Self-Regulated Approach to Strategic Learning (SRSL): A Socio-cognitive Perspective

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Abstract

This paper explores one salient feature of socio-cognitive theory, *enactive learning principle* (Schunk, 2000, 2001; Elliot, Kratochwill, Cook and Travels, 2000). It will examine within the broader framework of enactive learning principle, how successes attained as a consequence of one's actions (strategy use) in actual task performance generate cognitive motivation on the part of the learner, which in turn enhances the learner's sense of self-efficacy in those actions (using learning strategies) to self-regulate his/her learning process. When the learner becomes cognitively motivated, his/her level of self-efficacy also increases which then expands and develops his/her capacity for the acquisition of knowledge in metacognition that enables effective self-regulation of the learning process. Having possessed knowledge in metacognition, the learner tends to become self-regulated or strategic in his/her learning approach via strategic formulation and implementation of learning strategies in the learning contexts. Such learner is considered as a self-regulated learner who is capable of engaging strategic learning particularly in the context of academic reading. An understanding of how enactive learning principle informs the development of a self-regulated learner is at best theoretical unless some pragmatic mediation of the principle is made. The conceptualisation of the SRSL Approach is an effort at pragmatically mediating theory into practice. The approach is designed by the author to provide a strategic processing framework for self-regulated learners to engage efficaciously in academic reading context. The paper will therefore attempt to expound some plausible effort at mediating a theoretical strand into practice.

Introduction

The main aim of this paper is to firstly establish an understanding of one essential strand of a socio-cognitive theory, *enactive learning*, to examine its connections to other related theoretical concepts, and secondly to see how one theoretical strand and a few related concepts can be integrated into one systematic learning framework that can be operationalised in actual practice. Specifically, the paper will demonstrate an attempt at exploring the pragmatics of translating some theoretical strand into authentic pedagogic practice. The fundamental tenet of socio-cognitive theory views learning process as occurring either *enactively* through actual doing or *vicariously* by observing models perform (Schunk, 2001:127). While the principle of vicarious learning is one powerful concept, this paper will only focus specifically on the significance of the principle of enactive learning in informing an understanding of the learning process particularly from the learner's perspective. This paper comprises five major sections namely, enactive learning principle, self-regulation and self-efficacy, self-regulated learners, metacognition, and Self-Regulated Approach to Strategic Learning (SRSL). The first section provides the fundamentals of enactive learning, the second section attempts to link enactive learning principle with the concepts of self-regulation and self-efficacy, the third section seeks to explain the crucial need on the part of a self-regulated learner to possess knowledge in metacognition which is discussed further in the fourth section. Unlike the first four sections, which deal entirely with theoretical issues, the last section describes clearly, the pragmatic mediation of the theoretical strands realised via the SRSL Approach. The first part of this section details the components of the SRSL and their respective functions, and the second part provides an illustration of the use of SRSL in an authentic pedagogic setting involving academic reading.

Enactive Learning Principle

Enactive Learning involves learning from the consequences of one's actions. It means that behaviours that result in successful consequences are retained while those that lead to failures are refined or discarded. In this respect, Schunk (2001) points out that one's behavioural consequences actually serve as a source to inform individuals of the accuracy or appropriateness of their behaviours. Individuals who succeed at a task understand and believe that they are performing well. On the contrary, individuals who fail realise that they are doing something wrong that probably needs correction or abandonment. Individuals therefore, actually learn from firsthand information/experience on how successful they are in mastering their environments or tasks (Elliot et al., 2000).

Schunk (2001) further elaborates that not only do behavioural consequences serve as a source of information for self-awareness of one's competence, but it also serves as a source of motivation. According to Schunk (2001), positive consequences are very highly likely to cognitively motivate individuals as they strive to learn behaviours that they value and believe will have future desirable consequences, whereas they avoid learning behaviours that are not satisfying. More specifically, it means that most human motivation takes the form of what Bandura (1997) calls *cognitive motivation*. Based on the precept of cognitive motivation, individuals actually become cognitively motivated as a consequence of successful past performance, and as Bandura (1997:122) puts it, are likely to "guide their actions anticipatorily through the exercise of forethought". This means that individual learners who become cognitively motivated in learning contexts tend to also be capable of strategising their learning process especially through appropriate applications and use of strategies. Cognitively motivated learners are normally capable of engaging in what is known as "strategic learning" (after Butler 1998), that is, *having mastered ability to consciously monitor and adaptively adjust behaviours accordingly*. Being strategic, the learners are able to initialise and apply appropriate strategies in the contexts of learning tasks and purposes. These strategic learners, who believe they have control over their successes and failures tend to engage confidently in academic tasks, expend effort actively on strategy use and persist in the face of difficulties in the learning process.

In sum, strategic learners are those who are able to self-regulate the locus of control throughout the learning experiences (Zimmerman, 1998). Self-regulating on the part of strategic learners entails becoming reflexive of the successes and failures of their past performances and, out of conscious awareness selectively re-implement their successful behaviours accordingly, thus gaining continuing motivation to learn from actual successful learning experiences. In that manner, the learners are actually *learning enactively*. Such principle of enactive learning therefore acts as an overarching theoretical framework for understanding how learners, as a result of past successes or failures, gain self-awareness of their self-efficacy (competence) in strategically selecting and implementing effective strategies. The learners will eventually develop their self-regulatory skills into becoming self-regulated learners; able to take control of their learning process.

The enactive learning principle therefore explains the learning process from the learner's perspective in a manner that: when the learner experiences success as a consequence of a certain action (strategy use, for instance) in the context of actual engagement in a learning task, it creates a sense of self-awareness on the part of the learner about his/her efficacy/competence (in strategy use) which in turn cognitively motivates him/her to reach a point to further repeat similar action (strategy use) in order to reap success in future tasks. When the learner reaches that point in a learning process, the learner ought to be able to self-regulate his/her approach in attaining various learning goals. The learner then is able to engage a self-regulated approach to learning. The concept of self-regulation will be discussed further below.

Self-regulation and Self-efficacy

Self-regulation refers to the process whereby learners systematically direct their thoughts, feelings, and actions towards the attainment of their goals via learning strategies (Schunk, 2000:355). It means that learners must regulate not only their actions but also their cognitions, beliefs and affects (Zimmerman, 1989). In other words, effective self-regulation depends on learners developing not only a sense of self-efficacy belief/awareness but also metacognitive awareness in self-regulating their learning efforts particularly via strategic applications of learning strategies (Zimmerman, Bonner, and Kovach, 2002). For learners to be effective, they must have available a repertoire of efficient learning strategies and, know when and where to use them to maximise learning (Wood, Motz and Willoughby, 1998). One component of self-regulation involves the learners' personal evaluation of the effectiveness of self-selected learning strategies. Based on their personal evaluation of strategy effectiveness, learners will discover not only the strategies that are effective but also the contexts within which the strategies are found to be effective. The learners' knowledge of the strategy effectiveness will create a sense of what Bandura (1997) identifies as self-efficacy beliefs. With a strong sense of self-efficacy beliefs on strategies learners are more willing to engage in activities involving strategy use (Sawyer, Graham and Harris, 1992; Graham and Harris, 1989). According to Bandura (1997), an efficacy expectation is the belief that one can successfully execute behaviours that produce desired outcomes. Bandura argues that such efficacy expectation influences firstly, individuals' choice of activities, causing them to avoid activities they believe exceed their capabilities, and undertake those they think they can perform; secondly, how much effort people will expend; and finally, how long they will persist in the face of obstacles and aversive experiences.

In terms of strategy use, learners with efficacy belief tend to selectively implement strategies in relation to the appropriateness of task demands and contexts. They form an efficacy belief that they have gained personal control over the use of strategies, that is, knowing when a particular strategy is deemed appropriate, and deciding how much effort needs to be expended to ensure success. In this respect, more often than not, learners attribute their success in achieving academic goals to their efficacy and competence in using strategies. Even if they are met with failure in using a certain strategy, their beliefs in their capability will help them seek an alternative strategy or a combination of strategies that is anticipatorily more effective. In fact, Ames (1984) has suggested that learners who are self-regulatory and strategy-focused will not question their own efficacy when met with failures but instead attribute failures to controllable factors such as lack of effort or not using appropriate strategies. And learners who attribute poor progress to lackadaisical effort or an inadequate learning strategy may believe they will perform better if they work harder or switch to a different strategy (Schunk, 1989). The point is, the higher the perceived self-efficacy, the greater are the performance accomplishments. These observations parallel descriptions of strategic learners whose perceived self-efficacy is higher than those of nonstrategic learners (Bandura, 1997). From the strategy use perspective, what seems apparently relevant therefore, as Goetz and Palmer (1988) put it, is that learners will have greater confidence in their capability to use a strategy if they perceive that they have the level of efficacy and effort required for effective use of the strategy, and that the strategy is appropriate for tasks at hand. The close connection between self-efficacy and strategy use is important because motivational influences on strategy use include learners' values, beliefs, and attitudes. This implies that learning can be understood as motivational behaviours, that is, abilities that are influenced by feelings of efficacy and worth rather than mere cognitive competencies (McCombs, 2001). Not only do the learners' self-efficacy beliefs energise strategic behaviours, they also cognitively motivate learners on strategy use. McCombs (1988) believes that cognitive motivation is a necessary component of strategic behaviour and a precursor to strategy use because as far as strategy use is concerned, it is a cognitively motivated behaviour. Since cognitive motivation shapes learners' efficacy beliefs, which subsequently influences strategy use, it is crucial that cognitive motivation should also be

viewed as one component necessary for the development of self-regulated learners. The following section will be dedicated to the discussion on self-regulated learners.

Self-Regulated Learners

According to social cognitive theory, self-regulated strategy use is influenced by learners' self-belief systems. As Zimmerman (2001) notes, self-regulated learners are metacognitively aware of strategic relations between self-regulatory processes and learning outcomes, feel self-efficacious about using strategies, have academic goals of learning, and believe that strategy use will help them attain goals at higher levels. Goal progress and attainment raises learners' self-efficacy and can lead to their adopting new, more difficult goals (Schunk, 1990). Furthermore, learners who feel self-efficacious about learning tend to select what they believe are useful learning strategies, monitor their performances, and alter their strategies when their current approaches do not appear to function properly (Zimmerman, 2001). Research shows that self-efficacy relates positively to productive use of self-regulatory strategies (Zimmerman and Martinez-Pons, 1988; Zimmerman and Kitsantas, 1997).

Once learners have obtained self-regulatory abilities in using strategies, this helps promote learning and the perception of greater competence, which in turn sustains motivation to attain new goals (Schunk, 1994). Self-regulated learners adaptively use cognitive motivation and volition-control strategies to keep themselves on task when they become discouraged or encounter an obstacle. In summary, self-regulated learners actively manage their learning activities as they are engaged in a task, flexibly adjusting their approaches as required (Butler, 1998). Learners engaged in self-regulated activity deliberately plan each step, select strategies, and control and evaluate the effectiveness of these strategies. This evaluation permits them to reach an appropriate decision about how to pursue their endeavours, and finally to verify the results of their strategy use in order to perform to the best of their capacities. The learner who undertakes this kind of self-regulation is labelled as strategic (Pressley and Afflerbach, 1995). Self-regulated learners perceive themselves as self-efficacious, autonomous, and cognitively or intrinsically motivated learners (Zimmerman and Martinez-Pons, 1988). These learners are capable of monitoring their strategy use effectively. Monitoring of strategy effectiveness however requires more than just strong self-efficacy beliefs. Rather, what is most critical is for these learners to possess accurate strategy metacognitions, the kind of metacognitive knowledge that forms the basis for successful strategy implementation, maintenance and transfer (Levin 1988). While it is crucial for learners to have strong sense of self-efficacy beliefs, such beliefs per se are inadequate for learners to become self-regulated or strategic, as they need to possess knowledge of how, when and where the strategies may appropriately be used. Specifically, for learners to become self-regulated, they need metacognition. The section below will examine the components of metacognition.

Metacognition

Metacognition is a component of self-regulation that involves the deliberate conscious control of cognitive activity (Brown, 1980). Baker and Brown (cited in Brown, 1981) distinguish two components of metacognition namely, knowledge about cognition and regulation of cognition.

Knowledge about cognition

Knowledge about cognition includes knowledge about one's own cognitive resources, and knowledge about how compatible the demands of learning situations are with one's own resources. Knowledge of cognition in reading for instance, refers to one's metacognitive awareness of the subject-matter, purposes and goals of reading as well as the types of strategies suitable for comprehending the reading text (Meloth, 1990). Such metacognitive awareness as Baker and Brown (1984) argue is essential for readers to effectively self-regulate their strategy use while reading. In addition, metacognitive awareness is influenced by variables associated

with learners, tasks, and strategies (Duell, 1986). Task, strategy, and learner variables typically interact when learners are engaged in learning activities. In the context of academic reading, metacognitive awareness involves learners considering the type and length of material to be learned (task variable), the potential strategies to be used (strategy variable), and their skill at using various strategies (learner variable). If the learner for example, has in his/her strategy repertoire, *note taking* and *using graphic organiser* as useful strategies for identifying main points in an academic text, and the learner believes that he/she can use graphic organiser more effectively as compared to note-taking, then his/her metacognitive awareness will assist in choosing the strategy most suited (using graphic organiser) to his/her learning capacity and the task demands. Hence, learners with strategic ability tend to construct metacognitive awareness that include subject-matter knowledge and strategies which they believe will be effective in a given task situation. However, being aware of their metacognitive knowledge per se is still regarded as quite inadequate for a self-regulated learner. Rather, to become effectively self-regulated, learners need to be able to self-regulate their metacognitive knowledge.

Regulation of cognition

Regulation refers to the ability to follow one's chosen plan and to monitor its effectiveness (Paris, Lipson and Wixson, 1983). Brown (1981) provides examples of those self-regulatory metacognitive activities which include, planning one's next move, checking the outcome of any strategies one might use, monitoring the effectiveness of an attempted action, testing, revising, and evaluating one's strategy use in the learning contexts. Meloth (1990) explains that regulation of cognition or alternatively, a metacognitive control involves strategic formulation and implementation of strategies in the process of attaining learning goals.

(1) Strategic formulation

Snowman (1986) proposes a five-step approach in the form of tactical skills for strategic formulation and implementation: (1) analyse, (2) plan, (3) implement, (4) monitor, (5) evaluate, and the author finds it crucial to add another step called "modify". It is vital for learners to master those "tactical skills" (Snowman, 1986)(p.245) in order to become self-regulated or strategic. Snowman (1986) elaborates that learners need to know how to carry out all five steps, knowing why each step is necessary, knowing when to carry out each step, and knowing how well one is prepared to perform each step (p. 245). Strategic formulation involves the process whereby, initially, learners *analyse* an activity or situation in terms of the activity's goal, aspects of the situation relevant to that goal, important personal characteristics, and potentially useful learning strategies. This is what Snowman calls "strategic skills" which include asking such questions as WHAT, HOW, WHY, WHO, WHERE and WHEN. The next step, which is still part of the strategic skills, is for learners to develop a strategy or *plan* along the following lines: "Given this task to be accomplished at this time and place according to these criteria and given these personal characteristics, I should use these procedures to accomplish the goal (Snowman, 1986 cited in Schunk, 2000: 382)". Once the learner has strategically formulated his/her plan, the next step is to strategically implement the strategic plan.

(2) Strategic implementation

The learner next *implements* the plan via strategy applications and use. Applying a certain strategy entails *monitoring* the strategy effectiveness and *evaluating* the consequence of its use in terms of goal achievement progress. In a circumstance whereby a particular strategy despite proper monitoring does not seem to engender desired outcome in terms of goal achievement, the learner's next move is to decide on how to *modify* the strategy, that is, either by changing it with an alternative one or re-implementing it in a way different than previously. Making such a decision entails on the part of the learner, knowledge of knowing when and where a strategy should be applied in order to integrate what he/she knows about the task requirements with the costs/benefits of the selected strategy (based on forethought in relation to successful past performances)

and his/her final learning goal(s). In this paper, those strategic moves of analysing, planning, implementing, monitoring, evaluating and modifying are integrated into a practical learning model for academic reading, designed by the author himself. The model, named Self-regulated Approach to Strategic Learning (SRSL) provides a strategic processing framework for academic reading. The following section will explore the operationalisation of the model in the context of academic reading.

Self-Regulated Approach to Strategic Learning (SRSL)

The SRSL Approach is designed to provide a strategic processing framework that facilitates the learner's effective use of strategies. It comprises seven macro metacognitive strategies represented by an acronym, APICPEM as illustrated in Figure 1 below:
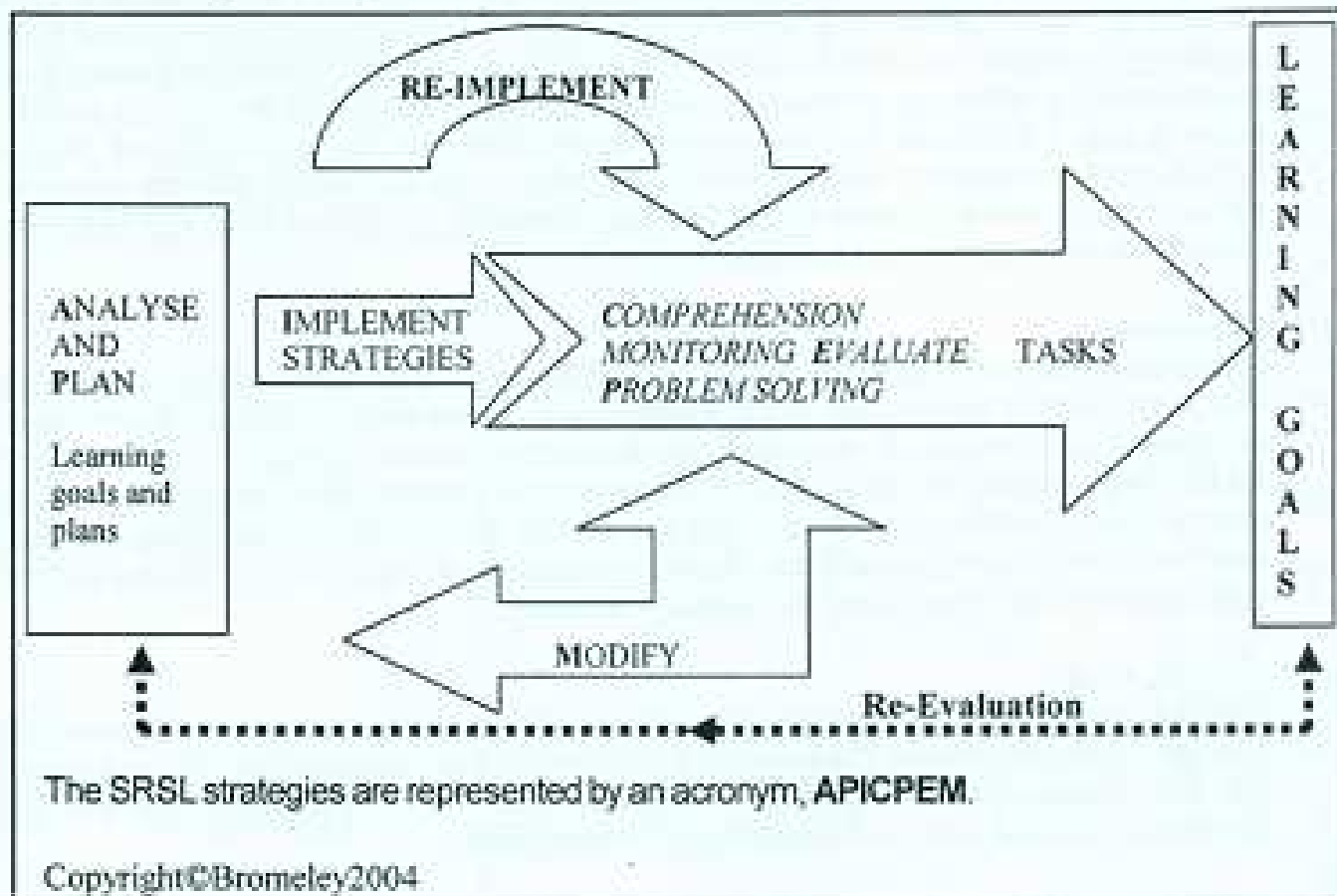

Figure 1   SRSL

The features and functions of each macro metacognitive strategy in the SRSL model, which include analyse, plan, implement, comprehend, problem-solve, evaluate and modify are described in detail below. Each macro metacognitive strategy comprises micro or sub-strategies that are implemented in the actual learning process.

Components and functions of SRSL

(1) Analyse

A represents analysing, which involves identifying learning goals, important task aspects, relevant personal characteristics, and potentially useful learning techniques. It also involves asking questions like what, who, why, when, where and how. These questions are meant to engage the learners' analytical minds before they begin for instance, on a reading task. By looking at the title of the text, the learner can start asking the "what" question referring to the substance of the text; is it a text on accounting or management and others. If the text is on management for instance, the

next question then is "who" are involved: is there any specific reference to any professional category like managers or executives. Once the learner has become quite familiar with the general substance within the text, it is easier for him/her to initiate his/her planning move.

(2) Plan
The first *P* represents **planning**, which means formulating plan (Schunk 2000:382):
> Given this task (...) to be done (...) according to these criteria (...) and given these personal characteristics (...), I should use these techniques (...)

The planning strategy involves making an overview of the task at hand, and if it is a reading task, the learner may engage skimming and scanning strategies to help predict the content of the reading text. With the initial knowledge that the text is about management, the learner can start his/her reading process by skimming for gist of information or scanning for specific information by previewing the titles and subtitles in the text. The learner may also need to reflect and select some useful strategies, which can eventually be implemented in doing the task proper. One probable useful strategy is to activate their previous knowledge on the area discussed in the text. This will help orientate the learner towards effective processing of the text. At the planning stage, the learner actually needs to select comprehension monitoring, problem-solving and evaluating strategies to be implemented in the reading process.

(3) Implement
I represents **implementing**, which involves employing tactics to enhance learning and memory. After making the strategy selection at the planning stage, the learner is ready to implement his/her strategies. Implementation of strategies requires accurate decision making on the suitability of each strategy. Making the right decisions about strategy implementation entails knowledge of strategy features and its effectiveness. Besides, making decisions about appropriate strategies also involve metacognitive awareness of one's competence as regards how well one can use a particular strategy in the context of a particular situation.

(4) Comprehend
C represents **comprehension monitoring**. This entails assessing goal progress to determine how well tactics are working. The learners need to monitor their understanding of say, a reading text. This may involve those strategies like double-checking one's comprehension and attending selectively to familiar terms to facilitate one's comprehension.

(5) Problem Solve
The second *P* stands for **problem solving**, which includes figuring out solutions for given tasks. This involves strategies like making inference from contextual clues and making intelligent or logical guess.

(6) Evaluate
E represents **evaluation**, whereby after completing part or all a task, learners reflect on how well it went. This process allows them to see if they carried out their plans successfully and to check how well strategies implemented helped. Strategic learners assess whether they met their goals for the task and if they did not, they will reason it out while finding alternative ways to re-implement strategies.

(7) Modify
And *M* refers to **modification**; learners will continue using a particular strategy if the evaluation of such strategy effectiveness is positive but modify it if its effectiveness shows inadequate contribution towards the achievement of learning goals.

Based on the SRSL approach, learners start their processing by analysing and planning their learning goals. Learners also decide and select potentially useful strategies from a given list (Appendix 1) to be implemented accordingly. Strategies selected are normally those appropriate for comprehension monitoring and problem solving and evaluation. As strategies are used they are evaluated for their effects, and an ineffective strategy will call for modification and subsequently, re-implementation. At the evaluation stage the learner also needs to compare whether or not he/ she has achieved the learning goal(s), which he/she early in the task. If the learner finds that the goal remains unattainable, he/she needs to re-evaluate the learning goal(s) which are probably unrealistic enough to be pursued using certain strategies. The learner might need to change the goals in order to be attainable using other strategies or modified strategies and the immediate demands of the task at hand.

The SRSL approach is recursive in nature as it accommodates for the actual steps in mental processing. Although it is recursive, it is structured in such a way that it enables learners to engage each macro-strategy systematically. The order of use of each strategy however, is not strictly sequential even though the tendency for its use to be such, is quite unavoidable. The SRSL model takes into consideration the fact that learners may have learnt the various features of a particular strategy but applications of those features in actual context may entail some slight or massive modifications. Besides, a particular strategy may need to be applied in combination with other strategies to gain optimal success. For example, the elaboration strategy which involves engaging one's prior knowledge may be facilitated by an inference strategy which involves looking for contextual clues to effect comprehension. The SRSL structure guides learners on how they can manipulate their strategies systematically. The SRSL therefore allows enough room for learners to explore strategy use while simultaneously constructing their own understanding of the given tasks.

SRSL Approach provides a strategic processing framework for effective applications and use of strategies in literacy practice particularly academic reading. It is important for learners to engage SRSL in academic reading task to the point of automaticity as it enables learners to know not only what strategies to use but also when, where, and how to use them. Mokhtari and Reichard (2002) support the use of self-regulated learning approach like SRSL because they believe that a good reader will normally start his/her reading move by setting a reading goal, for instance, to find an item in a passage. He or she (a good reader) will then select an efficient strategy for meeting his/ her goal from a large repertoire to avoid wasted time and effort. The learner might choose skimming the text for certain key words as the strategy to be implemented. The reader then will determine if the strategy is successful. If not, an alternative strategy may be used; for instance, the reader may make a preview of the various titles in the reading text to form an overall picture of the text in question. This example highlights how SRSL can be of practical use to learners engaged in a reading task. The use of SRSL approach by English as a Second Language (ESL) learners in authentic academic reading context was carried out by the author in an experiment for a doctoral research. Some aspects of the findings of the research will be discussed in the next section to illustrate the pedagogical value of the approach.

SRSL and academic reading context

An experiment (Philip, 2005) involving the use of SRSL by ESL learners was conducted by the author to determine the pedagogic value of the approach. For the purpose of this paper, an illustrative case of only one learner will be discussed here. It must be noted that the discussion on the use of SRSL is by no means exhaustive but demonstrative of the practical value of the approach. The learner (S1 (student 1) thereafter) was trained in the use of SRSL approach for academic reading. The training involved giving S1 a list of micro strategies (see Appendix 1) to be applied in the strategic processing effort. S1 was given an academic text to read for one-hour duration. She (S1) was instructed to construct a graphic organiser to facilitate her reading of the

text. Upon completion of the reading task, qualitative data was generated by the learner through immediate retrospective written recall protocol (RWP) (see Appendix 2). S1's recall of her strategic processing effort was facilitated by her making reference to her graphic organiser. S1's RWP was analysed qualitatively. Based on her RWP, S1 started her reading move by activating her existing knowledge of the topic in question, thus predicting the content of the text via the use of PL8. She also prepared a framework to help her understand the text better via PL4, constructing a graphic organiser. S1 was consciously making a strategic plan in preparing herself for the eventual reading process.

As S1 began interacting with the text, she enhanced her understanding by relating her prior knowledge of the subject to the content of the text via CM3. By activating her prior knowledge, S1 was able to familiarise herself with the text, which in turn helped facilitate her understanding of any new information. S1 utilised CM5 to organise her understanding of the text as this helped her focus her attention on the main ideas found in the text. It is important for a good reader to be selective in extracting important points from the text. The main ideas were extracted and presumably transferred into her graphic organiser. Having the main ideas represented and organised in a mind-map, helped enable S1 to monitor her understanding of the text as evident by her use of CM2.

As she was interacting with text, S1 engaged more strategies to resolve her difficulty in understanding or interpreting the content of the text. She used PS1 to infer meaning from contextual clues. Making inference from the available clues in the text is a characteristic of an expert reader. S1 however, did not rely solely on one strategy to construct meaning from the text. She engaged assistance from her peers to discuss the meaning contained in the text via PS5. Besides, S1 also sought her teacher's assistance to explain the meanings she was presumably doubtful about. Employing different strategies intentionally in the meaning construction process reflects what Paris, Lipson and Wixson (1983) describe as "a strategic behaviour", on the part of the learner. In this context, S1 demonstrated a strategic behaviour. The fact that S1 could select and utilise a number of strategies to meet her learning goal shows that she had acquired an autonomous ability in strategy use. However, it must be noted that conscious strategy selection by an autonomous learner is based on an evaluation of the effectiveness of the strategies in given contexts. To become an autonomous strategy user, a learner must be able to evaluate the effectiveness of strategies in use.

In that respect, S1's autonomous ability was evident by her use of EVA3 and EVA4. She demonstrated a strategic ability in using the strategies that met her learning purposes. The evidence of strategy use by S1 suggests that she had acquired characteristics of not only being autonomous but also being strategic in strategy use. It is possible therefore, for S1 to be perceived as having the characteristics of an autonomous strategic learner.

SI: Analysis of Actual Strategic Processing	
SRSL	**Literal Indexing Category**
(PL) Planning	(PL8) Looking at the title of the article, I began to recall all my past knowledge about Maslow's Hierarchy of Needs theory. (PL4) I organized the graphic organizer (mind map)
(CM) Comprehension Monitoring	(CM3) I began to recall all my past knowledge about Maslow's Hierarchy of Needs theory. (CM5) I focus on the main ideas like looking for the topic sentence in a paragraph. (CM2) I tend to check my understanding by looking at the mind-map that I already created.
(PS) Problem-Solve	(PS1)I try to look for the meaning from the clues in the article, may be looking for examples or some more explanations. (PS5) I discuss with my friend about the meaning (PS4) I just ask the teacher to explain.
(EVA) Evaluate & modify	(EVA3) My main problem is that I cannot understand the meaning of some vocabulary. However, I try to look for the meaning from the clues in the article, may be looking for examples or some more explanations. (EVA4) Sometimes, there are no clues that can help my understanding of the word meaning. So, either I discuss with my friend about the meaning or I just ask the teacher to explain.

Table 1 Student 1 (S1) – Analysis of Retrospective Written Recall Protocol
(Source: Philip, 2006; p.278)

On the whole, based on the evidence of strategy use from S1's RWP, S1 was able to monitor her own strategy use throughout the reading process which reflects a high sense of metacognitive awareness that resembles what Walcyzk (2000:558) identifies as a metacognitively sophisticated reader.

Conclusion

SRSL is grounded within the broader framework of a socio-cognitive principle of enactive learning. It acts as a strategic processing framework incorporating the systematic use of metacognitive learning strategies in academic reading context. The approach allows ample room for learners to explore the use of strategies in actual reading context. SRSL is a practical learning approach to academic reading, informed clearly by the powerful enactive learning principle, and some key concepts such as self-regulation, self-efficacy and metacognition. Its clear theoretical grounding should lend SRSL into the right position of offering some authentic pedagogic value to learners. Thus, on a final note, the author may perhaps view SRSL as a *metacognitively sophisticated*

approach (Walczyk, 2000; p.558) to academic reading by virtue of its theoretical grounding and practical use.

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Appendix 1

SRSL Strategies		
MACRO STRATEGY	**CODE**	**MICRO STRATEGY**
PLANNING (PL)	PL1	Analyse Goals
	PL2	Identify relevant & useful learning strategy
	PL3	Deciding & implementing on strategy
	PL4	Planning strategic moves (Using Graphic organiser)
	PL5	Making preview/overview
	PL6	Scanning information in text
	PL7	Skimming for gist of information in text
	PL8	Predicting content of text
COMPREHENSION MONITORING (CM)	CM1	Monitoring one's strategy use
	CM2	Double-checking on one's comprehension
	CM3	Relating one's prior/background knowledge
	CM4	Relating one's academic knowledge
	CM5	Attending selectively to important/familiar terms to facilitate comprehension
PROBLEM SOLVING (PS)	PS1	Infer from contextual clues
	PS2	Make logical & intelligent guesses
	PS3	Integrate information into a summary
	PS4	Seek clarification from teacher
	PS5	Question self/peers and cooperate with them
EVALUATION (EVA) & MODIFICATION	EVA1	Evaluate the effectiveness of strategy
	EVA2	Identify most useful feature(s) of strategy
	EVA3	Reflect on context within which strategy successfully implemented
	EVA4	Modify strategy based on task demands
	EVA5	Evaluate on strategy best combination
	EVA6	Assess suitable conditions (When) to use strategies
	EVA7	Evaluate ways to implement unsuccessful strategic moves

Appendix 2

STUDENT 1 (S1)

Retrospective Written Protocol (RWP)

RWP – S1

Looking at the title of the article, I began to recall all my past knowledge about Maslow's Hierarchy of Needs theory. Understanding the whole idea of the article are easier because of the existence of my past knowledge. Next, I organized the graphic organizer (mind map) and although I had past knowledge, I still had to refer to the article for important points that I might left behind. I focus on the main ideas like looking for the topic sentence in a paragraph. My main problem is that I cannot understand the meaning of some vocabulary. However, I try to look for the meaning from the clues in the article, may be looking for examples or some more explanations. Sometimes, there are no clues that can help my understanding of the word meaning. So, either I discuss with my friend about the meaning or I just ask the teacher to explain. I tend to check my understanding by looking at the mind-map that I already created. In this way, I can keep track of the ideas in the article. Looking at the mind-map also give me the overall meaning of the article. This makes understanding easier.