SELF-REGULATED LEARNING AMONG LOW ACHIEVERS: ITS RELATIONSHIPS WITH PSYCHOLOGICAL ATTRIBUTES AND SCHOOL CLIMATE

KALAISELVI A/P SUPRAMANIAM

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by

KALAISELVI A/P SUPRAMANIAM

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LIST OF ABBREVIATION

SRL   Self-Regulated Learning

PEMBELAJARAN REGULASI KENDIRI DALAM KALANGAN PELAJAR BERPENCAPAIAN RENDAH: HUBUNGANNYA DENGAN ATRIBUT PSIKOLOGI DAN IKLIM SEKOLAH

ABSTRAK

Kementerian Pendidikan Malaysia mengutamakan isu tentang pelajar berpencapaian rendah bagi menjamin masa depan mereka yang lebih baik secara khusus dan peningkatan pembangunan negara secara amnya. Kajian ini menerokai pembelajaran regulasi kendiri dalam kalangan pelajar berpencapaian rendah dan hubungannya dengan atribut psikologi dan iklim sekolah. Kajian Kes Penerokaan telah dijalankan ke atas enam orang pelajar berpencapaian rendah. Hasil kajian kualitiatif menunjukkan bahawa pelajar berpencapaian rendah mampu menggunakan strategi pembelajaran regulasi kendiri, seperti strategi ulangkaji dan minta bantuan. Walau bagaimanapun, penggunaan strategi yang memerlukan pemikiran aras tinggi (KBAT) seperti pemikiran kritis dan kemahiran metakognitif adalah terhad. Hasil analisis menunjukkan bahawa pelajar yang kurang pemikiran strategi dalam pembelajaran, jarang menggunakan strategi regulasi kendiri dan kurang cekap dalam pemikiran aras tinggi. Terdapat juga variasi dalam pembelajaran regulasi kendiri pelajar berpencapaian rendah dari aspek pencapaian akademik dan jantina. Kajian penerokaan ini telah juga menemui dua faktor yang mempengaruhi pembelajaran aturan kendiri mereka iaitu atribut psikologi dan iklim sekolah. Bagi tujuan generalisasi dan triangulasi, kajian yang berskala lebih besar telah dijalankan untuk mendalami masalah kajian. Kajian Kuantitatif Korelasi yang melibatkan 450 pelajar berpencapaian rendah telah dijalankan. Statistik deskriptif (min, sisihan piawai), inferensi (t-Test, ANOVA, Korelasi Pearson, ujian Regresi) telah digunakan untuk menganalisa data. Analisis kuantitatif menunjukkan penggunaan strategi pelajar berpencapaian rendah ada berbeza mengikut jenis strategi dan perbezaannya adalah

signifikan mengikut pencapaian akademik [F (2, 447) = 18.879, p < .05] serta jantina [t(448)=3.640, p<.05]. Korelasi Pearson menunjukkan hubungan antara pembelajaran pembelajaran regulasi kendiri adalah positif dan signifikan dengan atribut psikologi (r = .762, p< .01) dan iklim sekolah (r = .68, p < .01). Ujian Regresi Berganda pula menunjukkan bahawa kedua-dua variabel atribut psikolgi dan iklim sekolah, menyumbang sebanyak 61% (r=.78) varians dalam pembelajaran regulasi kendiri pelajar-pelajar berpencapaian rendah. Kepercayaan motivasi, [F(1,444) = 531.822, p< .05], interaksi antara pelajar-guru, [F(2,443) = 332.165, p< .05] dan pembelajaran rakan-sebaya, [F(3,442) = 228.316, p< .05] merupakan peramal yang signifikan bagi pembelajaran regulasi kendiri pelajar-pelajar berpencapaian rendah. Ini menunjukkan bahawa kepercayaan motivasi dan iklim sekolah mempengaruhi pembelajaran regulasi kendiri mereka. Implikasinya, sekolah perlu memberi fokus kepada kepercayaan motivasi, interaksi pelajar-guru dan pembelajaran rakan sebaya demi melahirkan pelajar berpencapaian rendah yang mampu berdikari dalam pembelajaran dan seterusnya membantu mereka mencapai potensi dalam akademik.

SELF-REGULATED LEARNING AMONG LOW ACHIEVERS: ITS RELATIONSHIPS WITH PSYCHOLOGICAL ATTRIBUTES AND SCHOOL CLIMATE

ABSTRACT

The Malaysian Education Ministry has prioritized the issues of low achievers to ensure the well-being of these students in particular and the productivity of the nation in general. This study explored the self-regulated learning of low achievers and its relationships with psychological attributes and school climate. Exploratory Case Study was conducted on six low achievers. The qualitative findings showed that low achievers do use strategies in learning, for instance, rehearsal and help seeking strategies. However, they seldom employ strategies that require higher order thinking skills (HOTs) such as critical thinking and meta-cognitive skills. The findings also suggested low achievers are less strategic in learning, used lesser amount of strategies and were less competent in executing strategies that involved higher order thinking. There are also variations in low achievers' self-regulated learning by gender and academic performance. This exploratory study also unveiled factors that influenced low achievers' self-regulated learning behaviors. The two main factors that emerged from the qualitative data were psychological attributes and school climate. In order to further investigate and triangulate the qualitative findings, a Quantitative Correlational Study was conducted on 450 low achievers sampled from five national schools. Descriptive statistics (mean, standard deviation) and inferential statistics (t-Test, ANOVA, Pearson's Correlation, Multiple Regression) were employed to analyze the obtained data. Quantitative analysis revealed that low achievers usage of strategies differed by types of strategies and there were significant differences according to students' academic performance [$F_{(2,447)} = 18.879$, $p < .05$] and gender [$t_{(448)} = 3.640$, $p < .05$). Person-Product Moment Coefficient showed that self-

regulated learning was significantly and positively related to psychological attributes (r=.762, p<.01) and school climate (r=.68, p<.01). Multiple regression further showed both psychological attributes and school climate accounted for 61% of the variance in low achievers' self-regulated learning. Motivational beliefs [F(1,444)=531.822, p<.05), student-teacher interaction [F(2,443)=332.165,p<.05] and peer-learning relationship [F(3,442) = 228.316, p<.05) were significant predictors of self-regulated learning among low achievers. This showed that motivational beliefs and school climate are factors influencing low achievers' self-regulated learning.   The implication of the study is that schools need to focus on motivational beliefs, student-teacher interaction and peer-learning relationship in order to produce low achievers who are independent at learning and enable them to achieve their own potentials in academic.

CHAPTER 1

INTRODUCTION

1.0 Introduction

This study aimed to explore self-regulated learning of low achievers. This chapter explains in detail the background of the study, problem statement, research objectives, research questions, research hypotheses, significance of the study, and limitation of the study and definitions of terms used in this study.

1.1 Background of the Study

The Malaysian Educational Development Plan 2013-2025 has seriously planned new strategies to upgrade and improvise the education system in Malaysia through the Malaysian Educational Transformation Programme. The phrase 'no child should be left behind in education' is still one the main focus of this plan indicating the seriousness of the Malaysian government in educating the future generation of the nation (Ministry of Education, 2015). This phrase has thrown some light into the problems faced by low achievers in the national school system. Low achievers are unlikely to do well in schools and often displayed behavioural problems. In the long run, these students are more at-risk of dropping out from schools. To do well academically, students need to possess high level of learning skills particularly, self-regulated learning skills (Zimmerman & Schunk, 2011). Self-regulated learning (or self-regulation) refers to students' self-generated thoughts and behaviors that are oriented systematically toward the attainment of learning goals (Zimmerman, 2013). Researchers have identified several self-regulatory processes that students instigate, modify, and sustain during learning (e.g., attending to instruction, cognitively processing information, rehearsing and relating new learning to prior learning,

believing that one is capable of learning, and establishing productive work and social environments). Research has proven that self-regulation can be taught to all range of age, from kindergarten to adult learners and to students of different ability and achievement levels (Risemberg & Zimmerman, 1992; Pintrich & Schunk, 2002; Sadiah Baharom, 2003). Self-regulated learning enables learner to be responsible for his or her own learning and it describes how learners cognitively, motivationally and behaviourally promote their own academic achievement. These learning skills promote better academic achievements and contribute towards life-long learning (Zimmerman, 2011). However, it is rarely mastered by low achievers. The lacking of self-regulated learning skills could be one of the reasons behind low achievers' poor academic achievement. Therefore, studies that attempt to understand their usage of self-regulated learning strategies and factors that influence their learning behavior could be beneficial to the educational community.

Literature reviews show that family background and parenting styles play a role in the development of self-regulated learning skills among students (Dignath et al., 2008; Kanammah, 2014). However, when children enter formal education system, school becomes a central social environment that strengthens and reinforces their self-regulated learning skills (Dignath et al., 2008; Zieglar et al., 2011). The school factors such as school climate, is particularly important in nurturing the desired learning behaviour among students.

Currently, the Education Ministry in Malaysia is seriously considering the progress and improvement of the academic achievement among low achievers. Even though there is a slight decrease in number of disciplinary cases and social problems but majority of them are not graduating from secondary school after completing Form 5 (MOE, 2008) has created awareness to all parties in the educational field to

investigate this group of students. According to Parr (2008), 25 to 30 percent of early school leavers are disinterested and disengaged from learning in school because they are not provided with enough help or sufficient guidance during school.

In the past, the shortcomings of the students' family backgrounds, social factors and students themselves were blamed as the main contribution to low achievement (Kaufman & Bradbury 1992). However, it has been an accepted fact that the school climate is also a contributing factor towards the low achievers' learning behavior and performance in academic settings. School climate refers to the atmosphere which provides quality experience for learning (Cohen et al., 2010). It encompasses the physical and non-physical aspects of a learning environment. The physical aspect refers to the safe and conducive environment, while the non-physical aspect includes the teaching and learning processes, the interactions between teachers and students and between students. Hence, investigation on self-regulated learning in relation to school climate will provide beneficial information in addressing challenges faced by low achievers in regards to their academic performances.

1.1.1 Self-Regulated Learning

Researchers have for decades, undertaken studies to understand human learning and self-regulation. Self-regulated learning has emerged a construct that consists of various aspects of learning which includes learning strategies, motivation and knowledge to become competent learner. Currently, research on self-regulated learning and academic achievements is in focus (Pintrich, 2000; Veenman, Van Hout-Wolters & Afflerbach, 2006). In addition, Zieglar et al.'s (2011) and Dignath et al.'s (2008) studies have confirmed the significance and correlation between self-regulated learning and academic achievement.

Generally, an efficient self-regulated learner is believed to possess the abilities to face challenging tasks, develop a deep understanding of the subject matter, and these efforts give rise to academic success (Zimmerman, 2013). Self-regulated learning is defined as proactive learning behaviour that is guided by metacognition, strategic action (e.g., planning, monitoring, and evaluating personal progress against a standard), and motivation to learn (Butler & Winne, 1995; Winne & Perry, 2000; Perry, Phillips, & Hutchinson, 2006; Zimmerman, 2013). According to Sadiah Baharom (2003), self-regulated learning is a method of approaching academic tasks without taking into consideration the age, gender, ethnic background, actual ability level, prior knowledge and motivation. Particularly, self-regulated learners are aware of their strengths and weaknesses academically. They are able to apply a range of strategies to deal with the everyday challenges of academic tasks. Supporting that, Pintrich and Schunk (2010) explained that self-regulated learners normally display a high sense of self-efficacy based on those strong characteristics.

1.1.2   Learning Strategies and Academic Achievement

A number of literature reviews suggest that self-regulated learning is   an important determiner of academic achievement (Zimmerman & Schunk, 2011) and the use of internalized self-regulatory strategies help individuals to succeed in schools (Artelt, Baumert, McElvany, & Peschar, 2003). Research evidences strongly support that students' academic performances are significantly related to the use of self-regulated learning strategies (Pintrich, 2000; Fuch et al., 2003; Garrido-vargas, 2012).

Literature reviews and empirical evidences also indicate that the development of self-regulation in students can be facilitated by structuring the learning environment in ways that make learning process explicit through metacognitive training, self-

monitoring and by providing opportunities to practice self-regulation (Zimmerman, 2013; Pintrich, 1995). Most importantly, low achievers or, students in general can be taught self-regulated learning skills (Pintrich & Zucho, 2002), a trait seen usually among high achievers. The benefits of self-regulated learning are undeniable and it has a vast impact in producing lifelong learners (Zimmerman, 1998, 2011). Since low achievers have low levels of academic attainment, they need to become more competent learners by improving their self-regulation skills (Zimmerman, 1998, 2011).

1.1.3 Self-Regulated Learning among Low Achievers

Fundamentally, the process of learning involves cognitive, emotional, and environmental stimuli and experiences which aids in the acquisition, enhancement and production of one's knowledge, skills, values, and world views (Ormrod, 1995, 2006,). Previous researches have indicated that a single or a combination of factors may affect achievement. These include personal characteristics such as ability, confidence and persistence. It has also been suggested that high achieving students might have different motivation to study than low achievers, and that they are able to organize their study materials and study habits more efficiently. Other studies have suggested that active, independent engagement in the learning process might be more conducive to achievement than a passive, instructor-dependent one. Nevertheless, finding ways to assist low achievers has never been ignored by educators and the challenge continues.

Low achievers are commonly defined as those showing inconsistency between potential, ability and performance or achievement (Reis & McCoach, 2000: McCoach & Siegle, 2001). Recent literature reviews indicate that low achievers can be helped

by providing a conducive learning environment (Cohen, 2010, 2012), environmental factor or the school climate plays a major role in enhancing the low achievers academic achievement (Cohen & Thapa, 2012, 2013). Students need to pay attention, observe, memorize, understand, set goals and assume responsibility for their own learning at school (Zimmerman, 2011). These cognitive activities can only take place when the learning environment is conducive for self-regulated learning, for instance teachers provide opportunities for students to become active in their own learning (Ames, 1992).

Since low achievers have low level of self-regulation, planning and training these students to improve their self-regulation will assist them in becoming better learners (Zimmerman, 1998, 2013). All learners can be trained to become more self-regulated, persistent and resourceful (Pintrich, 1995; Zimmerman & Schunk, 2013). When the learners get involved in regulatory activities, they become less dependent on external teacher support and have more control of their own learning (Zimmerman & Schunk, 2004, 2013). Research evidences further show a positive correlation between learners' self-regulated learning and achievement (Zimmerman, 2013). Moreover, the development of self-regulation in students can be facilitated by structuring the learning environment in ways that make learning process explicit through metacognitive training, self-monitoring and by providing opportunities for them to apply self-regulated learning strategy (Zimmerman, 2013; Pintrich, 1995). Most importantly, low achievers can be taught self-regulated learning (Pintrich & Zucho, 2002).

Literature reviews based on the study of low achievers suggest that these learners have a variety of facade with multi-varied reason and they cannot be grouped into one category with a 'one size fit all' approach to solve their problems. Therefore, identifying and addressing their problems individually will be the best solution but

considering the constraints, at least identifying them in smaller groups with similar profiles will be beneficial.

1.2   Problem Statement

The lacking of self-regulated learning skills can be one of the reasons behind low achievers' poor academic performance in Malaysia. Studies show that all students can be taught self-regulated learning skills, a trait usually seen among high achievers (Zimmerman, 2011). As low achievers get involved in regulatory activities, they can become more independent and have more control of their own learning. Furthermore, planning and training these students to improve their self-regulation will enhance their motivation to learn and assist them in becoming better learners. In other words, teaching the low achievers SRL skills is like teaching them how to catch fish and making them the driver of their learning processes. Once they have acquired the learning skills and the awareness to take charge of their responsibility to learn, they can be transformed into more competent learners. Having said that, proper and effective measures to enhance the learning capacity of low achievers will lead to solving numerous academic and disciplinary issues among these students.

Lower Secondary School Assessment (e.g., Penilaian Menengah Rendah) results indicate that about 59% to 68% of students pass with only a minimum D's in all the subjects (Ministry of Education -MOE, 2008 to 2013). About 30% to 40% of the students are at-risk of failing a number of subjects at the SPM level. Relatively, the number of students failing one major subject and leaving school without certificates is about 9% to 10% (35 000 to 36 000 students) in the SPM examination (Ministry of Education, 2013). Therefore, it is crucial to conduct a study to understand the learning behavior of low achievers and factors that influence their learning behavior.

Specifically, it is crucial to find out to what extent low achievers are capable of engaging in self-regulated learning and their strength and weaknesses in employing the different types of learning strategies.

In order to help these students, it is critical to identify factors that drive and inhibit low achievers to engage in self-regulated learning. Due to a lack of empirical studies in the area, the roles of the students and the influence of their social and physical school environment on self-regulated learning are unclear. Even though there are some past studies focusing on low achievers' self-regulated learning, the investigation were not in-depth and specific on the types of learning strategies used and learner's profile (e.g. gender and differences in academic performance) as well as their school environment were not taken into account.

Generally, researchers found that students' lack awareness about learning skills and their negative psychological beliefs could lead to their failure in school (Clark, 1995). Low achievers normally lack self-regulated learning strategies compared to high achievers who have better self-regulation and control over their learning responsibilities (Zimmerman, 1998, 2011). Providing opportunities to low achievers to use and master the self-regulated learning strategies could make them less dependent on teachers as they can take charge of their own learning processes. In the long run, this will turn them into efficient and life-long learners, whether in academic or skill-based educational context (e.g., vocational and technical education).

Literature reviews state that psychological attributes of low achievers have great impact on their learning (Martin, Marsh, & Debus, 2001: Oyserman & Fryberg, 2005) and factors such as motivational beliefs, resilience and self-regulative knowledge are directly connected to self-regulated learning of low achievers. Studies have proven that motivational beliefs have positive correlation with academic

achievement and usage of self-regulated strategies (Zimmerman & Bandura, 1994; Zimmerman & Martinez-Pons, 1990; Wong & Siow, 2003; Zimmerman, 2013). Therefore, developing the inner strength of low achievers is significant as it could enhance their self-regulation as well as their academic achievement. However, due to the limited studies on self-regulated learning of low achievers, psychological factors that influence these students strategic learning behaviour is yet to be identified. This knowledge gaps need to be filled as it is unclear to what extent factors that were identified in the literatures could be generalized to the context of low achievers.

It is crucial to note that a number of previous studies have confirmed that low achievers can be taught the knowledge and skills to be strategic learners not only in schools but also as life-long learners. Literature reviews further suggest that school plays an important role in imparting students with the necessary skills and knowledge to be efficient learner. The school leadership, teachers as well as supporting staff could shape a positive and effective school climate that foster learning of all learners, including low achievers (Cohen, 2013). In specific, school climate encompasses the physical, social, and emotional dimensions of a school which cultivates learning and promote academic achievements of all learners. However, due to a lack of empirical studies in this area it is difficult to draw any conclusion on contributions of school climate on self-regulated learning of low achievers.

Due to the knowledge gaps in the area, it is crucial to conduct a study to explore the extent to which low achievers are capable of engaging in self-regulated learning, the types of strategies used, the challenges faced by them and most importantly to unveil the psychological attributes and school climate factors that could potentially influence low achievers' self-regulated learning.

1.3 Objectives of the Study

1. Explore the extent to which low achievers are capable of using self-regulated learning strategies.

2. Understand the usage of self-regulated learning strategies according to low achievers' profile (academic performance and gender).

3. Understand the types of cognitive, metacognitive and resource management strategies used by low achievers.

4. Explore the drivers and inhibitors of self-regulated learning among low achievers.

5. Rank the types of self-regulated learning strategies used by low achievers.

6. Determine whether there are differences in low achievers' self-regulated learning and psychological attributes according to academic performance.

7. Determine whether there are differences in self-regulated learning and psychological attributes between male and female low achievers.

8. Determine the correlation between psychological attributes, school climate and self-regulated learning among low achievers.

9. Determine which dimensions of psychological attributes and school climate predict low achievers' self-regulated learning.

1.4 Research Questions

Phase One (Exploratory Case Study)

1. To what extent low achievers are capable of using self-regulated learning strategies?

2. Are there any differences in self-regulated learning according to low achievers' profile (academic performance and gender)?

3. What types of cognitive, meta-cognitive and resource management strategies are used by the low achievers?

4. What are the drivers and inhibitors of self-regulated learning among low achievers?

Phase Two (Quantitative Correlational Study)

5. What is the ranking order of self-regulated learning strategies used by low achievers?

6. Are there any differences in low achievers' self-regulated learning and psychological attributes according to academic performance?

7. Are there any differences in low achievers' self-regulated learning and psychological attributes according to gender?

8. Is there any correlation between psychological attributes, school climate and self-regulated learning among low achievers?

9. What are the dimensions of psychological attributes (motivational beliefs, resilience & self-regulative knowledge) and school climate (student-teacher interaction, peer learning relation & physical environment) that predict low achievers' self-regulated learning?

1.5 Hypotheses

Hypotheses which are quantitative in nature were formulated for Phase 2 of the study (Research question 6 to 9).

Ho1 : There is no significant difference in self-regulated learning of low achievers according to levels of academic performance.

Ho2 : There is no significant difference in the psychological attributes of low achievers according to levels of academic performance.

Ho3 : There is no significant difference in self-regulated learning between male and female low achievers.

Ho4 : There is no significant difference in psychological attributes between male and female low achievers.

Ho5 : There is no significant relationship between psychological attributes and self-regulated learning of low achievers.

Ho6 : There is no significant relationship between psychological attributes and school climate of low achievers.

Ho7 : There is no significant relationship between school climate and self-regulated learning of low achievers.

Ho8 : Student-teacher interaction does not predict self-regulated learning of low achievers.

Ho9 : Peer learning relationship does not predict self- regulated learning of low achievers.

Ho10: Physical environment does not predict self-regulated learning of low achievers.

Ho11: Motivational belief does not predict self-regulated learning of low achievers.

Ho12: Resilience does not predict self-regulated learning of low achievers.

Ho13: Self-regulative knowledge does not predict self-regulated learning of low achievers.

Ho14: Psychological attributes and school climate do not predict self-regulated learning of low achievers.

1.6   Significance of the Study

First and foremost, factors that predict self-regulated learning will be identified in this study. The findings are crucial to development of intervention to enhance low achievers' learning skills. This may assist in reducing the number of low achievers, improving academic achievements and improving human resources needed by the country. Subsequently, reducing social illness and enhancing national productivity. Furthermore, the findings of this study will definitely contribute to self-regulated learning in general and specifically to low-achievers and the school climate. This study aims to develop a more holistic and realistic understanding of the self-regulated learning among low achievers and its relationships with the factors influencing it. Even though, there are some studies conducted in this area in Malaysia, their focus has been on university students, college students, adult students or selected students such as students of smart schools (Samsilah, 2000: Chen, 2002: Ng et al., 2005). To date as far as the researcher's knowledge there is no research conducted on self-regulated learning of low achievers in secondary schools in relation to school climate. Hence, the information gathered from this study will bridge the gaps about the self-regulated learning of low achievers, their psychological attributes and school climate.

The findings on low achievers will provide an in-depth view of students' situations as each one of them have different emotional and psychological state, cognitive and academic skills and a myriad of other domains that combine to make each individual unique. Instead of using 'one size fits all' approach which is being used in schools at present, this study will give the necessary feedback on the needs of different groups of low achievers even if not for every individual.

It is crucial for educators, administrators and other parties involved to recognize the aim of this study, which is to identify the strategy low-achievers lack

amongst the nine self-regulated learning strategies. Hence, a holistic and realistic picture of the missing aspects in the preparation and delivery of the present school curriculum can be obtained. The government is spending millions of ringgits to improve school climate every year, yet, there exist a group of students who are not benefiting, obviously, and it has to be taken seriously. So, the information the school climate and its contribution on low achievers will be very useful for the concerned parties.

The information on psychological attributes will also enlighten the teachers, administrators, counselors and education department. This will force us to take an in-depth look into the personal needs of the low achievers. Therefore, more attention should be given to the global needs and overall personality development of each student rather than pave a one-track road towards only one destination which they hold little potential in the standardized academic performance.

Finally, gathering information from the principals, teachers and students themselves will provide more authentic feedbacks. The information gathered will also fill in the gaps pertaining to low achievers as they are studied in three different groups according to their level of achievement and their self-regulated learning strategies. The holistic and realistic findings will enable us to understand the needs of the low achievers. Thus, forcing us to rethink and make amendments in the present curriculum and practice of teaching as a whole to benefit all the students without leaving behind any one.

1.7   Limitation of the Study

This study recognizes the following limitations:

According to Gay and Airasian (2000), most of the instruments used for examining interest, attitudes, values, personalities, emotive feelings and perception are self-rating measurements. Moreover, self-rating instrument is more direct to measure personal variable than any other techniques and it is also suitable for young children, adolescents and adults, depending on their reading abilities (Bracken, 1996). Therefore, self-rating instruments are used in this study to measure variables such as self-regulating learning strategies, psychological attributes and students-teacher interactions. However, the weakness of this instrument is that the researcher cannot be absolutely sure of the accuracy and the sincerity of the responses. Therefore, to obtain a more honest and accurate response, the researcher has taken measures to ensure that the participants of this study understand that all the information gathered are confidential and they could review their actual responses. Instructions were clearly written and explained orally before data was collected.

Due to time and financial constraints, this study was conducted at 5 national secondary schools in Penang. Findings could be generalized to low achievers from other national schools which share similar characteristics. The sample was taken at random from low achievers from different level of academic performances. The students' demographic and school location was not studied in this research.

This study does not investigate students' self-regulated learning according to individual subjects or content area. This provides room for future studies.

1.8   Definition of Terms

The terms used in this study are defined conceptually and operationally to guide the researcher throughout study for the purpose of data collection, data analysis and generalization of the research results.

1.8.1   Self-Regulated Learning

Zimmerman (2011) defines self-regulation as the process use to activate and sustain thoughts, behaviour, and emotions in order to reach the targeted goals. When learning is involved, it is called self-regulated learning (SRL). According to Pintrich (2000), self-regulated learning is an active, applicable process that learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior. In this study, self-regulated learning refers to how students meta-cognitively, motivationally and behaviourally promote their own learning with self-regulated strategies. There are nine strategies namely rehearsal, elaboration, organization, critical thinking, meta-cognitive self-regulation, time and environment management, effort regulation, peer learning and help seeking strategies. In this study, self-regulated learning was measured using a 20-item Learning Strategies Scale, adapted from Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich et al. (1991).

1.8.2   Low Achievers

Low achievers are commonly defined as those show discrepancy between potential, ability and performance or achievement (Reis & McCoach 2000: McCoach & Siegle, 2001). Waxman (1992) suggests that even failing one subject can be considered low achievers. In this study, low achievers are regarded as students who

are not performing to achieve the minimum grade by passing all the subjects they learn in the school. It is crucial to note that even among the low achievers there are differences in terms of academic performance. According to the Ministry of Education (Roziah & Ku Mariam, 2010), low achievers could be further divided into 3 groups; Group 1 (failed 1 to 3 subjects), Group 2 (failed 4 to 6 subjects) and Group 3 (failed more than 7 subjects).

1.8.3 Psychological Attributes

In this study, the psychological attributes refer to psychological factors identified in the literature as critical factors that could influence self-regulated learning of low achievers. Psychological attributes include dimensions on (1) Motivational belief, (2) Resilience, and (3) Self-regulative knowledge.

1.8.3(a) Motivational Beliefs

Motivational beliefs are beliefs that enable individuals to exercise a measure of control over their thoughts, feelings, motivation and actions. Motivational beliefs consist of six aspects: Intrinsic motivation, extrinsic motivation, self-efficacy, action-control beliefs, task values and anxiety (Pintrich et al., 1991). In this study, motivational beliefs were measured using an adapted Motivation Scale taken from Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich et al. (1991).

1.8.3(b) Resilience

Resilience is "the ability to successfully cope with change or misfortune" (Wagnild & Young, 2009). Masten (2014) describes the current definition of resilience as an outcome measure where patterns are examined reflecting the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances. In this study, resilience means the students' ability to successfully adapt one-self even in the challenging or threatening situations. Low achievers' resiliency was measured using the adapted Resilience Scale by Wagnild and Young (1993).

1.8.3(c) Self-Regulative Knowledge

Zimmerman (2011) explains that self-regulative knowledge consists both procedural and conditional qualities. Procedural qualities refer to the knowledge of how to use the strategies and conditional qualities refers to knowledge of when and why the strategies are effective (Ng, 2010). In this study, self-regulative knowledge is the students' knowledge of the self-regulated strategies and their beliefs of the importance and usefulness of these strategies. It was measured using the Self-Regulative Knowledge Scale developed by Ng (2004).

1.8.4 School Climate

School climate refers to the atmosphere which provides quality experience of learning (Cohen et al., 2007). In this study, school climate refers to the atmosphere which provides quality experience of learning and was found to influence self-regulated learning by past studies (Cohen, 2007: Cohen & Thapa, 2012, 2013). The

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school climate includes dimensions on (1) Student-teacher interaction, (2) Peer-learning relation and (3) Physical environment of the schools.

1.8.4(a) Student-Teacher Interactions

According to Zimmerman (2011), student-teacher interaction refers to the relation, communication and interaction between students and teachers in a teaching and learning process. This social experience is one of the most significant encounter students have while learning. In this study, students-teachers interaction includes student-centered learning, feedbacks provided by teachers, and strategy instruction. Feedback provided by the teachers refers to the information provided by the teachers to the students (Butler & Winne, 1995). In this study, it is the comments, criticism, and advice given by the teachers about a completed task, results or progress of assignment or examination. Strategy instruction refers to the rules and steps given to the students to improve performance and convey that they are capable of applying them (Schunk, 1989). Student-teacher Interaction was measured by the Students-Teachers Interaction Scale developed by Ng, (2004).

1.8.4(b) Peer learning Relation

Ormrod (2006) explains that students regularly or most often seek out friendly relationship with one another or with classmates. Peer relationships, serves several functions in adolescents' personal and social development. Peer learning Relation encompasses peer learning and interpersonal relationship. In this study, Peer-Learning Relation was measured using Peer learning Subscale adapted from the School Climate Scale developed by Cohen et al. (2010).

1.8.4(c) Physical Environment

The Physical Environment includes the safety and the level of conduciveness of the institutional environment (Cohen et al., 2010). In this study, places like the classroom, science laboratory, computer laboratory and library are considered important as most of the learning activities are conducted here. The physical environment of a school was measured with the Physical Environment Subscale adapted from the School Climate Scale developed by Cohen et al. (2010).

1.9   Drivers and Inhibitors

According to Pintrich (2000), drivers support the process of self-regulated learning whereas inhibitors slow down the process of the self-regulated learning. In this study, the drivers are factors that contribute to the usage of self-regulated learning strategies among the low achievers while inhibitors are factors that cause their limited usage in certain self-regulated learning strategies.

1.10   Summary

In summary, this chapter discussed and pointed out the relevance of this study. This study aimed to investigate the level of usage of self-regulated learning strategies and the factors that influence and support self-regulation of low achievers in schools. It also put forward the urgency and the need to explore the self-regulation of low achievers. Foremost, the information gathered would fill up the gaps about low achievers and their self-regulation in Malaysia specifically.

CHAPTER 2

LITERATURE REVIEW

2.0   Introduction

This chapter narrates the literature review of self-regulated learning which includes an overview on self-regulated learning, theories and the significance of the study. Further, the review of factors that facilitate self-regulated learning such as school climate and the related elements, and the psychological attributes of low achievers were explained. Lastly, the research framework of the study which was underpinned by a theoretical background was discussed.

2.1   An Overview on Self-Regulated Learning

Zimmerman (2011) defines self-regulation as the process use to stimulate and sustain our thoughts, behaviour, and emotions in order to attain our goals. When learning is involved, self-regulated learners are able to transform their mental abilities, and academic skills. Self-regulated learners have a combination of academic skills and self-control that makes learning easier and keeps them more motivated. In other words, self-regulated learning describes how learners cognitively, motivationally and behaviourally improve their own academic achievement. Thus, one of the teaching goals should be to free students from the need of teachers, so the students can continue to learn independently (Woolfolk, 2013).

Woolfolk (2013), says that the concept of self-regulated learning involves effective learning and motivation. Thus, three factors that influence the skill and will are knowledge, motivation and self-discipline or volition. Knowledge refers to the students' knowledge about themselves, the subject, the task, strategies for learning, and the context in which they will apply their learning. Motivation refers to intrinsic

and extrinsic motivation which gives students the reason for studying and therefore the choice and actions are self-determined and not controlled by others. Besides knowledge and motivation, self-regulated learners need volition or self-discipline or will power. Motivation denotes commitment and volition denotes follow through (Corno, 1992). In order for students to be self-regulated they need to be aware of their own thought process, and be motivated to actively participate in their own learning process (Zimmerman, 2013).The metacognitive activities of self-regulated learners are characterized by extensive planning, organizing, and evaluating. Theorists and researchers belief that self-regulation is a cyclical process.

Zimmerman (2011) identified three phases in the process of self-regulation: forethought, volitional or performance control, and self-reflection (Figure 2.1). Forethought is the initial phase that embodies processes influencing beliefs and efforts to learn and sets the stage for learning. Goal setting and strategic planning are two processes that are utilized in the forethought phase of self-regulation. Volitional or performance control phase occurs during efforts of learning and affect concentration and performance. These processes include attention focusing, self-instruction or verbalization, and self-monitoring. The third self-regulatory phase involves processes that occur after learner efforts have been exercised. Self-reflection includes the following actions: self-evaluation, attributions, self-reactions, and adapting.
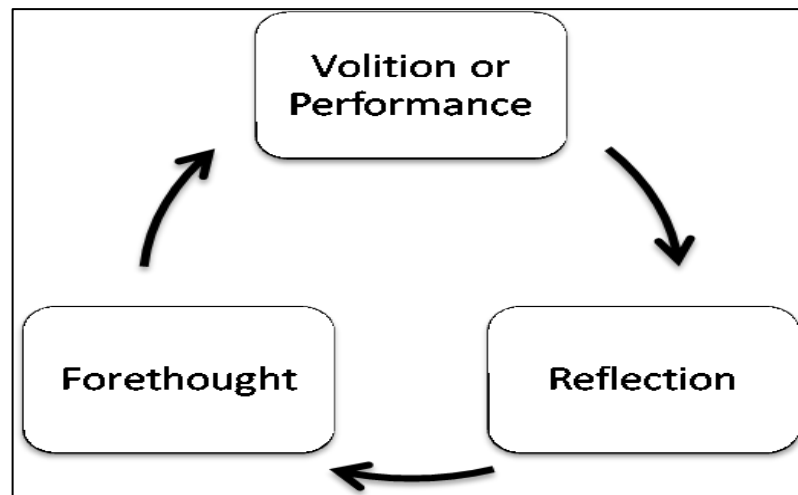
Figure 2.1. Phases of Self-Regulation (Zimmerman, 2011:51)

Successful self-regulated learners act in three ways to optimize their learning. On the behavioral (strategic) level, self-regulated learners actively select, structure, and create social and material environments which optimize their learning processes. At the meta-cognitive level, they do planning, organizing, self-instructing, self-monitoring and self-evaluating at various stages of the learning process. Apart from these two levels, motivationally, they perceive themselves as competent, self-efficacious, and autonomous and they work hard to achieve their academic goals, (Zimmerman, 1998, 2011). This means, self-regulated learners can transform their mental abilities into academic skills (Zimmerman, 2011). In brief, three central characteristics of self-regulation are awareness of thinking, use of strategies, and sustained motivation.

According to Zimmerman (2013), self-regulated learning involves the regulation of three general aspects of academic learning. First, self-regulation of behaviour involves the active control of the various resources students have available to them, such as their time, study environment (e.g., the place in which they study), and their use of others such as peers and faculty members to help them (Garcia & Pintrich, 1994; Pintrich, Smith, Garcia, & McKeachie, 1991). Second, self-regulation

of motivation and affect involves controlling and changing motivational beliefs such as self-efficacy and goal orientation, so that students can adapt to the demands of a course. In addition, students can learn how to control their emotions and affect (such as anxiety) in ways that improve their learning. Finally, self-regulation of cognition involves the control of various cognitive strategies for learning, such as the use of deep processing strategies that result in better learning and performance than students showed previously (Garcia & Pintrich, 1994; Pintrich, Smith, Garcia, & McKeachie, 1991).

2.2 Theories of Self-Regulated Learning

There are six prominent theoretical perspectives on self-regulated learning namely social cognitive, operant, phenomenological, volitional, Vygotskian and cognitive constructive. Among them, social cognitive theory is the most widely used theory for self-regulated learning. However, social cognitive theory, the resilience theory and school climate theory will also be discussed in this study. The theoretical framework for this study was based on social-cognitive theory.

2.2.1 Social Cognitive Theory

Social Cognitive theory views human functioning as interaction between behaviour, environment and personal factors. According to Bandura's (1977, 1986, 1997, 2000, 2001, 2014), in the social cognitive theory, individuals possess a self-system that enables them to exercise a measure of control over their thoughts, feelings, motivation and actions. This self-system encompasses one's cognitive and affective structures and provides reference mechanisms and a set of sub functions for perceiving, regulating and evaluating behavior. It results from interplay between the