

# EXECUTIVE SUMMARY OF RESEARCH

## **TITLE OF THESIS:**

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

## **RESEARCHER:**

Prue E. Salter, University of Technology Sydney, for the degree of Doctor of Philosophy.

## **PRECIS OF THE RESEARCH:**

The thesis explored how secondary schools could 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 approached SRL skills development, the study also examined teachers', students' and parents' perceptions of who is responsible for SRL skills development and perceptions of the impact of technology on students' SRL skills.

## **SIGNIFICANCE OF THE RESEARCH:**

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 investigated three key gaps in this body of research to date and also added to the qualitative evidence in these areas. These gaps involved:

- 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 examined the field of SRL through this threefold perspective, as illustrated in Table 1. The research understandings informed 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	Integrated whole-school approach to developing students' SRL skills	Guidelines for a whole-school approach
Measuring SRL	Stakeholder perspectives of key responsibilities	Understanding roles and needs
SRL inventories	Stakeholder perspectives on the impact of technology	Understanding technology impact and needs
Targeted individual interventions		

*Table 1: Contribution to SRL literature of this doctoral thesis*

The outcomes from this research 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.

## RESEARCH QUESTIONS:

This doctoral study explored 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 was:

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

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

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

## RESEARCH DESIGN:

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. 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. Qualitative analysis produced a rich, contextualised description of the case school, supported by insights from the quantitative data.

## **FINDINGS:**

### Overall Summary of Findings

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.

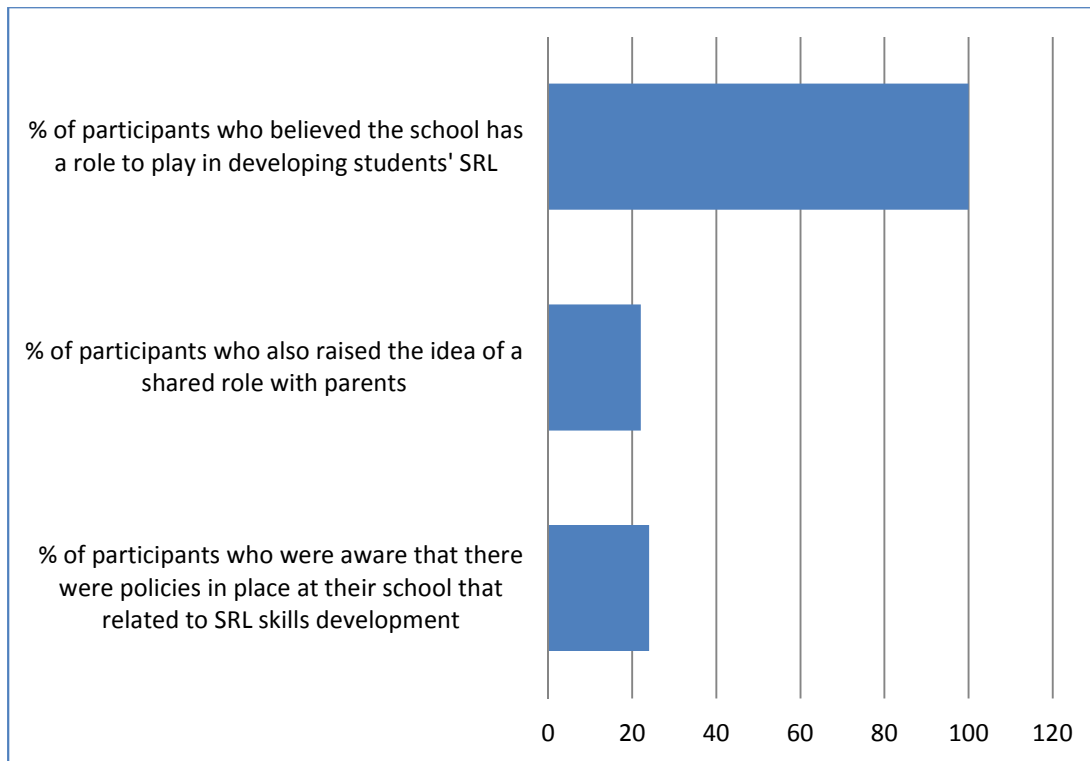
### Phase 1 Findings (Initial Online Survey)

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 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.

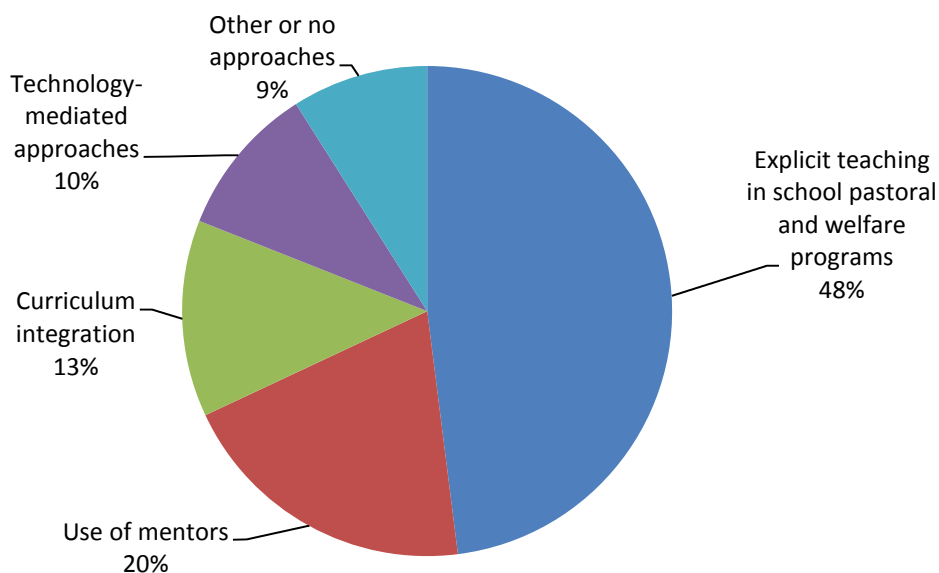
The overall picture that emerged from phase 1 of the study was of a piecemeal approach to developing students' SRL skills in schools. All schools surveyed believed schools have a responsibility and an important role to play in the development of students' SRL skills. However, approaches taken varied 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 established in previous research literature.

Figure 1 on the following page shows the key understandings gained from the phase 1 data around the perceptions of the role of the school.



**Figure 1: Participant perceptions of the role of the school in developing students' SRL skills (n=54)**

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 2: explicit teaching in school pastoral and welfare programs, curriculum integration, use of mentors and use of technology.



**Figure 2: Approaches taken by schools to helping students develop SRL skills (n=54)**

## Phase 2 Findings (Case Study)

### **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.

### **FINDINGS FOR RESEARCH QUESTION 1**

*Research Question 1: How can secondary schools embrace a whole-school integrated approach to helping students develop SRL skills?*

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.

The case 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.

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 2, on the following two pages.

Table 2 demonstrates the relationship between the theoretical framework developed from the synthesis of literature on recommendations for classroom teachers for helping students develop SRL skills and the 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 2).

**Table 2: Overview of guidelines emerging from this study for a whole-school approach to developing students' SRL skills**

<b>Category</b>	<b>Framework of background literature</b>	<b>Guidelines emerging from this study for an integrated whole-school approach to developing students' SRL skills</b>
<b>Developing teachers' capabilities to build students' SRL skills</b>	T1. Teacher is educated in and understands SRL	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
<b>Building teacher expectations and student belief in students' academic capability</b>	T2. Teacher believes in students' abilities to achieve and builds students' self-belief	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
<b>Creating a school environment conducive to SRL skill development</b>	T3. Teacher plans to integrate SRL skills into classroom teaching and practice	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
<b>Teachers facilitating peer interaction to support SRL</b>	T4. Teacher facilitates social experiences and peer interactions for students during learning activities	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
<b>Teachers modelling and scaffolding SRL strategies for students</b>	T5. Teacher uses modelling and scaffolding of SRL skills	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
<b>Teachers embedding opportunities for students to reflect on their</b>	T6. Teacher provides guidance and feedback during	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



<b>Category</b>	<b>Framework of background literature</b>	<b>Guidelines emerging from this study for an integrated whole-school approach to developing students' SRL skills</b>
<b>SRL skill development and gain feedback</b>	monitoring with opportunities for reflection	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
<b>Teachers outlining content relevance and providing opportunities for choice</b>	T7. Teacher outlines content relevance and students are given a measure of choice and control in their learning	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.

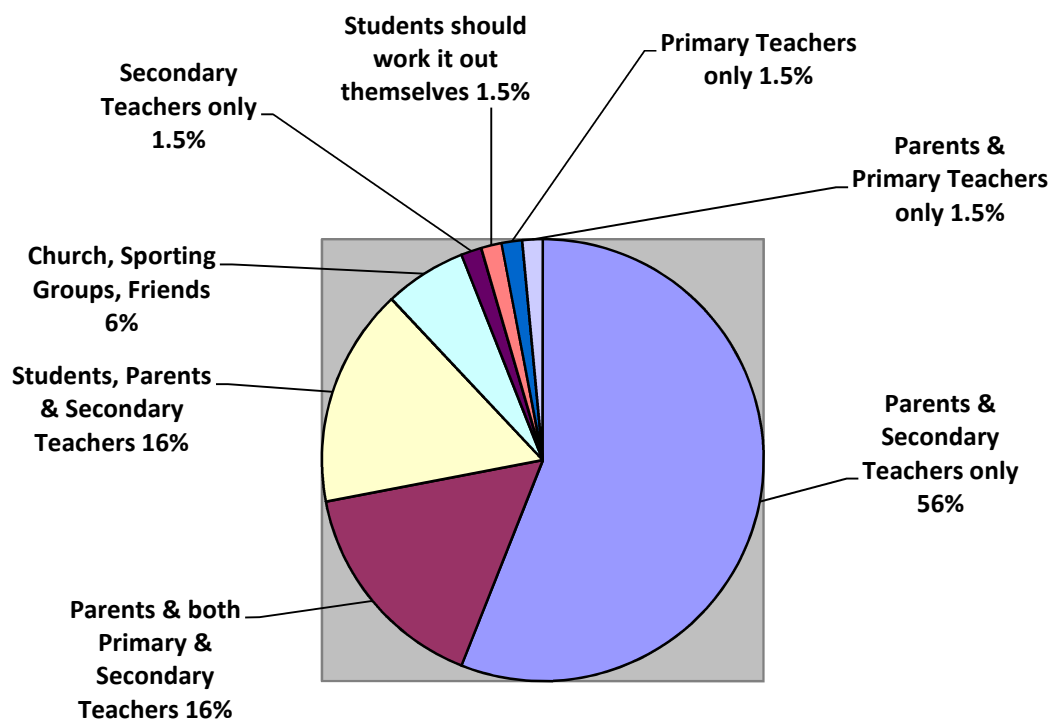
***Table 5.1 (continued): Overview of guidelines emerging from this study for a whole-school approach to developing students' SRL skills***

## FINDINGS FOR RESEARCH QUESTION 2

*Research Question 2: What are the stakeholders' perceptions of key responsibilities?*

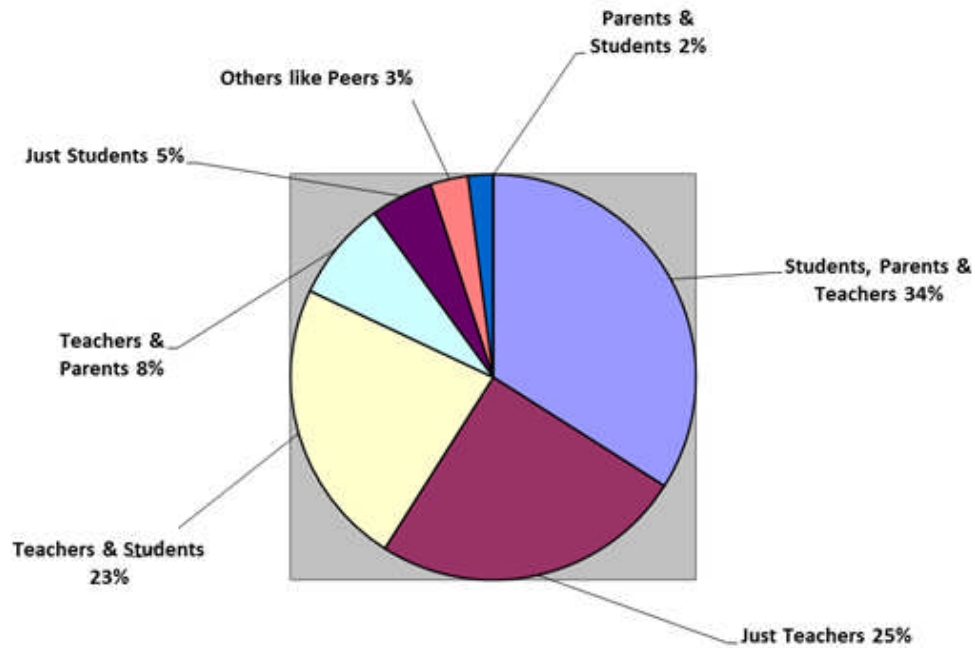
Findings from the case study questionnaire data demonstrated that there were diverse views within the school community as to whose role it is to help students develop SRL skills. These viewpoints varied within and across the parent, student and teacher groups.

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 as shown in Figure 3 below. The remainder of the parent respondents had widespread opinions as to whose responsibility it was to help students develop SRL skills.



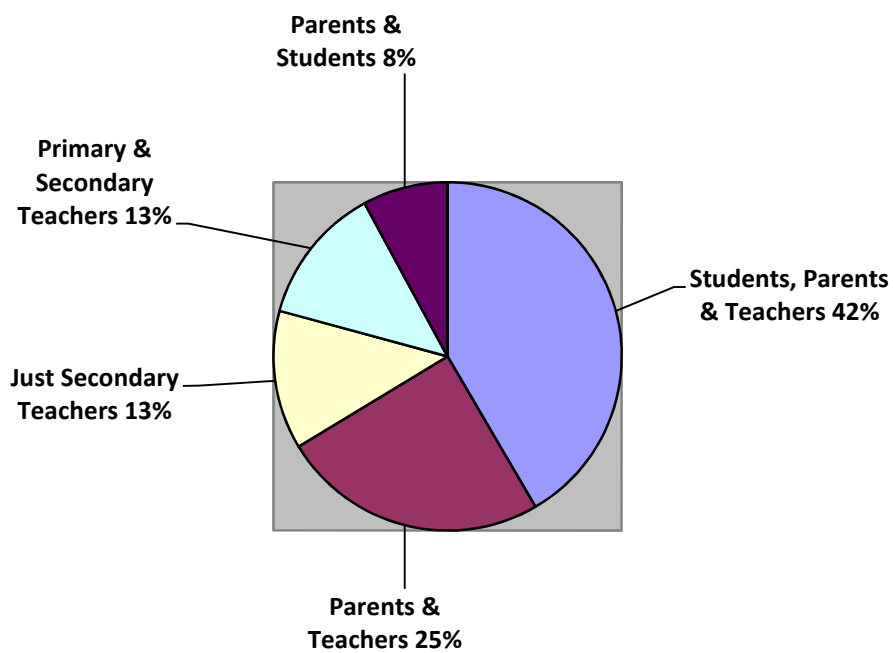
**Figure 3: Parents' perceptions of whose role it is to develop SRL skills (n = 59)**

In contrast, as shown in Figure 4 on the following page, 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.



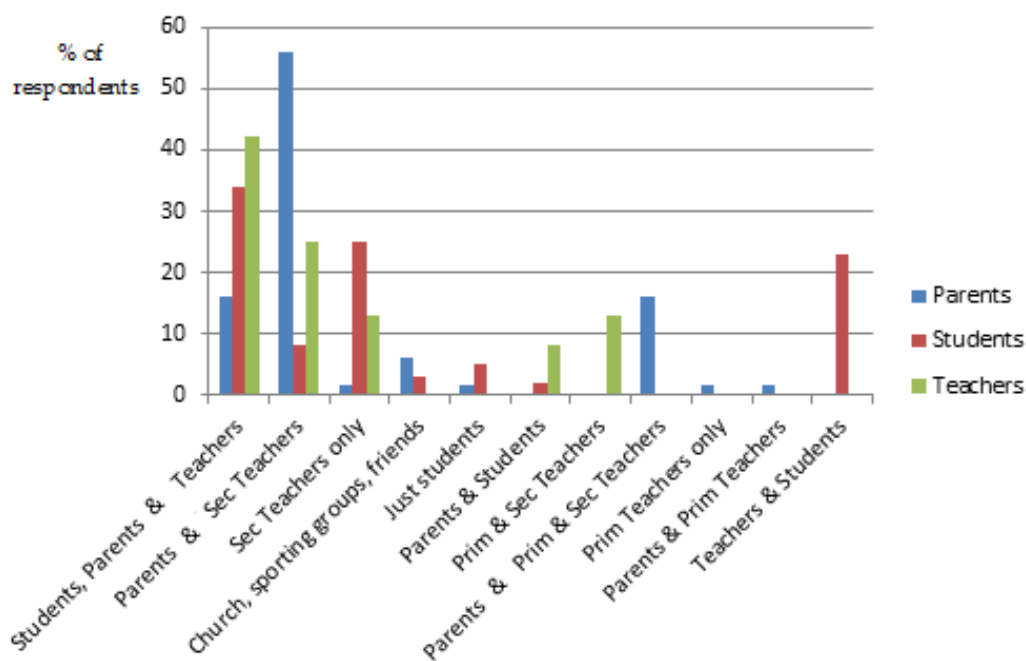
**Figure 4: Students' perceptions of whose role it is to develop SRL skills (n = 256)**

Figure 5 below 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.



**Figure 5: Teachers' perceptions of whose role it is to develop SRL skills (n=24)**

Figure 6 below 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: Comparison between parent, student and teacher perceptions on whose role it is to develop SRL skills (n=339)**

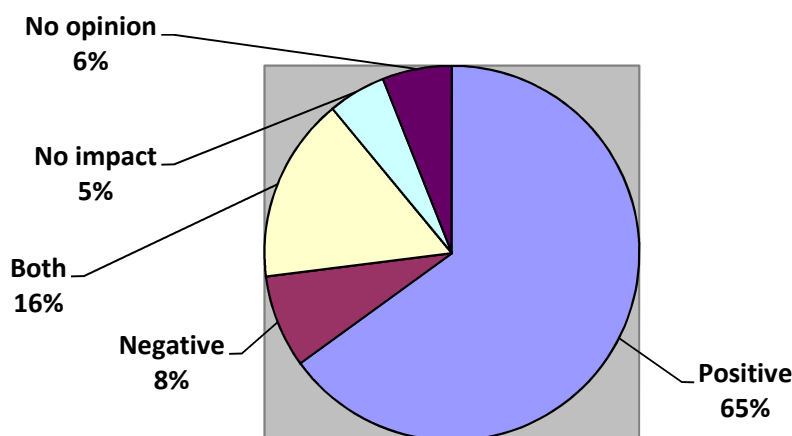
Figure 6 also highlights the diversity of viewpoints. The results suggest that because stakeholders in a school could hold such differing views on whose role it is to develop students' SRL skills, it is essential that schools first gain an understanding of the perspectives of their stakeholders. With 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.

### FINDINGS FOR RESEARCH QUESTION 3

*Research Question 3: What are the stakeholders' perceptions of the impact of technology?*

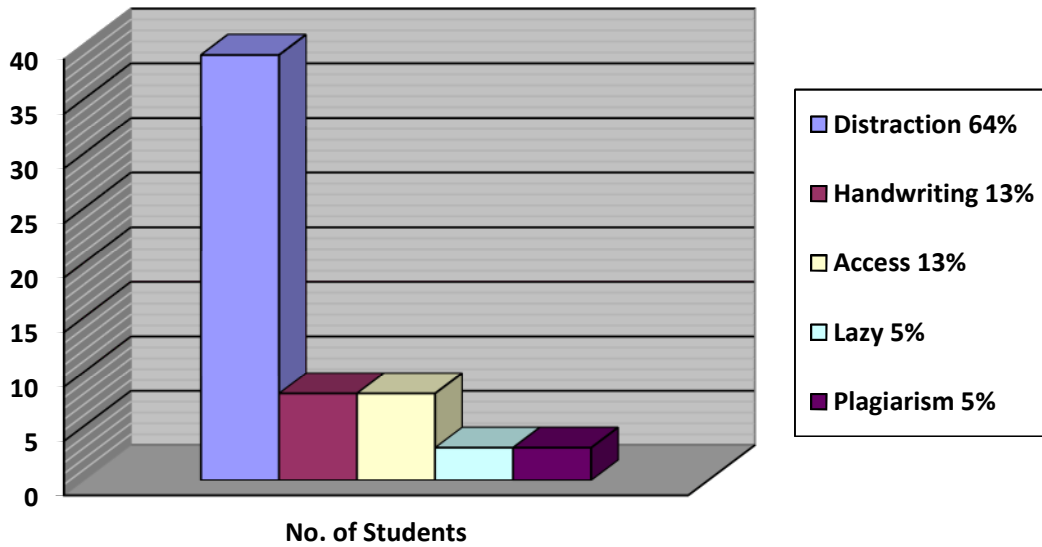
Findings demonstrated that the majority of the student and parent respondents expressed positive perceptions of the impact of technology on SRL skill development. In particular they viewed technology as providing a speedier and more convenient research tool, helping students to be more efficient and 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.

#### Perceptions of students:



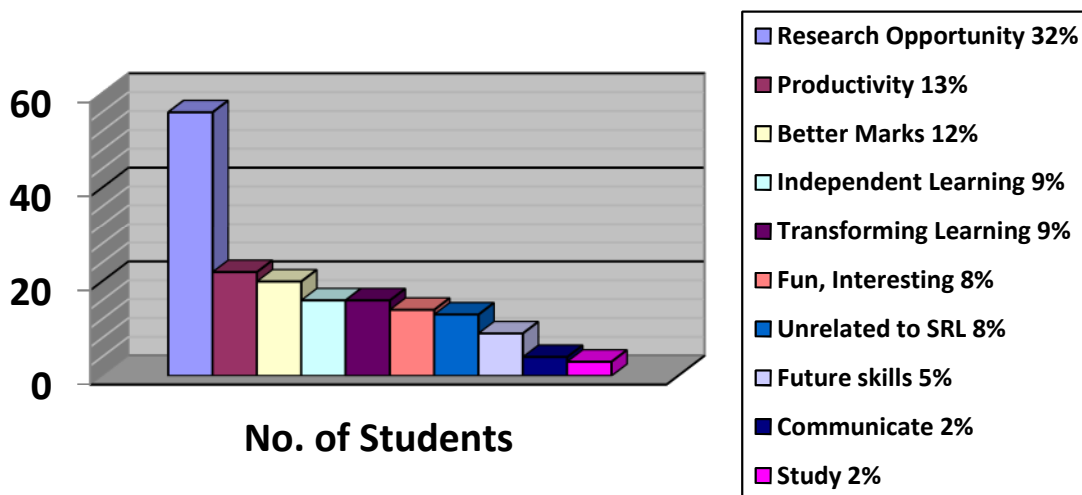
**Figure 7: Students' perceptions of the impact of technology on SRL (n=256)**

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. Responses are outlined in Figure 8 on the following page.



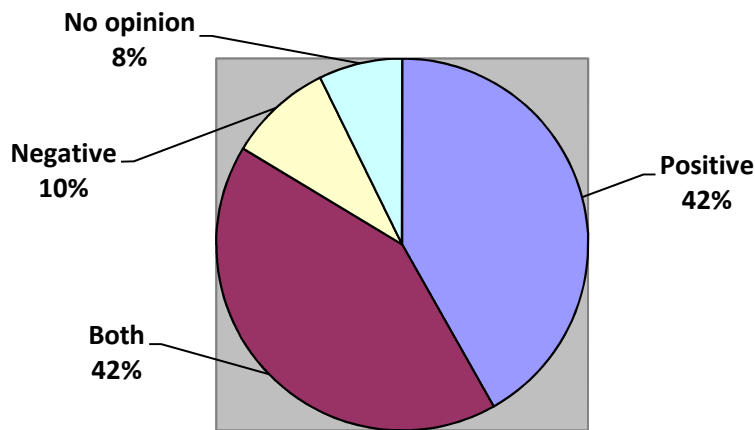
**Figure 8: Students' negative perceptions of the impact of technology on SRL (n=62)**

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 9) 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 below in Figure 9.



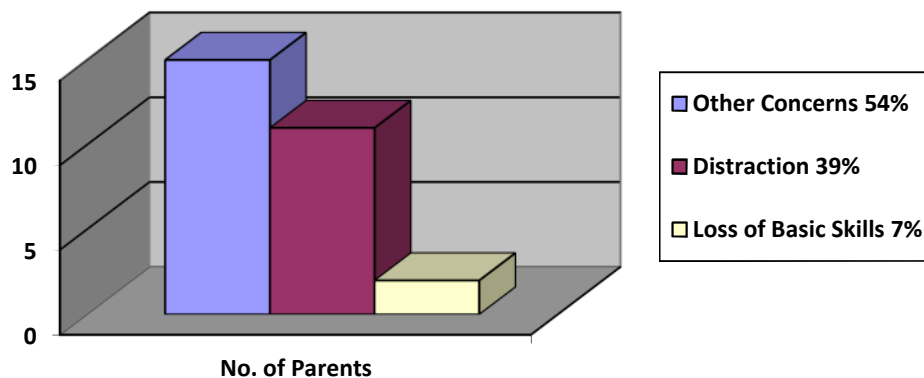
**Figure 9: Students' positive perceptions of the impact of technology on SRL**

**Perceptions of parents:**



**Figure 10: Parents' perceptions of the impact of technology on SRL (n=59)**

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 11.

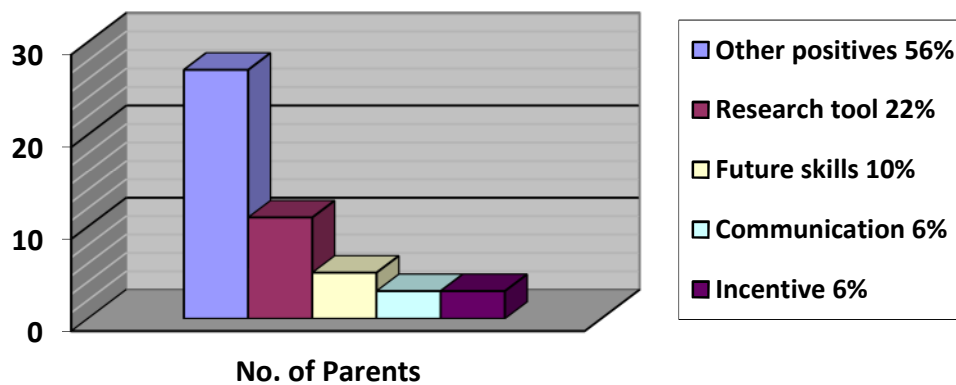


**Figure 11: Parents' negative perceptions of the impact of technology on SRL (n=31)**

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.

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.

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 12 below.

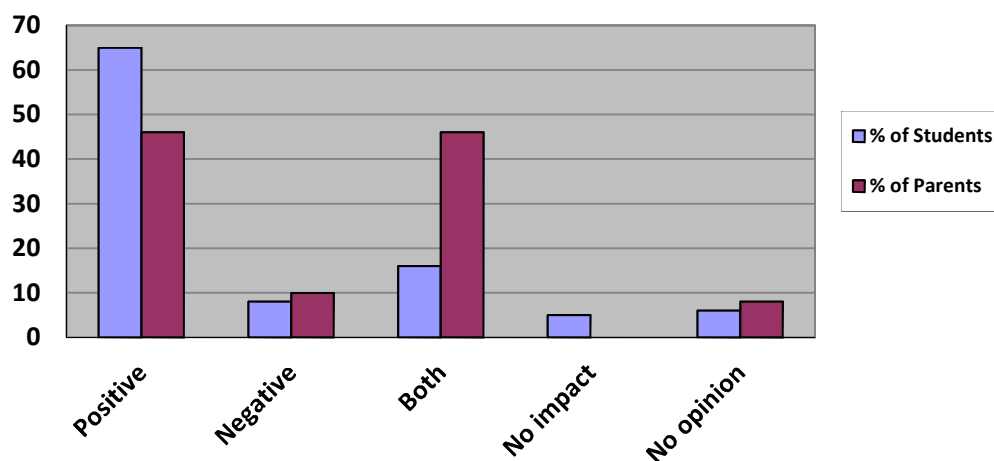


**Figure 12: Parents' positive perceptions of the impact of technology on SRL (n=50)**

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.

The comparison between the perceptions of students and parents of the impact of technology on SRL is shown in Figure 13.





**Figure 13: 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.

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.

The findings show that educators need to 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; and identify available tools and approaches in both existing and emerging technologies that can be used to develop students' metacognitive, motivational and behavioural SRL skills.

### **Overview of guidelines developed for a whole-school approach to SRL**

Through the in-depth case study this research was able to identify whole-school strategies for helping students develop SRL skills. The strategies were analysed using a theoretical framework based on the research literature. This analysis led to the development of evidence-based guidelines for a contemporary whole-school approach to helping students develop SRL skills as shown in Table 3 on the following page.

<b>Guidelines for an integrated whole-school approach to developing SRL skills</b>	
<b>1. To develop teachers' capabilities to build students' SRL skills, the school:</b>	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
<b>2. To build teacher expectations and student belief in students' academic capability, the school:</b>	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
<b>3. To create a school environment conducive to SRL skill development, the school:</b>	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
<b>4. To facilitate peer interaction to support SRL skills development, the school:</b>	4.1 improves students' interpretation of assessment questions using peer interaction e.g. HPF (Highlight, Peer, Feedback)
	4.2 offers small group study sessions
<b>5. To systematise opportunities for modelling and scaffolding of SRL strategies, the school:</b>	5.1 highlights to students strategies the school is targeting
	5.2 develops students' summarising skills
<b>6. To embed opportunities for students to reflect on their SRL skills development and gain feedback from teachers, the school:</b>	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
<b>7. To ensure the school community has a shared view of the roles of all stakeholders, the school:</b>	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
<b>8. To take a whole-school approach to the use of technology to foster positive impacts on developing students' SRL skills, the school</b>	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 3: Guidelines for an integrated whole-school approach to developing SRL skills**

## 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. This helps students move towards achieving their personal academic potential at school. 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, 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.