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Self-regulated Learning Strategies in Islamic Education

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Abstract: This paper explains the concept of self-regulated learning strategies and the explanation of the concepts as exemplified in three models of self-regulation which are Pintrich's Four Phase Model, Winne and Hadwin's Information Processing Model and Zimmerman's Social Cognitive Model. Then, the models are embedded with learning strategies in Islamic Education, as suggested by Abas Asyafah and a set of self-regulated learning strategies in Islamic education is constructed.

Key words: Self-regulated learning strategy • Learning strategy • Education • Islamic Education • Religious education

INTRODUCTION

The present challenging world requires proactive and competence human to strive for the betterment of humankind. Self-regulation and strategic approaches to various aspects of human life has become increasingly demanding for coping with more complex and adventurous world [1], including the process of learning. Self-regulation is a metacognitive process, a situation where students explore their own thought processes, then evaluate their performance and plan alternative pathways to achievement [2].

A proactive student should be able to self-regulate their own learning process which involved cognition, motivation, emotion and behaviour to improve learning [1, 3]. The student should be able to use his cognitive skills in learning process, motivate himself to strive to achieve his goals, involves emotion to psychologically indulge in learning process and behave in accordance to the chosen learning strategies to achieve his goals.

Researches have confirmed the importance of self-regulation in different fields of study such as music, hypermedia, mathematics and writing [1, 4-6], either in traditional classrooms or independent classes such as e-learning [7, 8], used by teachers or students [9]. Most of the previous studies were focusing on self-regulation among higher-learning students [10, 11], however, nowadays researchers start to pay more attention towards

self-regulation among students of elementary and middle schools [12, 13]. The discussions also are inclined towards self-regulation among students who have learning difficulties [6, 14, 15].

In a nutshell, the study of self-regulation in learning process has become a crucial topic to be discussed to help students actively involved in learning process and achieve greater success. Therefore, it is an urge for the academicians to further study this strategy in all disciplines, including in *Pendidikan Islam*.

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 [16]. 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. The quality and the quantity of students' self-regulatory behaviour vary greatly from a person to another [3]. 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 [17]. 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 [4, 12, 15, 18, 19].

A successful student needs both motivational beliefs and self-regulated learning strategies [5, 7, 17]. 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" [5]. 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 [7]. as they have the quality self-efficacy and task value. Students' motivational belief in terms of self-efficacy and task value is very important [7]. 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.

Even though self-regulation emphasized on independent study, there is a need for teacher or adult modelling to develop self-regulatory behaviour. When a teacher assists students in writing class, he will give a brief explanation about the topic. Then, students will continue to draft and outline independently. The teacher will attend the students once in a while to monitor the progress. Writing become easier as the students have access to external assistant and when they are clearly defined the topic they need to write, they will be more efficacious, less dependently on teachers and have total control over the writing process. Students who successfully self-regulate their learning process will clearly define the topic they need to write, self-monitor the effectiveness of learning strategies they use and self-evaluate their progress [18].

Working independently helps students to be proactive. They are aware of their strengths and limitations in learning and they have their own goals to be achieved. They will be goal-motivated, success-oriented, organized and well-planned. 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 [5]. The students also reassess their performance and re-evaluate their learning strategy to improve performance. They possess the quality of an excellent student because self-regulated learning strategy involves cognitive strategy, motivation and emotion, behaviour (discipline) and environment (social factors).

In summary, it is important to understand that students use distinctive cognitive strategies in learning process. However, high-ability self-regulation can only be acquired through practices and involves lots of time and effort. Self-regulation is driven by motivational beliefs exerted in oneself. Students who are highly self-regulated show the result in academic performance and they are aware of their strength and limitation which will help them to excel in their study. 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.

Models of Self-Regulated Learning: Nowadays, the study of self-regulated learning strategies has developed and the number of models presented is increasing as a result of the study by previous researchers. Researchers from different perspectives come out with distinctive models associated with the learning strategies of self-regulation. There are three models of self-regulated learning as mentioned by Johnson *et al.* [4] and the models are Pintrich's Four Phase Model, Zimmerman's Social Cognitive and Winne and Hadwin's Information Processing Model.

Pintrich's Four Phase Model: There are four phases in Pitrich's Model of Self-regulation. The phases start with *forethought, planning and activation phase.* Then the process continues with monitoring phase, which leads to control phase. The cyclical process of this model ends with reaction and reflection phase. However, the process returns to the first phase as students proceed with the learning process.

Pintrich's Four Phase Model starts with *forethought*, planning and activation phase. During this phase students start to plan their study and activate knowledge and perception about the learning task and context. Students involved in planning by selecting learning

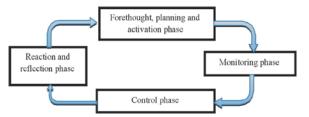


Chart 1: Pintrich's Four Phase Model

strategies to be used in order to achieve their learning goals [20]. During *monitoring* phase students monitor themselves, the task and contextual conditions. The discussion among metacognitive researchers pays more attention to the effect of self-monitoring on self-reflection [12]. Self-monitoring helps students to self-evaluate their progress of learning process and reflect their achievement. However, monitoring phase leads to control phase where students regulate all aspects of self, task and context impeding learning progress to achieve learning goals. The final phase for this model is reaction and reflection phase, where students self-reacted and self-reflected their self, task and context. Self-regulation involves the change of behaviour as a necessity in learning process [9]. The following Chart 1 demonstrates Pintrich's Four Phase Model in cyclic.

The four phases of Pintrich's Model involves metacognitive process. According to Fritz and Peklaj [1], metacognitive process involves planning (setting learning goals and skimming before study), monitoring (tracking and monitoring attention) and regulating (reviewing the learning materials). Whereby, Chong [21] includes planning, organizing, self-instructing, self-monitoring and self-evaluating throughout the learning process as part of metacognitive process. It is important for self-regulated students to plan their learning process. Self-regulated students experience learning process continuously because the ending of a learning process is the beginning of a new one [9]. The process restarts when students revise the feedback from the learning outcome and begin a new strategy or remain the same strategy for different learning task.

Winne and Hadwin's Information Processing Model:

The theory for this model defines the process of learning as encoding of information in long-term memory [19]. It involves the activation of information in long-term memory and connects new information and the existing information in working memory. Therefore, organizing (as part of self-regulation) helps to connect the information and it is easier to be remembered. Winnie and

Hadwin clearly specify cognitive and metacognitive process in this model [4]. A self-regulated students need to acquire knowledge about the task, his capabilities to perform the task and the strategies to complete the task such as rehearsing (for example repeating, underlining and summarizing), elaborating (the use of imagery, mnemonics, questioning and note taking) and organizing (such as outlining and mapping), interest and attitude towards to tasks [19].

There are three necessary phases in Information Processing Model and they are (1) task learning and defining phase, (2) goals setting and planning phase and (3) metacognition adapting phase. During the first phase, students set to prepare before the learning process starts. They clearly define the task to be performed and collect all information related to the task given. For example in writing class, students collect and underline all information pertaining to the topic to be written. Then, students set learning goals and plan to achieve the learning goals. Having the right learning goals motivate the students to self-regulate their behaviour and set them to achieve the goals they set in mind. During this phase, students draft the outlined information before they can start writing. When the students enter the final phase, which is metacognition adapting phase, they have clearly defined the tasks in hand, ready to decide which learning approaches to be used and start writing independently. In general, metacognitive can be identified as one's cognitive activities in learning process, which involves learning strategies, problem solving skills and task performance [23]. Therefore, selecting a learning strategy is a part of metacognition [17]. Students choose the right learning strategies to solve learning problems and to complete learning tasks.

However, the process of acquiring metacognitive skills takes time and effort [22] especially for students with learning difficulties. When the students write on their own, they started to compare the task performance with their learning goals [15]. Students progress through this phase at different rate where students with learning disabilities take longer time than others. Sometimes, they use self-statement to show their disappointment when they get stuck such as blaming the noise, wind and other interruptions that get in the way to accomplish writing. Chart 2 demonstrates Winne and Hadwin's Information Processing Model.

In Chart 3, all three phases are shown in circulatory system. However, there is another optional phase, which is *monitoring* phase. Monitoring phase is optional in this model because students don't monitor their progress all



Chart 2: Winne and Hadwin's Information Processing Model

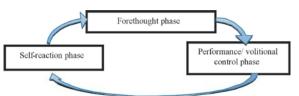


Chart 3: Zimmerman's Social Cognitive Cyclical Model

the times [4] There is no compulsion for the students to monitor their progress; however they are free to monitor their progress at any interval they prefer. Students self-question, reread, check for consistencies and paraphrase materials [19] to help them determine whether they have used the right learning strategies and apply the right knowledge and to evaluate their understanding about the tasks in hand. Students change or continue with the strategy when they feel it is time to.

Johnson *et al.* [4] used this model to study the temporal and dynamic nature of students' self-regulatory processes while learning about the circulatory system with hypermedia because this model clearly defines the role of cognitive and metacognitive in learning process, including the activation of information in long term memory and the connection of new information with the existing organized information in working memory. He found that students must have access to tutor assistance because it helps to develop self-regulatory behaviour.

Zimmerman's Social Cognitive Model: Zimmerman's Social Cognitive Model also demonstrates almost the same cyclical nature of self-regulation [12, 23], even with only three phases. The phases are forethought phase, performance/ volitional control phase and self-reflection phase [3]. Forethought phase involves all preliminary processes to start a learning process such as setting goal. Then, students apply various learning strategies to accomplish learning goals in performance/ volitional control phase. During self-reaction phase, students react to the learning outcome and revise all strategies used

during performance phase. The feedback set new learning goals which go back to forethought phase. The following Chart 3 demonstrates Zimmerman's Social Cognitive Cyclical Model.

Schunk and Zimmerman [19] 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 [2009]. They set to achieve a learning goal 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 [19]. 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 [23]. 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 [19]. 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 [7]. 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 [4]. They help each other in the group to plan and set learning goals and monitor the task progress.

Observing and adult-modelling are another technique to acquire self-regulative skill [19]. 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 [15]. 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. Teachers exert 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, students who have clearly defined the tasks in hand will be able to perform the tasks independently. Teachers facilitate students until they are able to master the process without teachers' assistance. So, it is important for the students to understand the impact of their learning process [7].

A number of researches have been developed to examine this theory in action. Mason *et al.* [15] discusses 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 [16] discusses this theory based on homework. Researches have turned to homework and diaries as a tool to facilitate self-regulated learning strategies. Azhar Ahmad [24] also uses this model to analyse the capacity of self-regulation among middle school students.

Although previous researchers had demonstrated distinctive theories to evaluate self-regulated learning strategies, all models share some common characteristics. First, the models emphasize on the importance of goaloriented 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" [19]. 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, the models 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, with interval intervention from external regulation.

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. All three models discuss self-reaction, self-reflection and self-assessment as the mean to its end. Students self-assess their performance to evaluate whether they have achieved or failed their learning goals. Self-reflection stimulates students to

evaluate the strategies they used; either to remain or to change, based on the circumstances after the assessment [12].

It can be concluded that all three independent learning models emphasis cyclical nature which means self-regulated is an ongoing process to facilitate students to achieve learning goals [3, 4]. The continuous process will stop when learning process has come to its end. As long as students carrying out the learning process, self-regulation will be deployed, either the students revise the existing strategies and start with the new one within the same learning task or the students jump to a new learning. Self-regulated strategies will keep continue.

Of all the models that have been discussed, social cognitive theory is selected to form the basis of the conceptual framework that will be used in this study. This paper uses Zimmerman's Social Cognitive Model because it emphasizes on the external regulations such as adult modelling as part of self-regulatory process, beside cognitive, metacognitive, behavioural and emotional process and the cyclical theory of self-regulation is simply elaborated, yet includes all aspects of self-regulation, whereas the subscales of self-regulation in models suggested by Pintrich and Winne and Hadwin, are inclusive in Zimmerman's social-cognitive model of self-regulation.

Self-Regulated Learning in Islamic Education: There is a reciprocal interaction between self-regulation and religion. As discussed by Azhar Ahmad [24], students who are able to highly self-regulate their learning process in Islamic studies appreciate the contents of subject and internalize good moral behaviour in their life, more than students who don't. These students highly perform in Islamic studies because researches show there is positive relationship between self-regulated study and learning outcomes [21]. Religion also provides a comfortable space for self-regulation to reside. Religious stimuli and practices foster implicit self-regulation, especially for those who fully internalize their standards of religion. This reciprocal interaction promotes high standards and maintenance of high emotional well-being.

The conceptual framework of this paper adapts Zimmerman's Social-Cognitive Model of self-regulation. Therefore it is important to explain the concept of this research on the basis of this model. The first discussion of self-regulation in Islamic studies is mainly focusing on the cyclical process itself. Table 1 shows the self-regulatory sub-process according to this model [19] and the concept of *tadabbur qurani* [25], as subscales of self-regulated learning strategies in Islamic Studies.

Table 1: Sub-processes of Self-regulation in Social-Cognitive Model in Islamic Studies

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Phases	Sub-processes	Self-regulation in Islamic Studies
Forethought Phase	- Goal setting	- Students set learning goals and operationally summarize learning goals to be achieved
	- Social modelling	- Self-check and self-assess his preparation and environment to assist in achieving learning goals
	- Motivational beliefs	- Strengthening motivational beliefs
	- Planning	- Planning and selecting learning strategies
Performance/ Volitional	- Social comparisons	- Students involve in learning strategies including:
Control Phase	Attributional feedback	i- Sima'ah (involves reciting and revising- tasmi')
	- Strategy Instruction and	ii- Tajawwub (responding)
	Self-verbalization	iii- Tafakkur and tadzakkur (thinking and remembering- hafazan)
	- Reciprocal Interactions	iv- Tadzawwuq (organising)
		- Students involve in the learning strategies through talaqqi and musyafahah, with the intervention
		of social factors around them
Self-reflection phase	- Progress feedback and	- Students self-test and self-assess their progress and do follow up
	self-evaluation	
	- Self-monitoring	- They shift learning goals and learning strategies to achieve higher
	- Reward contingencies	

As it is mentioned in Table 1, students set their learning goals in the first phase. Social modelling also is emphasized at the beginning of the phase, as involving teachers or tutors, peers or colleagues or classmates and other adults such as parents [19]. Teachers play important role in developing self-regulated students in the classroom. Therefore, teachers need to learn how to self-regulate first before they develop self-regulation among students [9]. In the second phase, which is performance and volitional phase, students start to compare their learning process with the entities in the class. They receive attributional feedback from teachers and friends. The main challenge to produce high qualities of positive human factor is the lack of rewards and support [26]. Thus, positive attributional feedback can be considered as a reward towards learning progress. In this phase, they also use strategy instruction and selfverbalization to facilitate learning progress. At the end of the phase, which is self-reflection phase, students receive progress feedback and self-evaluate the performance. Students self-monitor their progress and reward their achievements.

The phases involve in Islamic studies are almost equal to the phases of self-regulation as discussed by Schunk and Zimmerman [19]. They start with setting learning goals and prepare to achieve the learning goals. However, students adopt the strategies of *tadabbur qurani* which is comprised of four strategies; *Sima'ah* (involves reciting and revising), *Tajawwub* (responding), *Tafakkur* and *Tadzakkur* (thinking and remembering) and *Tadzawwuq* (organising) [25]. At the end of learning process, students self-assess their progress and do follow-up with the feedback received from the assessment.

CONCLUSION

From the models presented in this paper, students who highly self-regulate their learning process will achieve greater and become proactive in their learning process. Therefore, it is important for students of Islamic studies to be able to adopt and utilize the strategies in their study to attain higher achievement in academic as well as in religious practice.

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