

SELF-REGULATED LEARNING STRATEGIES

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Abstrak

This paper demonstrates the development of self-regulated learning strategies. In the early development most of the researches were focusing on metacognitive research and social cognition. Later, researches started to correlate the strategy with learning disabilities and other problems in learning process. When the scope of researches is widen, a number of researchers come out with scientific method to measure and analyze self-regulated learning strategies. This paper also discusses the concepts in self-regulated learning strategy in terms of the students and the strategy itself. Self-regulated learning strategy is not innate, but to be acquired. Therefore, self-regulated students are those who gradually acquire the strategy and possess the self-regulative qualities such as self-efficacy. Previous researches have come out with four theoretical formulations; Developmental Theory, Information Processing Theory, Operant Theory, Social Cognitive Theory and Social Constructivist Theory. All theories share common characteristics. First, all theories emphasize on the importance of goal-oriented task. Second, all theories are focusing on self-study. Third, the explanation about the whole process of self-regulated learning strategy in general focuses on students' initiative on how to improve and excel in academic performance. However, only Developmental Theory and Social Cognitive Theory give emphasize on the intervention of social factors in learning strategy. Finally, this paper explains Zimmerman's Social Cognitive Theory. The theory, known as cyclical nature of self-regulation, is divided into three phases; forethought phase, performance (volitional) control phase and self-reflection phase. It covers cognitive and metacognitive strategy, including reciprocal interaction, the use of adult modelling and teacher modelling in promoting self-regulated learning strategy among students.

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Keyword: self-regulated learning strategy, learning strategy

INTRODUCTION

This article discusses the development of self-regulated learning strategies and the concept of self-regulated learning strategy. It also covers theoretical formulations in the strategy with the focus on Zimmerman's Social Cognitive Theory.

THE DEVELOPMENT OF SELF-REGULATED LEARNING STRATEGIES

The development of self-regulated learning strategies in contemporary educational practice is basically related to the development of research on individual differences in students' element in addressing the problem of learning where there are some students demonstrate the ability and strong interest in learning and some students have problems in learning, such as understanding and remembering, and difficult to maintain interest or having no interest in learning. The development of the concept of independent learning study began as early as the 1970s in which these studies were focusing on metacognition and social cognition. However, at present, the

analysis of the concept of independent learning has been developed and theories related to this concept began to be applied in the classroom and serve as the basis for the development of other theories of learning. Then, scientific methods were introduced to study the application of independent learning among students and the scope of the subject were extended among teachers and students at various levels; primary, secondary and tertiary. Translate from: [Indonesian](#) Type text or a website address or [translate a document](#). Cancel.

In the early of its development, the researchers were focusing on metacognitive research and social cognition. In general, metacognitive can be identified as one's cognitive activities in learning process, which involves learning strategies, problem solving skills and task performance. It is a set of self-instructions to regulate task performance (Veenman et al, 2006). However, strategy selection is a part of metacognition (Thronsdon, 2011). Choosing the right strategy to solve learning problems and to complete learning tasks is considered as metacognitive process. Some researches include planning as a subscale of metacognitive. It helps a person to set learning goals, activates knowledge of the task and information about the relation of a person to the task (Johnson et al, 2011). Having the right learning goals motivate the students to behave accordingly to achieve the goals they set in their minds. However, the process of acquiring metacognitive skills takes time and effort (Veenman et al, 2006). Planning helps a person to perform tasks efficiently than someone who doesn't. However, when a person fails the metacognitive skills, acquisition of new metacognitive knowledge will take place. For that reason, self-regulated learning strategy can be identified a process where students have established independent goals and self-regulate their learning process to achieve the goals.

Social cognitive research tends to see social influences that can affect the process of self-regulation, such as externally assisted learning group and tutor-initiated process (Kesici & Erdogan, 2009; Mason et al, 2011; Kitsantas & Zimmerman, 2011). Teachers exert a strong influence in the learning process such as helping students setting their learning goals and getting involved in the monitoring process itself. Although teachers intervene in the process of self-regulated learning at an early stage, students will be able to master the process without the help of teachers as they became familiar with it. For example, a teacher leads students in essay writing and then, slowly hands off the task to the students. Even though students write on their own, the teachers will attend the students some times. This process helps the students be steadfast on their learning goals. Therefore, self-regulated learners must understand the impact of surrounding on them and utilize the environment to the benefit of their learning process (Mehran Farajollahi & Mahdi Moenikia, 2010).

When the researches got to know self-regulated learning process in depth, the studies started to correlate self-regulated learning process with students' learning disabilities. When the students write on their own, they started to compare the task performance with their learning goals (Mason et al, 2011). Students progress through this phase at different rate, whereby students with learning disability will take longer time than others. They also use self-statement to show their disappointment when they get stuck, such as blaming the noise, wind and other interruptions that gets in the way to accomplish writing.

Nowadays, researchers has started to introduce scientific method to further develop self-regulated learning strategies, such as self-reported instruments and think-aloud protocols (Greene et al, 2011). Self-reported instruments such as questionnaires should be combined with think-aloud protocols to help the researchers to capture self-regulated process as it occurs because students' interpretation in questionnaires might differ from the actual process. Think-aloud protocols assist the researchers to analyse the students when they are engaging in a task, not based on the interpretation and memory. Later, the methods to analyse these data also develop from one method to another. The use of statistical method is essential to analyse these data to ensure the validity of the results to be discussed. In fact, it also facilitates researcher to analyse

large volume data. The methods are Latent Profile Analysis, OLS Techniques, Negative Binomial, Poisson and The Shapiro-Wilk's Test (Greene et al, 2011).

In summary, the study of self-regulated learning strategies has expanded to become a very important theory in education. It is not just theory alone, but it becomes a tool to identify students' disability in learning process. This is in line with the philosophy of education which aims to create a society that can contribute to the family, society and nation. Therefore, the contribution of this theory to education is very important because it can produce students who understand and utilize metacognitive skills, facilitated by social factors around them.

THE CONCEPT OF SELF-REGULATED LEARNING STRATEGY

The use of effective strategies in learning is a crucial element of students' self-regulatory competence. It has become increasingly apparent that the students use distinctive cognitive strategies with each learning task, such as doing homework. Homework assignments have significant impacts on students' self-regulatory development as well as academic achievement because students who complete homework assignments outside the class develop the sense of self-efficacy about learning on their own (Kitsantas & Zimmerman, 2009). Students learn how to self-regulate their learning condition, self-monitor their progress and self-judge their performance.

The acquisition of self-regulated learning process is not innate, it is a process acquired through practice and repeated actions. When a teacher assists students in writing class, he will give a brief explanation about the topic. Then, students will be left alone for a while to let them work on their own. The teacher will attend the students once in a while to monitor the progress. However, students who successfully self-regulate their learning process will be clearly define the topic they need to write, self-monitor the effectiveness of learning strategies they use and self-evaluate their progress (Greene et al, 2011).

A successful student needs both motivational beliefs and self-regulated learning strategies (Kesici & Erdrogen, 2009; Throndsen, 2011; Mehran Farajollahi & Mahdi Moenikia, 2010). The potential to excel will increase when a student consider motivational beliefs in self-regulated learning strategies. Students possess "more adaptive attributional patterns, higher levels of self-efficacy and perceived competence, goal orientation, intrinsic interest, and task value beliefs" (Kesici & Erdrogen, 2009). Motivation drives a person towards the achievement of his goal because motivational beliefs allow the students to learn at their own rate. An e-learning student demonstrates a high level self-regulation because they have a total control of their own learning process (Mehran Farajollahi & Mahdi Moenikia, 2010) as they have the quality self-efficacy and task value. Students' motivational belief in terms of self-efficacy and task value is very important (Artino, 2008). Self-efficacy can be affected by learning process and learning result, for example self-efficacy belief will increase when someone is satisfied after mastering difficult task. Mastering algebra should increase self-efficacy. Other qualities of motivational beliefs in self-regulated learning behaviour are goal orientation, intrinsic interest or valuing and outcome expectations. However, high self-efficacy belief is unable to stand alone without crucial skills and understanding, for example completing mathematics exercise.

The quality and the quantity of students' self-regulatory behaviour vary greatly from a person to another (Artino, 2008). Mastering self-regulated learning techniques needs effort and time, and it can be seen through academic performance. High-performing students' academic performance reflected the strategy they use, usually associated with high-ability strategy (Throndsen, 2011). An excellent performance shows that the students are able to self-regulate learning environment on their own. The process includes planning, monitoring and learning strategy (Johnson et al, 2011; Schunk & Zimmerman, 2003; Mason et al, 2011; Schmitz & Perels, 2011; Greene et al, 2009). Student demonstrates independently when they are able to self-regulate their task performance without teacher and material supports.

This indicates that independent learning strategies are very important in education because self-regulated learning strategy helps the students to be proactive. They are aware of their strengths and limitations in learning and they have their own goals to be achieved. These students self-monitor their progress including concentration and time management. In this process, it is vital to plan, manage time, concentrate on instruction, use cognitive learning strategy, build a productive learning environment and make use of social sources (Kesici & Erdogan, 2009). The students also reassess their performance and reevaluate their learning strategy to improve performance. These students are highly motivated, led by their intrinsic goals, assisted by required skills and cognitive strategy, strive to gradually improve their academic achievement.

Students should possess these qualities because self-regulated learning strategies will help students, not only to excel in academic, however, to succeed in the future. They will be goal-motivated, success-oriented, organized and well-planned. They possess the quality of an excellent student because self-regulated learning strategy involves cognitive strategy, motivation and emotion, behavior (discipline) and environment (social factors). To conclude, students need to acquire self-regulated learning strategy to self-regulate their learning process and become a high-performing student.

THEORETICAL FORMULATIONS OF SELF-REGULATED LEARNING STRATEGIES

Nowadays, the study of self-regulated learning strategies has developed and the number of theories presented is increasing as a result of the study by previous researchers. Researchers from different perspectives have distinctive theories associated with the learning strategies of self-regulation. At least there are four theories related to the self-regulated learning strategies and they are Developmental Theory, Information Processing Theory, Operant Theory and Social Cognitive Theory (Schunk & Zimmerman, 2003).

From the previous studies, it can be concluded that the four independent learning theories are divided into 3 phases, which are preparation phase, implementation phase and assessment phase. From the four theories, only two theories emphasize social factors in influencing self-regulated learning strategies, which are Developmental Theory and Social Cognitive Theory. However, all four theories agree that there is a need to have assessment phase at the end of performing task, because self-reflection stimulates the students to evaluate the learning strategies they use; either to remain with the learning strategies or to change the strategies, based on the circumstances after the assessment (Schmitz & Perels, 2011).

Table 2.1 The Comparison between the Three Phases of Self-Regulated Learning Theories

Theoretical Formulations	Self-regulated Learning Process		
	Preparation	Implementation	Assessment
Developmental Theory	Observation (acquiring knowledge of learning skills)	Emulation, Self-control, Social factors	Self-regulation
Information Processing Theory	Comprehension Monitoring (checking for consistencies, paraphrasing, rereading, self-questioning)	Elaboration (imagery, mnemonics, note taking, questioning), Organisation (mapping, outlining), Rehearsal (repeating information, summarising, underlining)	Self-evaluation
Operant Theory	Self-Instruction	Self-Monitoring	Self-Reinforcement
Social cognitive Theory	Fore thought phase (Motivational beliefs- goal orientation, intrinsic interest / valuing, outcomes expectation, self-efficacy)	Performance (volitional) control phase (Cognitive, <u>metacognitive</u> , resource-management strategies), social factors	Self reflection phase (self-evaluation)

Table 2.1 shows the comparison between the three phases of self-regulated learning theories. The preparation phase shows all activities of planning and goal setting, based on motivational beliefs, self-efficacy and interest. The implementation phase demonstrates the application of learning strategies in self-regulated learning strategy, including cognitive and metacognitive strategies, such as note taking and outlining. The assessment phase shows the implementation of self-evaluation and self-reflection at the end of performing particular task.

Although previous researchers had demonstrated distinctive theories to evaluate self-regulated learning strategies, the theories share some common characteristics. First, all theories emphasize on the importance of goal-oriented task, whereby students need to have learning goals to motivate them to achieve better in academic. "Self-set goals lead to self-efficacy and achievement" (Schunk & Zimmerman, 2003). However, after self-reflection takes over, and if the students fail to achieve a learning strategy, they can shift their goals to improve their performance. Goal-shifting also leads to self-efficacy. Second, all theories are focusing on self-study, start from the beginning of learning process, such as self-set goal, self-motivated and self-efficacy, until the end of learning process, such as self-evaluation, self-reflection and self-reinforcement. Third, the explanation about the whole process of self-regulated learning strategy in general focuses on students' initiative on how to improve and excel in academic performance.

Of all the theories that have been discussed, the social cognitive theory was selected to form the basis of the conceptual framework that will be used in this study. This is because the characteristics of self-regulation and social factors in learning are compatible with the approach in Islamic education as emphasized in al-Quran and Sunnah.

ZIMMERMAN'S SOCIAL COGNITIVE THEORY

Zimmerman has developed social cognitive theory in the form of cyclical nature of self-regulation (Schmitz and Perels, 2011; Sorić & Palekčić, 2009). Cyclical nature of self-regulation is divided into three phases, which are fore-thought phase, performance or volitional control phase and self-reflection phase.

Schunk and Zimmerman (2003) have included motivational beliefs under fore-thought phase of cyclical nature of self-regulation. The motivational beliefs encompasses of goal orientation, intrinsic interest or valuing, outcome expectations and self-efficacy. At this stage, students set learning goals, plan for the goals and select learning strategy to achieve the goals (Sorić, I., & Palekčić, 2009). They set a learning goal to achieve for example writing a 2-pages essay. Then they will plan for the goal such as drafting, organising and outlining, and use peer review method to finish writing the essay. At the end of completing the task, students self-evaluate their essay and they will shift the existing learning strategy if they fail their learning goal.

There are another two phases after fore-thought phase which are performance (volitional) control phase and self-reflection phase (Schunk & Zimmerman, 2003). During the performance control phase, students concentrate on the task and optimize their effort by implementing learning strategies that affect motivation and learning. The learning strategies include cognitive and metacognitive strategy and resource-management strategy (Sorić & Palekčić, 2009). Throughout the self-reflection phase, students evaluate their performance which will come into two consequences; it is either positive or negative effect. Studying will keep shifting learning strategies until they achieve learning goals.

Zimmerman also emphasizes on reciprocal interactions during self-regulated study (Schunk & Zimmerman, 2003). It is the interaction between self-efficacy and environmental factors. There are two consequences for this interaction; distance learning and social environment in classroom. In distance education, students need to develop self-regulated skills independently

because they don't have social context like students in the classroom (Mehran Farajollahi & Mahdi Moenikia, 2010). However, students in the classroom interact with each other and form learning group. They are also assisted by tutors. Students deploy planning and monitoring skills easily when they participated within externally assisted group (Johnson et al, 2011). They help each other in the group to plan and set learning goals and monitor the task progress.

Observation is another technique to acquire self-regulative skill (Schunk & Zimmerman, 2003). Students observe adult models and adult modelling leads to self-efficacy, persistence and achievement. Researchers also include tutor modelling as an example of observation. Teacher modelling is important in the metacognitive process needed when the students use of learning strategy (Mason et al, 2011). Teachers do this by modelling a learning strategy out aloud, for example demonstrating a format for writing. However, teachers must be prepared to model for the students.

A number of researches have been developed to examine this theory in action. Mason et al (2011) discussed the social cognitive theory by examining scaffold teachers. Scaffold teachers help students to acquire self-regulative skills by providing strategy instruction until the students have mastered the skills. Kitsantas & Zimmerman (2009) also discussed this theory based on homework. Researches have turned to homework and diaries as a tool to facilitate self-regulated learning strategies.

CONCLUSION

This article has discussed the development of self-regulated learning strategies and the concept of self-regulated learning strategy. It has covered theoretical formulations in the strategy; Developmental Theory, Information Processing Theory, Operant Theory and Social Cognitive Theory with the focus on Zimmerman's Social Cognitive Theory.

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