal to publish the outcomes of the study should be discussed with the Research Approvals Officer before publication proceeds.

When your study is completed please forward your report marked to Manager, Schooling Research, Department of Education and Training, Locked Bag 53, Darlinghurst, NSW 2010. Yours sincerely

Bill Tomlin
Senior Manager
Student Engagement and Program Evaluation
25 July 2011

Appendix B

Research instruments

Appendix B1—Phase 1: online survey to all schools, term 4 2011

Online survey page 1

(This is the first page participants come to when they go to the website with the online form.)

Helping students develop self-regulated learning skills: exploring the role of secondary schools

Thank you for taking the time to come to this survey page.

My name is Prue Salter and I am a doctoral research student in the Faculty of Arts and Social Sciences at *University of Technology, Sydney.*

As part of my PhD study, I am conducting research into how schools can help students become more self-regulated in their learning. I also run a business that looks at some aspects of self-regulated learning (providing study skills support to schools through sessions, resources and websites). Learning about how schools approach the development of self-regulated learning skills may also be useful for my work in this area, therefore my business may utilise some aspects of the research data. I would welcome your responses to the 5 questions which will appear on the next screen.

By clicking the link to the questions below, you are agreeing to participate in this research and agree that the research data gathered from this project may be published in a form that does not identify you or your school in any way. Data will be sent to a secure email address and steps are in place to ensure data protection and privacy.

If you have questions, please use the contact details below before taking this survey.

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

NOTE: This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations

about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Online survey page 2

(This is the next page they come to with the online survey)
Thank you! Firstly, I'd like to clarify the meaning of "self-regulated learners" as used in this survey.

A 'self-regulated learner' is a student who:

- has belief in their ability to do well at school

- sets goals or has plans about what they want to achieve at school

- is motivated to achieve the best marks they can at school

- has strategies or techniques for organisation, time management, dealing with distractions and procrastination, has ideas on how to study, how to learn, general study skills (ie knows what to do to help get better marks in a more efficient way)

- can and does implement (ie put into action) these strategies at the appropriate time

- then will later reflect and think about how well these strategies worked and make changes to what they do if necessary

- basically is working towards achieving the best marks they are capable of in an efficient and effective way.

You can click on this term anytime the phrase 'self-regulated learner' appears in the survey and this definition will appear.

Before you take the survey, please fill in your school name. Your school name will be removed from the data and NOT used in ANY way in the research. It is purely for follow-up purposes so I know which schools have NOT completed the survey and I can then contact those schools again.

Your school:
Q1.
a)Which of the following best describes the students at your school?
-Most could be described as quite self-regulated learners
-Few could be described as self-regulated learners
-We have a wide range in self-regulated learning abilities, from those who are very self-regulated to those who are not, and everything in between.
-Other: Please explain:

b) Which of the following best describes your perception of how the self-regulation level of the students at your school has changed over the last 3-5 years?
-I feel it has not changed much over the last few years
-I feel it has improved over the last few years (if so, please explain why)
-I feel it has declined over the last few years (if so, please explain why)
-I don't feel like I can make a judgment on this
-I have not been at the school for the last few years
-Other: please explain

Q2. Refer back to the explanation of a self-regulated learner at the top (or click here for the explanation to open in a separate window). Please describe anything you can think of that happens at your school that helps foster the development of self-regulated learning ability in your school. This could be at a school-wide level, a year level, a class level or an individual student level. For example, does your school foster students' belief in their ability to achieve, does the school encourage goal setting, what strategies are in place to improve motivation levels of students, how does the school foster the development of 'study skills' such as time management, organisation, research skills, note-making skills, study techniques, are the implementation of these skills assessed and monitored, are there systems in place to promote reflective thinking on approaches to learning; basically anything you can think of that the school does to help students improve work towards achieving their personal academic best and improving as independent learners.

Q3. Does your school have any formal written policies in place that would contribute towards the development of self-regulated learners? If so, what is the title of the policy and in a sentence or two describe what the intention of this policy is.

Q4. How do you think technology is impacting the area of self-regulated learning in your school? Some of the areas to consider might be:
-Is technology changing the skills needed for students to be self-regulated learners?
-Can technology be used to support the development of self-regulated learning skills?
-Is technology impacting on any other areas of self-regulated learning for students?

Q5. In your opinion, what sort of a role do you think schools in general SHOULD play in fostering the development of self-regulated learners? If you do believe schools have a role to play, then how do you think schools can best fulfil this role?

Thank you for your responses.

Before you submit this form, please complete the following details. Your name and email address if supplied will be removed from the data and NOT used in ANY way in the research.
-Would you like to be kept informed of the outcome of this research? Yes please (please enter email address:)/No thanks.

-If your school meets the research criteria, would you be open to the idea of having the school participate in a case study? Yes / Maybe / No thanks

-Your name and position at the school (optional):

Thanks again, I really appreciate your time.

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

NOTE: This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Appendix B2—Phase 2: case study, online survey for <u>parents</u> at school selected as case, term 1 2012

Helping students develop self-regulated learning skills: exploring the role of secondary schools

Thank you for taking the time to come to this survey page.

My name is Prue Salter and I am a doctoral research student in the Faculty of Arts and Social Sciences at *University of Technology, Sydney.*

As part of my PhD studies, I am conducting research into how schools can help students become more self-regulated in their learning. I also run a business that looks at some aspects of self-regulated learning (providing study skills support to schools through sessions, resources and websites). Learning about how schools approach the development of self-regulated learning skills may also be useful for my work in this area, therefore my business may utilise some aspects of the research data.

Your school has been selected as a case study for this research due to the interesting approaches the school takes to helping students develop SRL skills. I would welcome your responses to the 5 questions which will appear on the next screen.

By clicking the NEXT button, you are agreeing to participate in this research and agree that the research data gathered from this project may be published in a form that does not identify you in any way. Data will be sent to a secure email address and steps are in place to ensure data protection and privacy.

If you have questions, please use the contact details below before taking this survey.

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

NOTE: This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Thank you! First I'd like to clarify what I mean by self-regulated learners. A 'self-regulated learner' is a student who:

- has **belief in their ability** to do well at school

- sets **goals** or has plans about what they want to achieve at school

- is **motivated** to achieve the best marks they can at school

- has **strategies or techniques** for organisation, time management, dealing with distractions and procrastination, has ideas on how to study, how to learn, general study skills (ie knows what to do to help get better marks in a more efficient way)

- can and does **implement** (ie put into action) these strategies at the appropriate time

- then will later **reflect** and think about how well these strategies worked and make changes to what they do if necessary

- basically is **working towards achieving the best marks they are capable of in an efficient and effective way**.

You can click on this term anytime the phrase 'self-regulated' appears in the survey and this definition will appear.

1. Whose role do you think it is help develop your students' self-regulated learning skills? Primary schools? Secondary schools? Parents? A combination? Students should work it out themselves? Other? Please explain your perspective and explain particularly what role, if any, you think the school should have:

2. How well do you think your school meets the expectations (if any) you have just outlined?

3. What does your school contribute to helping students be better self-regulated learners? Please describe anything you can think of that happens at your school that helps foster the development of self-regulated learning ability in your school. This could be at a school-wide level, a year level, a class level or an individual student level. For example, does your school foster students' belief in their ability to achieve, does the school encourage goal setting, what strategies are in place to improve motivation levels of students, how does the school foster the development of 'study skills' such as time management, organisation, research skills, note-making skills, study techniques, are the implementation of these skills assessed and monitored, are there systems in place to promote reflective thinking on approaches to learning; basically anything you can think of that the school does to help students improve work towards achieving their personal academic best and improving as independent learners.

4. What suggestions do you have for how the school might improve in this area?

5. How do you think technology is affecting self-regulated learning? Some of the areas to consider might be:
   -Is technology changing the skills needed for students to be self-regulated

learners?

-Can technology be used to support the development of self-regulated learning skills?

-Is technology impacting on any other areas of self-regulated learning for students?

If there is anything else you would like to add on the topic of self-regulated learning please use the space below:

Thanks again, I really appreciate your time.

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

Appendix B3—Phase 2: case study, online survey for <u>teachers</u> at schools selected as case, term 1 2012

Helping students develop self-regulated learning skills: exploring the role of secondary schools

Thank you for taking the time to come to this survey page.

My name is Prue Salter and I am a doctoral research student in the Faculty of Arts and Social Sciences at *University of Technology, Sydney.*

As part of my PhD studies, I am conducting research into how schools can help students become more self-regulated in their learning. I also run a business that looks at some aspects of self-regulated learning (providing study skills support to schools through sessions, resources and websites). Learning about how schools approach the development of self-regulated learning skills may also be useful for my work in this area, therefore my business may utilise some aspects of the research data.

Your school has been selected as a case study for this research due to the interesting approaches the school takes to helping students develop SRL skills. I would welcome your responses to the 5 questions which will appear on the next screen. Please note, confidentiality will be respected and no information will be published that allows individuals to be identified without their consent.

By clicking the NEXT button, you are agreeing to participate in this research and agree that the research data gathered from this project may be published in a form that <u>does not identify you in any way</u>. Data will be sent to a secure email address and steps are in place to ensure data protection and privacy. If you have questions, please use the contact details below before taking this survey.

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

NOTE: This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Survey

Thank you! First I'd like to clarify what I mean by self-regulated learners.

A **'self-regulated learner'** is a student who:

- has **belief in their ability** to do well at school

- sets **goals** or has plans about what they want to achieve at school

- is **motivated** to achieve the best marks they can at school

- has **strategies or techniques** for organisation, time management, dealing with distractions and procrastination, has ideas on how to study, how to learn, general study skills (ie knows what to do to help get better marks in a more efficient way)

- can and does **implement** (ie put into action) these strategies at the appropriate time

- then will later **reflect** and think about how well these strategies worked and make changes to what they do if necessary

- basically is **working towards achieving the best marks they are capable of in an efficient and effective way**.

You can click on this term anytime the phrase 'self-regulated' appears in the survey and this definition will appear.

1. Whose role do you think it is to foster the development of self-regulated learning skills in your students? The schools? Parents? A combination? Other? They should work it out themselves? Please explain your perspective and explain particularly what role, if any, you think the school should have:

2. How well do you think your school meets the expectations you have just outlined?

3. What does your school contribute to helping students be better self-regulated learners? Please describe anything you can think of that happens at your school that helps foster the development of self-regulated learning ability in your school. This could be at a school-wide level, a year level, a class level or an individual student level. For example, does your school foster students' belief in their ability to achieve, does the school encourage goal setting, what strategies are in place to improve motivation levels of students, how does the school foster the development of 'study skills' such as time management, organisation, research skills, note-making skills, study techniques, are the implementation of these skills assessed and monitored, are there systems in place to promote reflective thinking on approaches to learning; basically anything you can think of that the school does to help students improve work towards achieving their personal academic best and improving as independent learners.

4. What suggestions do you have for how the school could improve in this area?

5. How do you think technology is impacting the area of self-regulated learning? Some of the areas to consider might be:
   -Is technology changing the skills needed for students to be self-regulated learners?
   -Can technology be used to support the development of self-regulated learning skills?
   -Is technology impacting on any other areas of self-regulated learning for students?

If there is anything else you would like to add on the topic of self-regulated learning please use the space below:

If further clarification is needed, would you be willing to participate in an individual half-hour interview in Term 3 this year? If yes, please enter your name here……………………… (note, your responses are kept confidential and identities will be removed from all responses).

Thanks again, I really appreciate your time.

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney:
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

Appendix B4—Phase 2: case study, online survey for <u>students</u> at schools selected as case, term 1 2012

UTS LETTERHEAD INFO/LOGO ON WEBPAGE

Helping students develop self-regulated learning skills: exploring the role of secondary schools

My name is Prue Salter and I am a doctoral research student in the Faculty of Arts and Social Sciences at *University of Technology, Sydney.*

As part of my PhD studies, I am conducting research into how schools can help students become more self-regulated in their learning and would welcome your assistance. I also run a business that looks at some aspects of self-regulated learning (providing study skills support to schools through sessions, resources and websites). Learning about how schools approach the development of self-regulated learning skills may also be useful for my work in this area, therefore my business may utilise some aspects of the research data.

Your school has been selected as a case study for this research due to the interesting approaches the school takes to helping students develop SRL skills. The research simply involves completing 4 questions on an online survey and should take no more than 10-15 minutes of your time.

Individuals will not be identified in any way in the results of the research. The school will receive a report and recommendations based on the outcomes of this research.

You are, of course, under no obligation to participate in this research. If you decide you don't want to share your thoughts, you can simply leave the questions blank. But we'd love to know what you think!

So what is a self-regulated learner? See if this explains it to you, then watch the video below that shows what a self-regulated learner is NOT.

A 'self-regulated learner' is a student who:

- has **belief in their ability** to do well at school

- sets **goals** or has plans about what they want to achieve at school

- is **motivated** to achieve the best marks they can at school

- has **strategies or techniques** for organisation, time management, dealing with distractions and procrastination, has ideas on how to study, how to learn, general study skills (ie knows what to do to help get better marks in a more efficient way)

- can and does **implement** (ie put into action) these strategies at the appropriate time

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- then will later **reflect** and think about how well these strategies worked and make changes to what they do if necessary

- basically is **working towards achieving the best marks they are capable of in an efficient and effective way**.

Click here now to watch the video to see what a self-regulated learner is NOT.

You can click on this term anytime the phrase 'self-regulated' appears in the survey and the definition will appear.

1. Whose role do you think it is to help you learn things like how to be more motivated, organised, manage your time, study, set goals etc, things that will help you get the best marks you can at school? The schools? Parents? Yourself? A combination? Other? Please explain your thoughts and explain particularly what role, if any, you think the school should have:

2. How well do you think your school does these things you think they should be doing?

3. What things do you think your school does that helps you be a more self-regulated learner? Please describe anything you can think of that happens at your school that helps foster the development of self-regulated learning ability in your school. This could be at a school-wide level, a year level, a class level or an individual student level. For example, does your school foster students' belief in their ability to achieve, does the school encourage goal setting, what strategies are in place to improve motivation levels of students, how does the school foster the development of 'study skills' such as time management, organisation, research skills, note-making skills, study techniques, are the implementation of these skills assessed and monitored, are there systems in place to promote reflective thinking on approaches to learning; basically anything you can think of that the school does to help students improve work towards achieving their personal academic best and improving as independent learners.

4. What suggestions do you have of how the school could improve in this area? How do you think technology is impacting the area of self-regulated learning? Some of the areas to consider might be:

- Is technology changing the skills you need to get the best marks you can at school?

- Do you think technology can be used to help you develop self-regulated learning skills? If so, how?

- Is technology impacting on any other areas that affect the sorts of marks you get at school?

If there is anything else you would like to add on the topic of self-regulated learning please use the space below:

Please select your year level from the drop down menu.

Thanks again, I really appreciate your time.

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

NOTE: This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Appendix B5—Phase 2: case study, term 2 2012, interview questions for <u>executives</u> at case school selected for further in depth exploration

The interview will be semi-structured and the interview questions will be re-shaped and re-formed based on the data collected in the online survey. Basically, the interview will open with:

"I have collated the data from the online survey of students, parents and teachers. I'd like to go through each of the 5 questions with you one by one and outline briefly what the feedback was and discuss your thoughts and if you have anything to add in each of these areas and find out a bit more about some of the specifics that were raised. "

Appendix B6—Phase 2: case study, term 3 2012, interview questions for <u>teachers</u> at case school selected for further in depth exploration

The interview will be semi-structured and the interview questions will be re-shaped and re-formed based on the data collected in the online survey. Basically, the interview will open with:

"I have collated the data from the online survey of students, parents and teachers. I'd like to go through each of the 5 questions with you one by one and outline briefly what the feedback was and discuss your thoughts and if you have anything to add in each of these areas and find out a bit more about some of the specifics that were raised. Also, in your survey you indicated….and I found it really interesting and wanted to find out a bit more about this."

Appendix C

Letters to school principals

Appendix C1—Phase 1: online survey to all schools, term 4 2011

A letter inviting participation in this survey will be sent to approximately 350 school Principals of schools that meet the selection criteria outlined (Year 7-12 schools in Sydney metro region) to be completed by a director of studies, head teacher welfare etc. The role of this survey is to aid in case selection, and also inform the data collection process. Consent will be obtained online as part of the survey below.

Letter inviting participants

PRINTED ON UTS LETTERHEAD

18th August 2011
For the attention of: Secondary School Principal
Re: Participation in UTS Doctoral studies research project (online survey of 5 questions)

Helping students develop self-regulated learning skills: exploring the role of secondary schools

My name is Prue Salter and I am a doctoral research student in the Faculty of Arts and Social Sciences at *University of Technology, Sydney.*

As part of my PhD studies, I am conducting research into how schools can help students become more self-regulated in their learning and would welcome your assistance. I also run a business that looks at some aspects of self-regulated learning (providing study skills support to schools through sessions, resources and websites). Learning about how schools approach the development of self-regulated learning skills may also be useful for my work in this area, therefore my business may utilise some aspects of the research data. The research would simply involve completing an online survey of 5 research questions (at www.pruesalter.com) and should take no more than 10-15 minutes of your time.

Your school has been selected from a commercial database of Year 7-12 schools in Sydney as I am hoping to have as many schools in Sydney participate as possible in order to explore a broad spectrum of approaches. Schools (and individuals) will not be identified in any way in the results of the research. You are, of course, under no obligation to participate in this research. If you have any questions, or would like to find out more, please contact me using the details below or you can also contact my UTS supervisor Dr. Matthew Kearney on (phone number supplied). If you would like to talk to someone who is not connected directly with the research, you may

contact the UTS Research Ethics Officer on 02 9514 9772, and quote this approval number: 2010-271A.

If you can help out by completing the survey, it would be much appreciated. Results will contribute to a snapshot of how Year 7-12 schools in Sydney approach the development of self-regulated learning skills in their students. You will also be invited to receive updates on what the research uncovers, both in the initial research and the subsequent case studies. This may have some helpful ideas for your school's future approaches to developing self-regulated students.

I understand how busy life is in schools and if you are not the appropriate person for this, I would appreciate if you would pass this letter to the correct person in your school such as the Deputy Principal or Director of Teaching and Learning.

If you, or a member of your staff, are willing to participate in this research, **please complete the online survey of 5 research questions located at www.pruesalter.com**. I am hoping to have all responses back by the 15th of October at the latest.

Thank you for your time.

Yours sincerely,

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

NOTE:

This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Appendix C2—Phase 2: participation in case study 2012

PRINTED ON UTS LETTERHEAD

Helping students develop self-regulated learning skills: exploring the role of secondary schools

Dear ………..

My name is Prue Salter and I am a doctoral research student in the Faculty of Arts and Social Sciences at *University of Technology, Sydney.*

As part of my PhD studies, I am conducting research into how schools can help students become more self-regulated in their learning and would welcome your assistance. I also run a business that looks at some aspects of self-regulated learning (providing study skills support to schools through sessions, resources and websites). Learning about how schools approach the development of self-regulated learning skills may also be useful for my work in this area, therefore my business may utilise some aspects of the research data.

Your school participated in the first phase of the research which was a 10-15 minute online survey. Given the interesting approach your school is taking to self-regulated learning, I would like to invite you to participate in the next phase of the research which is a case study of your school's approach to developing self-regulated learning skills. Schools (and individuals) will not be identified in any way in the results of the research. You are, of course, under no obligation to participate in this research. If you have any questions, or would like to find out more, please contact me using the details below or you can also contact my UTS supervisor Dr. Matthew Kearney on (phone number supplied). If you would like to talk to someone who is not connected directly with the research, you may contact the UTS Research Ethics Officer on 02 9514 9772, and quote this approval number: 2010-271A.

One of the advantages of participating in this phase of the research is that I will be uncovering all the positive approaches your school takes to developing students as self-regulated learners. Your school will be provided with a summary that you can use in your school marketing materials, as well as presentations to the school community highlighting the work of your school in this area. You will also receive recommendations on ways your school can improve your approach to maximise opportunities for students.

If you are interested in discussing this further, please contact me on the details below and I would love the opportunity to come and explain what this research would involve and how it could potentially benefit your school and students.

I understand how busy life is in schools and if you are not the appropriate person for this discussion, I would appreciate if you would pass this letter to the appropriate person in your school such as the Deputy Principal or Director of Teaching and Learning.

Thank you for your time.

Yours sincerely,

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

NOTE: This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Appendix D

Information sheets

Appendix D1—Phase 2: case study, online survey for <u>parents and students</u> at schools selected as case, term 1 2012

Letter sent home to parents

PRINTED ON UTS LETTERHEAD

Helping students develop self-regulated learning skills: exploring the role of secondary schools

Dear ………..

My name is Prue Salter and I am a doctoral research student in the Faculty of Arts and Social Sciences at *University of Technology, Sydney.*

As part of my PhD studies, I am conducting research into how schools can help students become more self-regulated in their learning and would welcome your assistance. I also run a business that looks at some aspects of self-regulated learning (providing study skills support to schools through sessions, resources and websites). Learning about how schools approach the development of self-regulated learning skills may also be useful for my work in this area, therefore my business may utilise some aspects of the research data.

Your school has been selected as a case study for this research due to the interesting approaches the school takes to helping students develop SRL skills. The research would simply involve completing 5 research questions on an online survey (at *web address for survey will be here*) and should take no more than 10-15 minutes of your time.

This is an anonymous survey and individuals will not be identified in any way in the results of the research. You are, of course, under no obligation to participate in this research. If you have any questions, or would like to find out more, please contact me using the details below or you can also contact my UTS supervisor Dr. Matthew Kearney on (phone number supplied). If you would like to talk to someone who is not connected directly with the research, you may contact the UTS Research Ethics Officer on 02 9514 9772, and quote this approval number: 2010-271A.

All Year 7 -12 students at the school will also be asked to fill in an anonymous survey. The questions asked will be similar to those in the parent survey (just

simplified wording). If you do not want your student to participate in the survey, please let them know of your intentions.

Your participation in this online survey helps to contribute to the overall picture of how your school fosters the development of self-regulated learning in students. The school will receive a report and recommendations based on the outcomes of this research. This report can them be used by the school to improve the approaches taken.

The link for the survey is (*web address for survey will go here*) -simply type in the link into your web browser and share your thoughts about the questions anytime before the end of Term 1.

Thank you for your time.

Yours sincerely,

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

NOTE:

This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Appendix D2—Phase 2: case study, online survey for <u>teachers</u> at schools selected as case, term 1 2012

Email forwarded to all teachers from contact teacher at school

UTS LETTERHEAD INFO/LOGO

Helping students develop self-regulated learning skills: exploring the role of secondary schools

Dear ………..

My name is Prue Salter and I am a doctoral research student in the Faculty of Arts and Social Sciences at *University of Technology, Sydney.*

As part of my PhD studies, I am conducting research into how schools can help students become more self-regulated in their learning and would welcome your assistance. I also run a business that looks at some aspects of self-regulated learning (providing study skills support to schools through sessions, resources and websites). Learning about how schools approach the development of self-regulated learning skills may also be useful for my work in this area, therefore my business may utilise some aspects of the research data.

Your school has been selected as a case study for this research due to the interesting approaches the school takes to helping students develop SRL skills. The research would simply involve completing 5 research questions on an online survey (at *web address for survey will go here*) and should take no more than 10-15 minutes of your time.

Individuals will not be identified in any way in the results of the research Your participation in this online survey helps to contribute to the overall picture of how your school fosters the development of self-regulated learning in students. The school will receive a report and recommendations based on the outcomes of this research. This report can them be used by the school to improve the approaches taken.

Data will be sent to a secure email address and steps are in place to ensure data protection and privacy.

You are, of course, under no obligation to participate in this research. If you have any questions, or would like to find out more, please contact me using the details below or you can also contact my UTS supervisor Dr. Matthew Kearney on (phone number supplied). If you would like to talk to someone who is not connected directly with the research, you may contact the UTS Research Ethics Officer on 02 9514 9772, and quote this approval number: 2010-271A.

The link for the survey is (*web address for survey will go here*) -simply click on the link and share your thoughts about the questions anytime before the end of Term 1.

Thank you for your time.

Yours sincerely,

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

NOTE:

This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Appendix D3—Phase 2: case study, interview for executives at case school selected for further in depth exploration, term 2 2012

Letter to executives asking if they are prepared to be interviewed

PRINTED ON UTS LETTERHEAD

Helping students develop self-regulated learning skills: exploring the role of secondary schools

Dear ………..

My name is Prue Salter and I am a doctoral research student in the Faculty of Arts and Social Sciences at *University of Technology, Sydney* currently undertaking a case study at your school looking at how schools can help students become more self-regulated in their learning. I also run a business that looks at some aspects of self-regulated learning (providing study skills support to schools through sessions, resources and websites). Learning about how schools approach the development of self-regulated learning skills may also be useful for my work in this area, therefore my business may utilise some aspects of the research data.

Your school was selected as a case study for this research due to the interesting approaches the school takes to helping students develop SRL skills. I have completed the first stage of the research during Term 1 with parents, teachers and students completing an online survey.

For the second stage in Term 2, I would like the opportunity to individually interview executive staff at your school, for a half hour interview. In this time I will give you an overview of the results from the first stage of the research, and would love the opportunity to discuss this and elicit your thoughts and see if you have anything to add in these areas and perhaps find out a bit more about some of the specifics raised.

Individuals will not be identified personally in the results of the research, only the job title. You are, of course, under no obligation to participate in this research. If you have any questions, or would like to find out more, please contact me using the details below or you can also contact my UTS supervisor Dr. Matthew Kearney on (phone number supplied). If you would like to talk to someone who is not connected directly with the research, you may contact the UTS Research Ethics Officer on 02 9514 9772, and quote this approval number: 2010-271A.

I understand how busy life is in schools and understand if you simply cannot spare the time for this discussion.

If you are willing to be interviewed briefly next term, just complete the consent form (a second copy has been included for you to keep) and place in the box in the staffroom.

Thank you for your time.

Yours sincerely,

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

NOTE:

This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Appendix D4—Phase 3: case study, interview for <u>teachers</u> at case school selected for further in depth exploration, term 3 2012

Letter to teachers asking if they are prepared to be interviewed

PRINTED ON UTS LETTERHEAD

Helping students develop self-regulated learning skills: exploring the role of secondary schools

Dear ………..

My name is Prue Salter and I am a doctoral research student in the Faculty of Arts and Social Sciences at *University of Technology, Sydney* currently undertaking a case study at your school looking at how schools can help students become more self-regulated in their learning. I also run a business that looks at some aspects of self-regulated learning (providing study skills support to schools through sessions, resources and websites). Learning about how schools approach the development of self-regulated learning skills may also be useful for my work in this area, therefore my business may utilise some aspects of the research data.

Your school was selected as a case study for this research due to the interesting approaches the school takes to helping students develop SRL skills. I have completed the first stage of the research during Term 1 with parents, teachers and students completing an online survey and the second stage in Term 2 interviewing executives at your school. I'd like to spend some time in Term 3 with some of the teachers at this school in an individual half hour interview, giving you an overview of the results so far and eliciting your thoughts to see if you have anything to add in these areas and perhaps find out a bit more about some of the specifics raised.

Individuals will not be identified in any way in the results of the research. You are, of course, under no obligation to participate in this research. If you have any questions, or would like to find out more, please contact me using the details below or you can also contact my UTS supervisor Dr. Matthew Kearney on (phone number supplied). If you would like to talk to someone who is not connected directly with the research, you may contact the UTS Research Ethics Officer on 02 9514 9772, and quote this approval number: 2010-271A.

I understand how busy life is in schools and understand if you simply cannot spare the time for this discussion. If you are willing to be interviewed next term, just complete the consent form (a second copy has been included for you to keep) and place in the box in the staff room.

Thank you for your time.

Yours sincerely,

Prue Salter
UTS Doctoral Candidate
Contact details supplied

UTS Supervisor Dr. Matthew Kearney: Ph
UTS Research Ethics Officer : Ph 02 9514 9772
UTS HREC Ethics Approval Number: 2010-271A
DET SERAP Number: 2010109

NOTE:

This study has been approved by the University of Technology, Sydney Human
Research Ethics Committee. If you have any complaints or reservations about any
aspect of your participation in this research which you cannot resolve with the
researcher, you may contact the Ethics Committee through the Research Ethics
Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS
HREC reference number (2010-271A). Any complaint you make will be treated in
confidence and investigated fully and you will be informed of the outcome.

Appendix E

Consent Forms

Appendix E1—Phase 2: case study, interview for <u>executives</u> at case school selected for further in depth exploration, term 2 2012

PRINTED ON UTS (and/or joint) LETTERHEAD

UNIVERSITY OF TECHNOLOGY, SYDNEY

I _____ *(participant's name)* agree to participate in the research project 'Helping students develop self-regulated learning skills: Exploring the role of secondary schools' (UTS HREC number: 2010-271A). being conducted by Prue Salter (contact details below).

I understand that the purpose of this study is to explore how schools can help students become more self-regulated in their learning.

I understand that my participation in this research will involve a half hour interview. The interview will be recorded and transcribed and I understand there are steps in place to ensure data protection and privacy.

I am aware that I can contact Prue Salter if I have any concerns about the research. I also understand that I am free to withdraw my participation from this research project at any time I wish, without consequences, and without giving a reason.

I agree that the research data gathered from this project may be published in a form that does not identify me personally, only the job title.

_____   ____/____/____

Signature (participant)

_____   ____/____/____

Signature (researcher or delegate)

NOTE:

This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Appendix E2—phase 2: case study, interview for <u>teachers</u> at case school selected for further in depth exploration, term 3 2012

PRINTED ON UTS (and/or joint) LETTERHEAD

UNIVERSITY OF TECHNOLOGY, SYDNEY

I _____ *(participant's name)* agree to participate in the research project 'Helping students develop self-regulated learning skills: Exploring the role of secondary schools' (UTS HREC number: 2010-271A) being conducted by Prue Salter (contact details below).

I understand that the purpose of this study is to explore how schools can help students become more self-regulated in their learning.

I understand that my participation in this research will involve a half hour interview. The interview will be recorded and transcribed and I understand there are steps in place to ensure data protection and privacy.

I am aware that I can contact Prue Salter if I have any concerns about the research. I also understand that I am free to withdraw my participation from this research project at any time I wish, without consequences, and without giving a reason.

I agree that the research data gathered from this project may be published in a form that does not identify me in any way.

_____   ____/____/____

Signature (participant)

_____   ____/____/____

Signature (researcher or delegate)

NOTE:

This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 9772 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number (2010-271A). Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Appendix F

Executive summary reports

Appendix F1—Executive summary of report for pilot school

Role of the school in helping students develop self-regulated learning skills.

- Teachers, and a large number of parents, believed this was a joint responsibility between parents, teachers and students.

- A number of parents also highlighted the need for this skills development to commence in Primary school.

- Students differed widely in their perception of who was responsible for developing them as self-regulated learners. 18% of students also viewed this as a joint role between students, parents and teachers and interestingly only 15% of students did not feel they had any role to play in this process.

IMPLICATIONS: The school needs to clarify and communicate the expected roles for each of the parents, teachers and students in helping students develop SRL skills to ensure the community is on the same page.

Perceptions of what the school does to develop students as self-regulated learners.

- Teachers had a good grasp of the scope of the school's contribution to students' SRL skills, parents on the other hand were very unaware of what the school does to assist the students in developing their SRL skills. Students were quite positive in their assessment of the school's offerings (only 2% felt the school did not support them in this area), but were usually only able to list one idea -they did not seem to be aware of the depth of the school's offering.

- Some of the ways students felt the school supported them was through teacher support, the use of the diary, technology, the award system and study skills courses and programs offered.

IMPLICATIONS: The school is not communicating effectively to students or parents the opportunities the school offers and the proactive steps taken by the school to develop SRL skills.

Perceptions of how successful the school is in helping students develop SRL skills.

- Teachers and parents had mixed responses to this question with many unsure as to whether they had enough information to make a judgment.

- Of the students, 46% were happy with the role of the school, 34% had a mixed response, 10% thought the school was doing an ok job, while 10% were unhappy with the school in this area.

IMPLICATIONS: This highlights the need for the communications outlined in the previous two points.

Perceptions of the impact of technology on self-regulated learning.

- While teachers felt that technology could be a distraction, the majority saw it as a means to facilitate distribution of information easily through Moodle, and allowing them to cater to different levels and styles and encourage independent learning.

- Many of the parents had a mixed response as to whether technology was positive or negative and those who had a firm opinion were fairly evenly divided between whether it had a positive or negative effect. The main concern was around technology as a distraction.

- Parents are also concerned that students are able to circumvent blocking programs and that their handwriting for the HSC will be affected.

- Students were generally positive about the impact of technology with 60% citing reasons such as convenience, ease of research, independent learning as advantages of learning with technology. The negative responses (13%) explained that the use of technology meant more temptations, distractions and causes of procrastination. They also explained that laptops were used inappropriately in class when teachers aren't looking, and were impacting on students' writing skills.

IMPLICATIONS: The school may need to reassess the current use of laptops in the classroom to ensure laptops are being used effectively as learning tools.

Suggestions from teachers, parents and students.

- There was a wide range of suggestions from teachers such as: better rewarding for students who become SRL, professional development of staff that makes links between content, quality teaching practices and how this can foster preferred learning styles in every classroom, ensuring all teachers are proactive, following up after study skills days, incorporating what is learnt across the school when assessments are given e.g. scaffolds for planning, timelines, whole-school approach, faculty approaches, whole-school pastoral care program.

- Parents were looking for communication to students and parents of some recommended strategies, improvement in the parent/teacher evenings, more mandatory seminars in times which suit the short attention span of boys

better, improvement to teaching methods which encourage slow accumulation of study, hence the students can exercise their self-regulating learning skills. Other suggestions were provided.

- 15% of students were completely happy with no suggestions at all.

- A number of themes emerged from the suggestions from the other students, some unrelated to self-regulated learning! Some of the most common complaints were about the canteen range and running out of food, the length of the canteen lines, the age of the school facilities and equipment and in particular the desire for lockers for all students.

- However other suggestions more relevant to SRL emerged and can be grouped into the following categories: the attitude of teaching staff, making lessons more fun and interesting, more opportunities for study periods, more study seminars, checking of homework, advanced work for students, better use of laptops, as well as a host of general suggestions.

IMPLICATIONS: A large number of worthwhile suggestions are outlined in the collation of the data. It would be a good idea for the school executive team to explore the suggestions from the school community to see which ideas could possibly be explored / implemented given the constraints in the school.

Appendix F2—Executive summary of report for case school

Role of the school in helping students develop self-regulated learning skills.

- Teachers had a range of views as to where the responsibility lay for helping students develop SRL skills.

- The majority of parents (56%) believed this was the joint responsibility of parents and teachers with an additional 10% citing parents and teachers from both primary and secondary schools. 16% perceived this to be a joint role between students, parents and teachers.

- Of the students, a third of the respondents believed this to be a shared role between students, parents and teachers. Almost another quarter believed it was a joint role between just students and teachers. However a quarter of the students believed developing students' SRL skills is the sole province of the teachers. Only 10% believed the teacher did not have a role in helping students develop SRL skills. However 36% of students did not see this as part of their responsibility in any way. A small group (5%) believed it was solely up to them.

IMPLICATIONS: The school needs to clarify and communicate the expected roles for each of the parents, teachers and students in helping students develop SRL skills, to ensure the community has a shared understanding. Parents also need additional support to ensure they have the tools to fulfil their role.

Perceptions of what the school does to develop students as self-regulated learners.

- Students had a good grasp of the scope of the school's contribution to students' SRL, however many students only cited one example. The responses were overwhelmingly positive with only four students out of the 256 who responded expressing the view that the school did nothing to help them.

- Students felt the school supported them in a number of ways. The main strategies outlined by students were year group meetings/study sessions, study cards, learning prep, goal setting, motivation, teacher support, HPF/mnemonic strategies and help sessions.

- Four parents stated that they did not know what the school did to help students become self-regulated learners and four parents had a negative perspective on the school's approach. However the feedback from the remaining 54 parents was overwhelmingly positive and covered a broad spectrum of strategies. The recurring strategies outlined were award programs, goal setting, reflection, self-assessment strategies, learning planner, homework policy, learning preparation and support sessions. However parents seemed to generally have a superficial understanding of the suite of support offered by the school, they did not seem to be aware of the depth of the school's efforts.

IMPLICATIONS: The school could communicate more explicitly to students and parents the opportunities the school offers and the proactive steps taken by the school to develop SRL.

Perceptions of how successful the school is in helping students develop self-regulated learning skills.

- The majority of parents were positive about how well the school was meeting expectations. 67% believed the school was doing a good job, 10% believed the school was doing ok, 16% had a mixed reaction and 8% were negative and did not feel the school was meeting their expectations.

- Of the students, 68% were happy with the role of the school, 18% had a mixed response, 2% thought the school was doing an acceptable job, while 9% were unhappy with the school in this area and 2% did not give an opinion.

IMPLICATIONS: This highlights the need for the communications outlined in the previous two points.

Suggestions from teachers, parents and students.

- Teachers made a wide range of suggestions. These included individualised learning strategies, gifted and talented programs, more rigorous monitoring system for at risk students, teach the 'why' as well as the 'how', bring in parties from outside the school to speak, greater take up of whole-school practice.

- The main issue for parents was concern around the amount of learning preparation given. There were over 30 other individual suggestions given but no consistent themes emerged.

  - 17% of students were completely happy, offering no suggestions at all.

  - A number of themes emerged from other students. 8% desired more guidance and support, 6% suggested the amount of learning preparation should be reduced and a further 6% wanted greater measures in place to deal with disruptive students. 5% stressed the need for more individualised learning techniques. Other suggestions given were improving teaching style, more group work, the school to be less controlling, greater consistency for teachers, issues with the girls' uniform, graded classes, study skills training, helping students to be more independent, more help from teachers, make learning more fun, enforce quiet in study periods, more feedback, teacher mentors and a number of other minor suggestions.

IMPLICATIONS: A large number of worthwhile suggestions are outlined in the data. It would be a good idea for the school executive team to explore the suggestions from the school community to see which ideas could possibly be explored / implemented given the constraints in the school.