Author Name: Prue Salter
Contact Email: Prue.E.Salter@student.uts.edu.au

DEVELOPING SELF-REGULATED LEARNERS IN SECONDARY SCHOOLS

Prue Salter
Doctoral Student (University of Technology, Sydney)

Abstract

This paper draws on emerging data from a doctoral study exploring how schools approach the development of self-regulated learners in Years 7-12. The research is exploring stakeholders' attitudes, beliefs, experiences and perceptions around the development of self-regulated learning (SRL) in contemporary secondary schools and how new and emerging technologies might mediate these approaches. The paper outlines self-regulation strategies informed by the literature, including shifting responsibility to the student, providing social experiences such as modelling, scaffolding, allowing students a measure of personal choice and control, positive reinforcement and teacher guidance, integration of self-regulatory strategies into classroom teaching and relevance, outlining content relevance, and creating opportunities for reflection on learning. Preliminary findings are presented from phase one of the study, examining the stakeholders' perceptions of what takes place in secondary schools.

Introduction

The aim of this doctoral research is to explore how contemporary Australian secondary schools choose to contribute to the development of Years 7-12 students as self-regulated learners. The study will contribute to a greater understanding of stakeholders' attitudes, beliefs, and experiences of self-regulated learning (SRL) in contemporary secondary education and explore the role of the school in developing self-regulated learners.

By taking a snapshot of contemporary approaches in Australian schools and subsequently exploring the approaches of one school in-depth, this study aims to develop guiding principles for schools to assist in the formulation of an approach to meeting the SRL needs of students. This 'work-in-progress' paper focuses on findings from online survey data from the first phase of this two-phase study. The online survey was completed by 54 executives from 54 Years 7-12 secondary schools in the Sydney region and elicited data revealing how schools view their role in the development of students as self-regulated learners and the approaches taken.

The findings of this first phase illustrate the complexity of the issue of addressing students' SRL needs in schools and the variance in perception of the role of schools in this process. The SRL development approaches, uncovered through the data, demonstrate how few schools have a clear school policy or whole school approach to SRL.

Background

A defining moment for future social cognitive theorists, was the publishing of Bandura's *Social foundations of thought and action: a social cognitive theory* (1986). Bandura put forth a tri-reciprocal model of human functioning in which personal, environmental and behavioural factors are accorded a central role in the understanding of human behaviour. These determinants are separable and also interdependent factors influencing individual functioning. People are 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 experience. This theory formed the basis for Zimmerman's enduring definition of SRL.

Zimmerman (2002) explains that self-regulation relates to the degree to which students are metacognitively, motivationally, and behaviourally active participants in the learning process. There is widespread agreement that self-regulatory processes are an important factor influencing levels of student achievement (Zimmerman & Martinez-Pons, 1986, 1988). There is also consensus 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 strategies by which learners transform their mental processes into academic skills adapted to individual learning tasks (Zimmerman, 2002). Research over the last four decades points to the continued importance of teachers' assistance in developing students' strategies for learning (Miller, Heafner & Massey, 2009; Romeo, 2004; Weinstein & Mayer, 1986). An essential issue around the construct of self-regulation therefore is how schools can develop or optimise this capability or capacity in students.

The focus of the field of SRL has moved from various ways of defining and measuring SRL, to exploring experimental targeted interventions to foster SRL. It is accepted that self-regulation does not automatically evolve as students mature, nor do they passively acquire the 'will' (Corno, 2008) and the skill from the environment around them (Zimmerman & Schunk, 2001). Therefore, in order for students to acquire SRL skills Schunk and Zimmerman (2007) conclude they need to be taught the skills along with the content and have the opportunity to practise these skills in context. However it is not sufficient to assume that all teachers have the knowledge and skills in place to integrate this approach to learning into their teaching practice. Paris and Winograd (2003) highlight the need to train teachers in how to foster self-regulatory practices.

Another important aspect for developing self-regulated learners relates to the importance of positioning the learning experience. Students will be more motivated to self-regulate if they can see the relevance of what they are learning (VanZile-Tamsen & Livingston, 1999) and the effectiveness of SRL strategies (Paris & Newman, 1990). These understandings also help students to focus more on mastery goals. Students show high levels of SRL when they are oriented towards learning goals instead of performance goals (Meece, 1994). In order to encourage students to adopt this mastery orientation, Schunk and Ertmer (2000) provide guidelines for teachers. 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 social competitions and comparisons of students' work. As the learning activity unfolds and students begin to experiment with their skills, 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.

When designing learning activities, teachers should also address the importance of social experiences in developing SRL. A common tenet of SRL is that people acquire knowledge through their social interactions with others (Graham & Harris, 1994). While coregulation, a transitional process where learners share a common problem-solving plane, emphasizes social emergence of SRL through a zone of proximal development (McCaslin & Burross, 2011), a sociocognitive perspective is more appropriate for research in a secondary school environment as the focus is more on development within the individual with assistance through modelling and feedback (Hadwin & Oshige, 2011), an approach that aligns well with Australian secondary classrooms. However as Boekaerts (2011) points out, the

study by McCaslin and Burross is significant as it emphasises that individual differences in the social experiences of learning are based on many sources of influence which teachers must take into account.

Modelling also allows teachers to demonstrate SRL strategies in context (Schunk & Zimmerman, 2007). Teachers can then move to indirect instruction or guided practice by having students participate in instructional activities, shared problem-solving, and discussions. Paris and Paris (2001) outline a number of methods to foster reflective discourse including peer and whole group discussions, reciprocal teaching, and collaborative learning and writing. It is essential for students to then have an opportunity to imitate and emulate the modelled behaviours, preferably, as Mullen (2011) indicates, in authentic settings as scaffolded support is withdrawn.

It is also essential when developing self-regulated students that teachers create opportunities for reflection. Butler (2002) suggests 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). An example of this approach is discussed by Paris and Winograd (2003) who recommend the use of journals and portfolios as an avenue for self-exploration, self-discovery, and self-disclosure. The necessity for reflection, as Zimmerman and Schunk (2001) observe, is that self-observation can motivate students to behavioural change and create a greater sense of self-efficacy.

Self-efficacy, an essential tenet of SRL, is also garnered when students achieve some measure of success and feel encouraged by their efforts. Learners need to feel they are making progress towards the attainment of their goals and additionally receive feedback on their progress. An example of this is discussed by Zimmerman (1989); students whose teachers demonstrated optimism about the students' chances of success in solving a puzzle had more positive achievement outcomes than those where the teachers expressed pessimism about students' chances of success. Op't Eynde, De Corte and Verschaffel (2007) highlighted the need to minimise unpleasant emotions for students during learning experiences, or at least educate students on how to deal with these emotions in a way that does not impact negatively on their belief system.

The diagram below (Figure 1) summarises the factors outlined above that have been demonstrated in SRL research as being necessary conditions in the classroom for developing self-regulated learners.
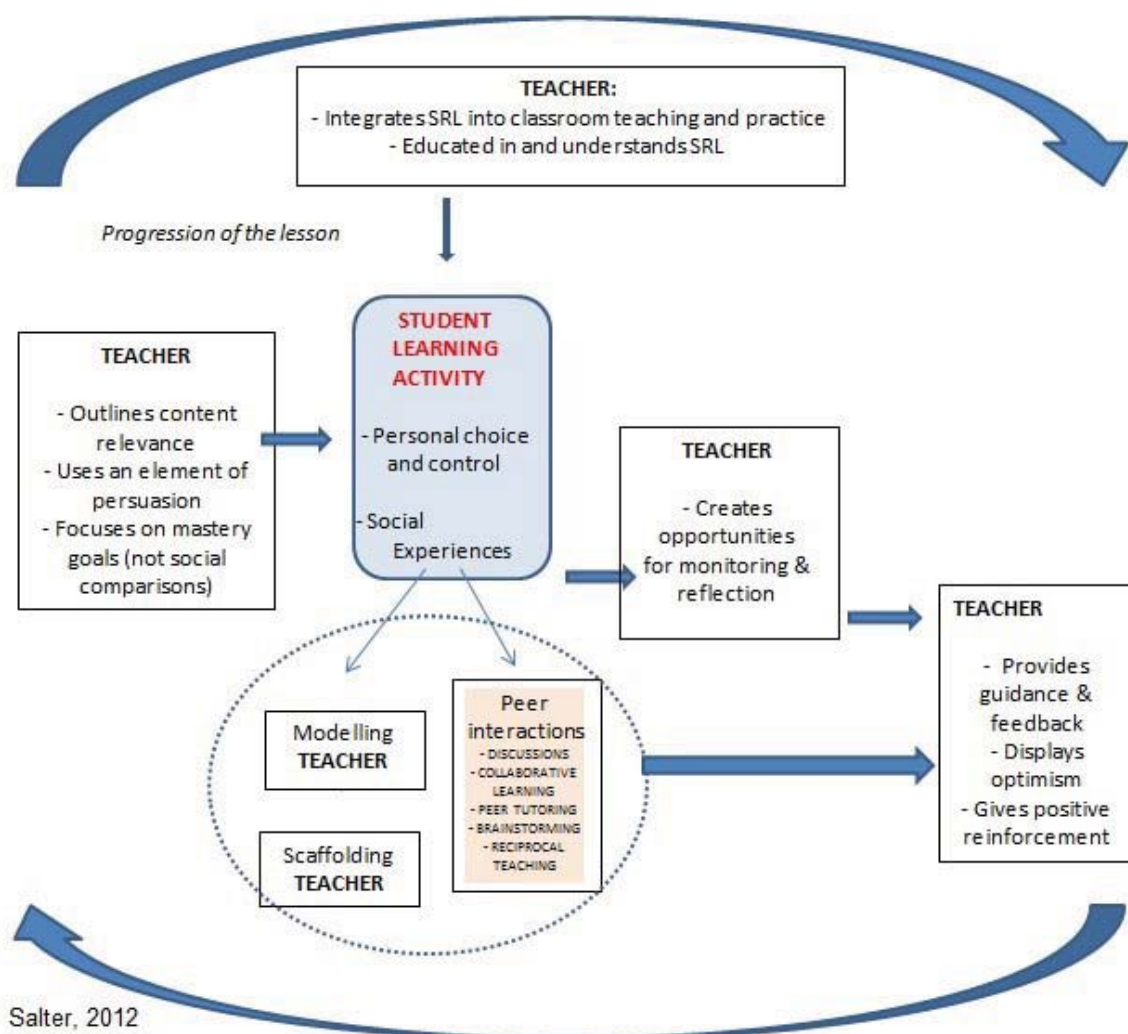
Figure 1. *Summary of factors for developing self-regulated learners (Salter 2012).*

So, in summary, the research in the field thus far has focused on how an individual teacher can help students develop as self-regulated learners. Guidelines have emerged (as illustrated in Figure 1) from this base to suggest conditions a school or teacher needs to create to foster the development of SRL. The successful creation of these conditions is dependent on each teacher having the knowledge and understanding necessary to make the appropriate adjustments to their teaching practice as well as the willingness to do so. What is lacking in the current literature base is research on the whole school approach. How do schools systematise the support for teachers and implementation of their outlined approach to ensure the learning conditions are created that will help students become more self-regulated?

The study

The study aims to explore the current state of play in the Australian context with regards to how secondary schools approach the development of self-regulated learners in the context of the contemporary learning environment and the relevant attitudes and beliefs of stakeholders. It explores how new and emerging technologies are used to mediate adopted approaches and how the stakeholders' attitudes and beliefs around the development of SRL in contemporary secondary education influence the approaches taken by schools. The main research question is: *How do schools approach the development of Years 7-12 students as self-regulated learners of the curriculum in the context of the 21st century Australian learning environment?*

A social cognitive perspective was deemed to be the most appropriate for this research underpinned by Bandura's (1986) view of SRL as a triadic model of personal, behavioural and environmental processes. The interaction between these processes is particularly applicable to the school context where this study is situated. Secondary school settings provide a suitable social learning environment for investigating these processes, with the modelling and enactive mastery experiences that are necessary, from the social cognitive viewpoint, for effective development of SRL (Zimmerman, 1998). The secondary school environment also emphasises the need for self-observation, self-judgment and self-reactions, the three processes that Schunk (1994) and Schunk and Zimmerman (1997) highlight as necessary for a social cognitive theory of self-regulation.

In order to explore the research questions a qualitative, interpretative approach was essential. This methodology allows the school strategies and attitudes to SRL development to be studied in context, leading to a richer, deeper understanding of the phenomena (Denzin & Lincoln, 2005). Data collection for this study is taking place over two phases: an initial online survey, followed by an in-depth case study. This paper focuses on phase 1 data.

Phase 1

The first phase began with an online survey of all schools that meet the following selection criteria: Years 7-12 schools based in the Sydney metro region. Of the 350 schools surveyed who met the criteria, 54 executives from 54 schools completed the four open–ended questions through an online survey. The purpose of this initial survey was three-fold: preliminary data collection for the research questions, to uncover innovative, interesting and diverse approaches to SRL to aid in case selection, and to inform the data gathering process for the case study.

Phase 2

To obtain multiple perceptions and verify interpretations (Stake, 2005), the second phase of the research used the following methods: semi-structured group interviews, focus groups, questionnaires, and document gathering. The data collection for the case study was spread across the 2012 school year in order to allow time to incrementally analyse the data and let each stage inform the next (Merriam, 2009).

The case in phase 2 was chosen to represent interesting and proactive approaches to fostering SRL in schools. The chosen school is located in Sydney's western suburbs and is a Years 7-12 co-educational Catholic school. This is a school that has always had Higher School Certificate results below State average. Students at this school have traditionally been perceived by teachers as having low self-efficacy and low motivation for their academic studies. Six years ago a new Principal instigated widespread changes in the school. The mantra of the school is now 'it's all about learning' and this is reflected in everything the school says and does. For the first time last year, the school reached State average in their overall Higher School Certificate results and teachers are recognising positive changes in student approaches to learning.

Data analysis

Survey responses collected thus far have been imported into NVivo, interviews are currently being transcribed and transcripts will also be entered into NVivo. Initial coding began using the conceptual frameworks developed from previous studies (see Figure 1 as an example of one such conceptual framework used in this analysis) to explore approaches taken by schools to developing self-regulated learners. However new categories have emerged from the data (Lichtman, 2010) when examining SRL through the previously unexamined whole school approach lens and concepts and are being refined as data analysis proceeds and themes emerge.

Findings

This paper focuses on findings from the online survey data from phase 1 which was sent to 350 Years 7-12 secondary schools in the Sydney region. In exploring how schools approach the development of SRL, it is necessary to have some understanding of how schools view their role in this process. This survey was completed by 54 schools and was designed to interrogate these views and examine approaches taken by schools. Typically, the Principal, Deputy or Director of Learning completed four open-ended questions about their school's approach. The main themes emerging from the survey data were the variance between schools in their perception of the role of the school, the widely differing approaches taken to fostering SRL skills in students, and the overall lack of a whole school policy or approach to SRL.

Role of the school

While all respondents indicated the school had an important role to play in the development of SRL, the perceptions of the focus of this role varied widely. Some of the opportunities raised were fostering critical thinking skills, creating a joy of learning, and explicit teaching of transferable skills so that students are able to adapt to an ever changing work place. The role of the school was suggested to be one of guidance as opposed to a set of rules that are imposed upon students: "Schools should be giving students access to opportunities and the tools required to help them become self-regulated learners." (Anonymous survey respondent, phase 1, 2011).

Communication between the school and parents was also viewed as an essential element as much of the actions that demonstrated SRL are those taking place in the home environment. Although asked specifically about the role of the school, 22% of respondents also indicated that it was indeed a shared role between the school and the parents. One respondent mentioned: "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, phase 1, 2011).

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

The overall picture emerging from phase 1 of the study is that of a piecemeal approach in schools to developing SRL. Most schools that completed the survey were simply choosing to implement across their school only one or two components of the conditions highlighted in Figure 1 for developing self-regulated learners.

Approaches to developing SRL

Four themes emerged across the approaches taken to developing SRL: explicit teaching in welfare programs, curriculum integration, use of mentors, and a technological approach.

Almost half of the respondents indicated that they addressed SRL by targeting particular skills through

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Contact Email: Prue.E.Salter@student.uts.edu.au

the forum of year group programs or explicit teaching of skills through targeted study skills courses. This allowed them to focus on particular issues or strategies at different year levels, creating age appropriate programs. Four of the schools specifically referred to transition programs for Year 7. 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, 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.

Curriculum integration, an approach that is more in line with the research, was a path chosen by some schools with 13% of the respondents referring to this as a means of addressing SRL issues. Project based learning was described as a valuable strategy by two schools due to the flexible nature of this approach to learning and its allowance for differentiation across the curriculum.

One school took a more direct and structured approach to curriculum integration: "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, phase 1, 2011). Other schools viewed SRL as embedded within the teaching model the whole school embraces. For example, one respondent related: "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, phase 1, 2011). What is not yet known is how explicit these frameworks are or how effectively they are embraced by the teaching staff.

Another theme emerging was that mentors were viewed as a suitable resource to foster SRL with students. 20% of respondents discussed the use of mentors in their school: peer mentoring, one on one interviews, or allocated teacher mentors. For example, one 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, phase 1, 2011).

The value of mentors was perceived to be their ability to individualise student approaches to learning, to allow opportunities for guided reflection and to allow personal goal setting, all contributing factors to developing self-regulated learners as outlined in the model in Figure 1. 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.

A less popular, but nevertheless significant approach was the use of technology-mediated processes. 10% of respondents perceived their school intranet, class portal, or Moodle as a valuable tool for helping students become self-regulated. One respondent stated:

> 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, 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 to promoting SRL.

In summary, it was clear that the approach taken by many schools was not in line with research findings for best practice for developing self-regulated learners. While curriculum integration, the use of mentors and the explicit teaching of skills (albeit not necessarily in context) are all factors that have been found to contribute to the development of self-regulated learners, many schools are implementing approaches in isolation as opposed to the overall and comprehensive approach outlined in Figure 1.

Discussion & conclusions

The findings from this first phase of the research highlight the complexity of the construct of SRL in contemporary secondary schools and the need for a more in-depth investigation in the second phase of this study. Australia does not have a 'self-regulated learning curriculum' or a clear policy on how schools should approach the development of self-regulation skills. The Australian Government Department of Education, Employment and Workplace Relations website on 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). However there is little guidance in the documentation as to how to foster this self-regulation or explanation of what schools might currently be doing in this area. Indeed, the use of 'self-regulation' in this document focuses more on classroom behaviour than an overall approach to learning.

As there is not a consistent approach in Australian secondary schools towards the development of these skills, approaches taken by schools vary widely with a notable lack of a school wide approach. This means that there is no guarantee that the needs of students who enter secondary schools without the necessary 'learning-to-learn' skills will be met (Zimmerman, 2000).

The case selected for the second phase of this study is notable for the school's movement towards a whole school approach to addressing SRL. Therefore an outcome of this next phase of the study will hopefully be a greater understanding of what is happening in a proactive school to foster the development of SRL and greater insights into the perspectives and viewpoints of students, parents and teachers around the issues associated with SRL. By examining the context of SRL in practice, sound principles should emerge to guide schools in implementing a whole school approach to developing students as SRL.

Future research in this area of scholarship could examine the effectiveness of a contemporary framework for a whole-school approach to developing self-regulated learners in Australian secondary schools. Such a framework would help schools review policies and programs to more effectively develop self-regulated learners. This would benefit teachers and schools, giving them much needed information and ideas upon which to make decisions about the approaches they take to developing self-regulated learners.

Research-informed guidance and support for schools in developing self-regulated learners will lead to students being equipped with skills that help them navigate the current mire of school academic expectations and assessments in a way that makes their school experience more efficient, less stressful and ultimately more rewarding, helping them move towards achieving their personal academic potential at school.

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