

SELF-EFFICACY, GOAL ORIENTATIONS, AND  
SELF-REGULATED LEARNING IN THAI STUDENTS

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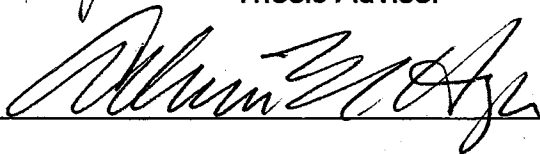
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## CHAPTER ONE

### Introduction

Recently, Thailand, like many other countries, has been confronted with the economic recession crisis that has affected people's well-being and the stability of the country. Human resources have been considered as an underlying factor causing the national crisis (Thailand, 2000). This situation makes education reform indispensable in order to improve the quality of human resources. In the time that the nation tries to survive from economic struggle, human resources are a hopeful alternative to help bail out the country. Academic standards for all students are now a major concern among educators. The heart of education reform in Thailand is the reform of learning (Kaewdang, 2001). Kaewdang, Secretary-General of Thailand's Office of the National Education Commission, states that "education must aim at cultivating, within students, the skills of searching knowledge through self-learning so that they can learn continually at any time and any place throughout their lives" (p. 1). Faculty often complain about students' performance and their motivation to learn (Gates, 2000). Most students tend to be passive learners instead of proactive ones partly because many students study merely in order to get a degree. Undoubtedly, this passivity can decrease the competitiveness of the nation. Since technology now advances rapidly individuals must pursue a rigorous education so that their nation can compete economically with other countries. If the nation cannot produce graduates who are lifelong learners, ambitious, and eager for knowledge, Thailand will certainly be in tremendous trouble. Obviously,



in the world of competition students need to know how to search for knowledge, how to think critically, and how to solve the problems (Kaewdang, 2001).

To cultivate students to be qualified human resources, educators need to find effective ways to motivate them to learn. It is for this purpose that motivational processes come to the attention of educators. Many researchers have spent a great deal of effort in studying motivational processes, hoping that it may help better and facilitate student learning (Dweck, 1986). The present study focuses on self-regulated learning, the construct concerned with the active, goal-directed, self-control of behavior, motivation, and cognition for academic tasks by an individual student (Pintrich, 1995). Self-regulated learners engage in academic tasks for personal interest and satisfaction (Zimmerman, 1989). Active engagement in the learning process helps support academic performance (Dweck, 1986; Zimmerman, 1989). It changes the control of learning from a teacher to a learner.

Self-regulated learning is found to be positively related to self-efficacy (Schunk, 1990a, 1990b; Pintrich & De Groot, 1990; Zimmerman & Martinez-Ponz, 1990). Self-efficacy is defined as "People's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). According to Bandura, self-efficacy is a kind of motivational belief significantly influencing individual's behaviors. Through increased student's self-efficacy, educators may be able to improve student learning and achievement.

In addition to self-efficacy, goal orientations are another motivational belief affecting self-regulated learning (Ames & Archer, 1988; Albaili, 1998; Elliot, McGregor, & Gable, 1999). Students who emphasized mastery goals to increase competence report using more effective strategies than students who emphasized performance goals which focus on efforts to gain positive judgments or avoid negative judgments of competence (Ames and Archer, 1988). From previous research, it is reasonable to expect the significant relationship among self-regulated learning, self-efficacy, and goal orientations.

#### Statement of the Problem

It is apparent that there is a great deal of research conducted to investigate the nature and the contribution of self-efficacy, goal orientations, and self-regulated learning on students' academic performance (Ames & Archer, 1988; Elliot, et al., 1999; Eppler & Harju, 1997; Livengood, 1992; Multon, Brown, & Lent, 1991; Pintrich & De Groot, 1990; Pokay & Blumenfeld, 1990). This research has been conducted in western contexts and use western students as subjects to study.

However, little research, investigating higher education academic performance and its factors and results, has been undertaken in Thailand. Some studies have examined learning styles and study strategies in general (Sattacomkul, 1992; Wongswasdiwat, 2000). Others have explored academic performance, using elementary students as their subjects (Sngobkay, 1990; Suwannit, 1990). The research has not focused on motivational beliefs and self-regulated learning.

This study will fill this knowledge void and help educators see the relationship between motivation and students' learning strategies. Knowledge gained from the study may lead them to try to find ways to improve students' motivation and their learning skills. Additionally, it may help affirm the related theories.

#### Purpose of the Study

The main purpose of this research is to examine how Thai students' motivational beliefs, particularly self-efficacy and academic goal orientations, are related to their use of self-regulated learning strategies. Another purpose is to investigate the differences of self-efficacy and the use of self-regulated learning strategies between high- and low-achieving Thai students.

#### Research Questions

Research questions are as follows:

1. What are the relationships between self-efficacy, academic goal orientations, and the use of self-regulated learning strategies in Thai students?
2. How different are high achievers and low achievers in their self-efficacy and the use of self-regulated learning strategies?

#### Significance of the Study

#### Theory

The theoretical framework, including self-efficacy (Bandura, 1993, 1997), goal orientations (Dweck, 1986; Dweck & Leggett, 1988), and self-regulated learning (Pintrich, 1995; Schunk & Zimmerman, 1994; Zimmerman, 1989, 1990), has been constructed under Western contexts. This investigation will provide

more information about Thai students' motivational beliefs and their learning strategies. Consequently, it is likely to help affirm the generalization of the theory beyond Western subjects as well as the modification for Asian students.

### Research

A great deal of research in this topic has been conducted in K-12 level (Ames & Archer, 1988; Anderman & Migley, 1992; Pajares, 1996a; Pajares & Johnson, 1996; Pajares, Miller, & Johnson, 1999; Pintrich & De Groot, 1990; Rule & Griesemer, 1996; Zimmerman & Martinez-Pons, 1990). Thus, they may be problematic when applied to the undergraduate level. And since college students have more control over their learning than K-12 students whose studying is closely managed by their teachers (Pintrich, 1995), this study will help increase our understandings on how college students learn and how academic achievement impacts their self-efficacy and their learning strategies.

### Practice

Findings from this study will help educators and teachers to recognize the importance of motivational beliefs and self-regulated learning on students' academic achievement and find appropriate ways to improve these desirable characteristics, in hopes that this will help sustain students' motivation to learn and generate their skills to acquire knowledge in order to make them lifelong learners.

### Research Assumptions

There are some assumptions made for this study as follows.

1. The studied variables including self-efficacy, goal orientations, and self-regulated learning are measured by subscales from the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich, Smith, Garcia, and McKeachie (1991).
2. Participants respond to the questionnaire sincerely and accurately.
3. The study uses a median split to divide participants into low and high groups in order to do t-test analyses so as to answer a research question.

### Scope and Limitations

The followings are scope and limitations in this study.

1. The sample in the study is 322 students from the faculty of business administration in a private university. Thus, it excludes students from other faculties whose motivation and learning strategies may be different. Besides, the study focuses only on students in day classes or traditional students, not including those in night classes or non-traditional students.
2. The data are collected at the end of the first semester before the final examination. As such, the results may be different if the research was conducted at other periods of time.

### Definition of Terms

Since this study relates to specific terms, which the reader may not feel familiar with, this part of the chapter will discuss definition of these terms in order to provide a better understandings of this research.

Self-Efficacy – The student's belief of his/her ability to perform and accomplish a particular subject investigated in the research.

Goal Orientations – The student's perceptions of the reasons in engaging in the course. This study focuses two types of goal orientations:

- Mastery goal orientation – The student's perception of his/her participation in the course for the reasons of challenge, curiosity, or mastery.

- Performance goal orientation – The student's perception of his/her participating in the course for the reasons of grade, rewards, performance, or the recognition of others.

Self-Regulated Learning – The student's approaches to learning by self-regulating in using cognitive, metacognitive, and resource management strategies as measured by 9 scales of MSLQ described in Chapter 3.

### Conclusion

The current study is designed to examine the relationships between students' motivational beliefs, especially their self-efficacy and goal orientations, and their use of self-regulated learning strategies, focusing in the Thai context. Besides, differences between high achievers and low achievers in self-efficacy and the use of self-regulatory strategies are explored. The study is quantitative approach, using Motivated Strategies for Learning Questionnaire (MSLQ). Subjects are students in a private university.

This chapter focused on background of the problem and the problem statement as well as the significance of the study in terms of research, theory,

and practice. Furthermore, the purposes, research questions, assumptions, scope and limitations, and definition of terms were also discussed in the chapter.

Chapter Two will contain a review of the literature related to self-efficacy especially in academic settings, academic goal orientations, and self-regulated learning, and the summary of the current state of knowledge. Chapter Three will cover research design, including sample selection, the instrument used in the study, data collection, and data analysis. Chapter Four will present the characteristics of participants. Also, results from data analysis according to the research questions and supplemental analyses will be shown in this chapter. The last chapter will correspond to summary of the study, the interpretation and discussion of research results. In addition, implications for theory, future research, and practice, as well as recommendations will be proposed.

## CHAPTER TWO

### Review of the Literature

The present study is based on three major closely intertwined concepts. These concepts consist of self-efficacy, goal orientations, and self-regulated learning. This chapter discusses the overview of these concepts along with related research in these areas conducted both in the western world and in Thailand.

#### Self-efficacy

Self-efficacy theory is based on the principal assumption that psychological processes serve as means of creating and enhancing expectations of personal efficacy (Bandura, 1977). It has been initially introduced in Bandura's "Self-efficacy: Toward a unifying theory of behavioral change" (1977). Bandura and his colleagues discussed this concept in several works after that (Bandura, 1978, 1982; Bandura, Adams, & Beyer, 1977; Bandura & Cervone, 1983; Bandura & Schunk, 1981). Later, it has become a part of a larger theory known as social cognitive theory (Bandura, 1986) which emphasizes the role of self-referent beliefs. According to Bandura (1986), self-referent beliefs mediate between knowledge and behavior. He proposed that individuals possess personal beliefs that make them exercise control over their thoughts, feelings, and behaviors. He claimed that, "what people think, believe, and feel affects how they behave" (p. 25). Personal beliefs consist of a self system with symbolizing, forethought, and self-reflective abilities. As a result, in Bandura's notion, individuals are self-organizing, proactive, and self-regulating instead of reactive



and dominated by external forces (Pajares & Schunk, in press). Bandura believed that individuals' beliefs about their capabilities called self-efficacy can generally predict their behaviors better than their actual capability since those beliefs influence the ways in which they will act (Bandura, 1986). Eventually, he asserts that beliefs in efficacy are the foundation of human agency (Bandura 2001). According to Bandura (2001), "Among the mechanisms of personal agency, none is more central or pervasive than people's beliefs in their capability to exercise some measure of control over their own functioning and over environmental events" (p. 10). At this point, also, Pajares and Schunk (in press) aptly quoted the Roman poet Virgil who wrote that "they are able who think they are able".

#### Sources of self-efficacy beliefs

Self-efficacy beliefs are developed from four major sources (Bandura, 1986, 1997). The most influential source of efficacy information is enactive mastery experience or the interpreted result of one's purposive performance. Bandura (1997) postulated that successes bring about a strong belief in one's self-efficacy whereas failures destroy it, especially if those failures take place before a sense of efficacy is firmly grounded. To increase student achievement in school, as social cognitive theorists suggest, educational efforts should focus on changing students' beliefs of their self-worth or competence through successful experience with the performance at hand, or through authentic mastery experiences (Pajares, 1997; Pajares & Schunk, in press).

The second source of self-efficacy comes from vicarious experiences provided by observing social models. This source of information will play an important role particularly when individuals are not sure about their own abilities or have limited prior experience. According to Pajares (1997), a significant model in one's life can generate self-beliefs that will impact the course that life will take. Vicarious experience also relates to social comparisons individuals made with others since they must appraise their capabilities in relation to the attainments of others. As a result, these comparisons, as well as peer modeling, can have powerful influences on generating self-efficacy.

Self-efficacy can also be developed from social persuasions. This means is typically effective especially when people are struggling with difficulties. Verbal persuasions from significant others can boost self-efficacy and lead people to try harder to accomplish the task. However, positive appraisal must be within realistic bounds, otherwise it can discredit the persuaders and undermine the recipients' self-beliefs if things turn to fail (Bandura, 1997).

The last source of efficacy information includes physiological and affective states such as stress, anxiety, arousal, pains, fatigue, and heart rates. In accordance with Bandura (1997), people usually interpret their physical activation in stressful situations as signs of vulnerability to dysfunction. Thus, the major way to alter efficacy beliefs in this case is "To enhance physical status, reduce stress levels and negative emotional proclivities, and correct misinterpretations of bodily states" (Bandura, 1997, p. 106).

### Effects of self-efficacy beliefs

Self-efficacy beliefs affect adaptation and change and can influence behavior in several ways (Bandura, 1986, 1997, 2001). They influence choice of behavior and the courses of action people pursue, for individuals tend to engage in tasks they feel competent. Locke, Frederick, Lee, & Bobko (1984) found that self-efficacy is one of the major predictors of goal choice. Self-efficacy beliefs also determine the extent of effort and persistence people will expend on a task through expectations of eventual success. Undoubtedly, the more people possess sense of self-efficacy, the more they expend their effort and persistence toward a task (Bandura, 2001). Consequently, perceived self-efficacy affects level of performance by increasing intensity and persistence of effort (Bandura, 1982). The third impact of self-beliefs is by influencing one's thought patterns and emotional reactions. Individuals with high self-efficacy tend to react to difficult tasks as challenges to be overcome rather than as threats to be avoided. Furthermore, they tend to maintain strong commitment to them even in the face of failure (Pajares & Schunk, in press). In contrast, people with low self-efficacy tend to perceive things as much more difficult than they actually are, thus they have more stress and anxiety while doing the task than those with high self-efficacy. Also, people who perceive themselves as inefficacious in managing potential threats approach such events anxiously and display phobic avoidance of them (Bandura, 1983). The last impact of self-beliefs on behavior is by recognizing humans as producers instead of simply foretellers of behavior since

people actively use these beliefs to influence how they think, feel, and behave (Pajares, 2001).

As a consequence, self-efficacy beliefs are apparently strong contributors to the level of success that persons finally accomplish (Pajares & Schunk, in press). Nevertheless, this does not mean that, without potential capabilities, self-efficacy alone can bring about desired accomplishments. Bandura (1977) argued that with appropriate skills and incentives self-efficacy beliefs are a main determinant of individuals' choice of behaviors, the extent of effort they will expend, and the persistence they will sustain effort when face with stressful situations.

#### Relationship with academic achievement

Pajares (1996, 1997), Pajares and Schunk (in press), and Schunk and Pajares (in press) interestingly reviewed the research concerning the relationship between self-efficacy and academic achievement. Schunk successfully demonstrated the influence of self-efficacy on students' academic achievement in his several studies (Schunk, 1982; 1983; 1984a, b). By providing students with instructional strategies designed to increase their self-efficacy, he found that the increase in self-efficacy leads to better performance. Moreover, Schunk (1981) found that perceived efficacy is an accurate predictor of arithmetic performance across levels of task difficulty. Additionally, Schunk (1984) reported that mathematics self-efficacy affects math performance both directly and indirectly through persistence. Also, Pajares and Miller (1994) reveal that self-efficacy has stronger direct effects on mathematics problem-solving than do self-concept,

perceived usefulness, or prior experience. Besides, Pajares and Johnson (1996) found that students' self-efficacy has a direct effect on their writing performance. An analysis of studies in this topic done between 1977 and 1988 also showed that efficacy beliefs are positively related to performance (Multon, Brown, & Lent, 1991). These beliefs influence achievement by influencing effort, persistence, and perseverance (Schunk, 1991; Pajares & Schunk, in press). Lent, Brown, and Larkin (1984, 1986) studied college students in science and engineering courses. They found that self-efficacy influences academic persistence essential to maintain high academic achievement. Students with high self-efficacy for educational requirements usually achieve higher grades and persist longer in their courses over the following year than those with low self-efficacy. Self-efficacy is also related to self-regulated learning variables such as cognitive and metacognitive strategies use as well as to course grades, homework, exams and quizzes, and reports (Pintrich & De Groot, 1990; Zimmerman & Martinez-Pons, 1990). Therefore, raising self-efficacy may help increase use of cognitive strategies and, thus, higher achievement. In addition, self-efficacy is related to goal orientations. Garcia and Pintrich (as cited in Hagen & Weinstein, 1995) found that having intrinsic or mastery goal is generally associated with higher self-efficacy and higher use of self-regulated learning strategies.

#### Goal Orientation

Goal orientation is a construct introduced in Dweck and Leggett's social-cognitive theory of motivation (1988). This theory proposed that there is an association between one's goal orientation and behavioral responses in

academic contexts. According to these theorists, the goals people are seeking will generate the framework within which they interpret and respond to events. The theorists identified two types of goals: a learning goal in which individuals focus on increasing their competence or mastering something new, and a performance goal in which individuals concentrate on gaining positive judgments of their ability and avoiding negative evaluations (Dweck & Leggett, 1988). Apart from these terms, goal orientation has also been mentioned in different terms by other researchers including mastery versus performance goals (Ames & Archer, 1988), task-involvement versus ego-involvement goals (Maehr & Nicholls, 1980, as cited in Ames, 1992), and intrinsic versus extrinsic goals (Pintrich et al., 1991). Meece, Blumenfeld, & Hoyle (1988) precisely summarized the differences of these terms by indicating that each set of goals differs primarily in terms of whether learning is valued as an end in itself or as a means to an end apart from the task, such as gaining social approval, demonstrating abilities, or avoiding negative evaluations from others.

Ames (1992) pointed out that for students with a mastery goal orientation the focus of attention is on the intrinsic value of learning. According to Ames, individuals with this type of goal are oriented toward developing new skills and improving their competence or attaining a sense of mastery on the basis of self-referenced standards. For these people, effort is perceived as the route to success. Contrary to mastery-goal learners, performance-goal persons concentrate on demonstrating their ability to others. They usually try to protect their sense of self-worth. Therefore, learning itself is considered only as a

means to achieve a desired goal. For this kind of people, ability is perceived as a major cause of success. Expending much effort, thus, is viewed as lack of ability. As such, when they suspect of their ability, they tend to conceal their lack of it or sometimes induce failure-avoiding strategies instead of expending greater effort. These strategies include pretending not to care, acting as if they do not really try, or easily surrendering (Pintrich & Schunk, 1996).

In accordance with Dweck (1986) and Dweck and Leggett (1988), a mastery goal orientation tends to bring about adaptive pattern of behaviors such as challenge seeking, willingness to try different problem-solving strategies, and increased effort and persistence when facing the difficulty. In contrast, a performance goal orientation tends to generate maladaptive pattern of behaviors including self-aggrandizement, challenge avoidance and a preference for easy tasks that guarantee success, lack of persistence, heightened performance anxiety, cheating, rote-learning, and learned helplessness.

Ames (1992) mentioned that orientation toward an achievement goal is affected by individual differences or by situational cues such as classroom climate and the encouragement of teachers. Ames and Archer (1988) interestingly compares the differences of the two goal orientations on classroom climate as presented in Table 1.

Table 1Achievement Goal Analysis of Classroom Climate

Climate dimensions	Mastery goal	Performance goal
Success defined as...	Improvement, progress	High grades, high normative performance
Value placed on...	Effort/learning	Normatively high ability
Reasons for satisfaction...	Working hard, challenge	Doing better than others
Teacher oriented toward...	How students are learning	How students are performing
View of errors/mistakes...	Part of learning	Anxiety eliciting
Focus of attention...	Process of learning	Own performance relative to others'
Reasons for effort...	Learning something new	High grades, performing better than others
Evaluation criteria...	Absolute, progress	Normative

(Ames & Archer, 1988, p. 261)

Several researchers have argued that mastery and performance goals are independent of one another rather than opposite to one another (Ablard & Lipschultz, 1998; Hagen & Weinstein, 1995; Livengood, 1992; Pintrich, 2000). As such, it is possible that a student may possess both mastery and performance goals at the same time.

Research showed that mastery goal orientation is positively related to self-efficacy, whereas performance goal orientation is negatively related to self-



efficacy on an academic task (Phillips & Gully, 1997). Adoption of a mastery (learning) goal has been associated with reported use of more effective learning strategies (Ames & Archer, 1988; Meece et al., 1988), persistence and effort (Elliot et al., 1999). On the other hand, adoption of performance goal has been associated with reported use of surface strategies such as reciting (Meece et al., 1988). As a result, learners with a performance goal usually fail to retain knowledge they learn when the evaluation is over. This condition certainly can affect their learning in the long term. The relationships between two types of goal orientation and other characteristics as mentioned above have been presented through numerous research as follows.

Ablard and Lipschultz (1998) studied the relation between achievement, goal orientation, and self-regulated learning. Subjects were 222 highly achieved 7<sup>th</sup> graders. The researchers discovered that performance goal orientation was related to self-regulated learning only in conjunction with mastery goals. Mastery goal orientation and gender were significantly related to self-regulated learning. Besides, girls reported greater use of self-regulated learning strategies.

Albaili (1998) investigated the relationships among goal orientations, cognitive strategy use, and academic achievement by using a questionnaire. The sample is 234 undergraduate students in United Arab Emirates. The findings showed that students who got high scores on the learning goal orientation scale were more likely to use elaboration and organization strategies whereas students who got high scores on the performance goal orientation scale were more likely to use rehearsal strategies and less likely to use elaboration and

organization strategies. Additionally, high GPA students had lower scores on the performance goal orientation and the use of rehearsal strategy scales than the middle and low GPA students. However, there were no significant differences among these three GPA groups on learning goal orientation.

Ames and Archer (1988) studied the relationship between mastery and performance goals and motivational processes in actual classroom settings. Their sample was 8-11th graders who had high academic achievement and came from classrooms in various subject domains including English, math, science, and social studies. These students were asked to respond to a questionnaire on their perceptions of the classroom goal orientation, use of learning strategies, task choices, attitudes, and causal attributions. The results showed that students emphasizing mastery goals in the classroom reported using more effective strategies, preferred challenging tasks, had positive attitude toward class, and believed in their effort as a cause of success. On the other hand, Students emphasizing performance goals tended to focus on their ability, had negative self-evaluation, and attributed their failure to lack of ability.

Archer and Schevak (1998) used both a questionnaire and interview method to study 354 first-year Australian students about the effects of perceptions of motivational climate of a subject. They found that if students perceived that their teacher enhanced mastery goal in class they reported more use of effective learning strategies, had adaptive approach toward the subject, and were more willing to tackle to difficult tasks. Moreover, there was a

significant relationship between students' perceived ability and their perceptions of the mastery climate in the classroom.

Eppler and Harju (1997) studied the relationship between goal orientation and academic achievement in 262 undergraduate students. The research found that learning goal orientation had positive relationship with academic achievement. Besides, learning-goal oriented students experienced less learned helplessness and higher achievement, whereas performance goal oriented students experienced more learned helplessness, but had no effects on achievement.

Livengood (1992) investigated mental processes that influence success in university learning by using a questionnaire. The sample was 178 undergraduate students in education major. The results showed that students' beliefs about effort and ability and motivational goals related to patterns of learning participation and levels of students' satisfaction. Students believing that effort discredits ability tended to be performance-goal oriented, whereas students believing that effort stimulated ability tended to be learning-goal orientated. Furthermore, students who were low in confidence in their ability were lower in learning-oriented participation, whereas those who were highly confident were high in this kind of participation. In addition, students engaging in higher academic participation had a significantly higher GPA than those engaging in lower academic participation.

Meece and her colleagues (1988) examined the influences of students' goal orientation on their cognitive engagement in science activities. The sample

was 275 5-6<sup>th</sup> graders from 10 classrooms. The findings revealed that students focusing on task-mastery goal reported more active cognitive engagement. Conversely, students focusing on gaining social acceptance or avoiding work reported lower cognitive engagement. Cognitive engagement here included use of cognitive and metacognitive strategies indicative of self-regulated learning such as attention, planning, connecting, monitoring, help-seeking, and effort-avoidant strategies.

Pintrich (2000) examined the role of multiple goals, both mastery and approach performance goals, in relation to multiple outcomes of motivation, affect, strategy use, and performance. Sample were 8<sup>th</sup> and 9<sup>th</sup> graders from math classrooms. He found that mastery goals were adaptive, whereas approach performance goals, when combined with mastery goals, were adaptive as well.

Schraw, Horn, Thorndike-Christ, & Bruning (1995) used a questionnaire to study whether goal orientations affect achievement, strategy use, and metacognition. The sample was 448 undergraduate students. The research found that those who scored high in learning goal scale had higher academic achievement, used more learning strategies including integration, organization, and memorization, and had more metacognitive knowledge than those who scored low in this scale. The research supports the notion that strong learning goal enhances cognitive skill development necessary to students' academic achievement no matter what level of performance goal they hold.

Seifert (1995) studied the relationship between emotions and goal orientation using 79 5<sup>th</sup> graders. He found that perception of competence was more related to mastery goal orientation than performance goal orientation. Also, negative emotions were negatively correlated to mastery goal orientation.

### Self-regulated Learning

Zimmerman (1990) described self-regulated students as “metacognitively, motivationally, and behaviorally active participants in their own learning” (p. 4). Metacognition in Zimmerman’s notion refers to decision making processes that regulate the selection and the use of various forms of knowledge (Zimmerman, 1989, p. 329). These kinds of learners tend to rely on themselves in order to acquire knowledge and skill rather than on teachers (Zimmerman, 1989). As a result, self-regulated learning represents planfulness, control, reflection, and independence (Paris & Newman, 1990). It is obviously important for students’ achievement in academic contexts.

Paris and Winograd (1998) proposed that there are three central characteristics of self-regulated learning: awareness of thinking, use of strategies, and sustained motivation. They mentioned that awareness of effective thinking and analyses of one’s own thinking habits are metacognition which can guide the plans they make, the strategies they select, and their interpretations of their performance so that awareness leads to effective problem solving. In addition, Bandura (1986) pointed out that self-regulation involves three interrelated processes: self-observation, self-evaluation, and self-reaction.

Paris and Winograd (1998) stated that understanding these processes and using them purposefully is the metacognitive part of self-regulated learning.

For Pintrich (1995), self-regulated learning has three characteristics. First, self-regulated learners try to control their behavior, motivation, and thought. Second, these learners aim to accomplish a goal. Lastly, these students must be in control of their learning. Pintrich further stated that self-regulated learning controls three aspects of learning. First, self-regulated behavior involves the control of resources such as time, environment, and use of other persons such as peers and instructors to help. Second, self-regulated motivation relates to controlling and improving motivational beliefs, such as efficacy, achievement goals, emotions and affect. Finally, self-regulated cognition relates to the control of cognitive strategies for learning such as surface and deep processing strategies.

Zimmerman (1990) proposed that students' self-regulated learning involves three features: their use of self-regulated learning strategies, their responsiveness to self-oriented feedback about learning effectiveness, and their interdependent motivational processes. Zimmerman (1989) and Zimmerman and Martinez-Pons (1990) identified 14 self-regulated learning strategies including self-evaluation, organization and transformation, goal setting and planning, information seeking, record keeping and self-monitoring, environmental structuring, giving self-consequences, rehearsing and memorizing, seeking social assistance, and reviewing. In sum, self-regulated learning strategies refer to "actions and processes directed at acquisition of information or skills that involve

agency, purpose, and instrumentality perceptions by learners” (Zimmerman, 1990, p. 5). For academic achievement, self-regulated learners select, organize, or create advantageous learning environments for themselves and plan and control the form and amount of their own instruction (Zimmerman & Martinez-Pons, 1988). Zimmerman (1994) claims that a main cause of underachievement comes from the inability of learners to self-control themselves. Zimmerman and Martinez-Pons (1988) found that teachers can easily identify their self-regulated students according to such criteria as being self-initiators who exhibit persistence learning tasks, are strategic and resourceful in overcoming obstacles, and react to task performance outcomes.

Singh (2001) viewed self-regulated learning as an interaction of the three human traits consisting of metacognition (the learner’s ability to think about his own learning), motivation, and creativity. He also compared differences between self-regulated learning and teacher-directed learning as presented in Table 2.

Table 2

Differences between Self-Regulated Learning and Teacher-Directed Learning

Self-regulated learning	Teacher-directed learning
1. Freedom, individuality	1. Conformity and innovation, experimentation, submissiveness
2. Co-operation and higher levels of peer	2. Competition with levels of peer group interaction often minimal peer interaction
3. Decision-making, self-reliant	3. Reliant on authority for decisions
4. Responsibility for own learning	4. Dependence on teacher for direction
5. Divergent thinking, inductive approach	5. Convergent thinking, deductive approach
6. Intrinsic and continuing motivation	6. Extrinsic motivation
7. Self-evaluation, self-monitoring, self-reinforcement	7. Teacher-based evaluation
8. Problem-solving approach	8. Question and answer discussion, constraints of syllabus
9. Integration: multimedia and	9. Textbook, prescribed subject matter interdisciplinary
10. Metacognition	10. Cognition: risk avoidance

(Singh, 2001, p. 3)

Research conducted on self-regulated learning showed the strong relationship between students' academic achievement and the use of self-regulated learning strategies (Zimmerman & Martinez-Pons, 1988, 1990). In addition, Corno (1989, as cited in Purdie, 2000) and VanZile-Tamsen and



Livingston (1999) found that the extent of self-regulated learning strategies can significantly differentiate higher achievers from lower achievers. Pintrich and his colleagues (as cited in Purdie, 2000) also discovered that self-regulated learning is necessary both for mastery and performance goal-oriented students.

Pokay and Blumenfeld (1990) studied 283 high school students in geometry classes by using path analyses to examine the effects of motivational variables such as ability perceptions, expectancies, and perceived value, and use of learning strategies such as cognitive and metacognitive, and effort on achievement. The research found that both expectancies and value predicted the use of strategies. Furthermore, ability perceptions and metacognitive strategy use influenced grades.

VanZile-Tamsen and Livingston (1999) studied differences between low-achieved and high-achieved students in self-regulated learning strategy use by using the Motivated Strategies for learning Questionnaire (MSLQ). Their sample was 320 undergraduate students. The results indicated that high achievers use more self-regulated learning strategies than low achievers. In addition, self-regulated learning strategy use in the low achieved group had more strong relationship with positive motivational orientation such as intrinsic goal orientation, self-efficacy, control of learning beliefs, and task value than in the high achieved group. As such, the researchers suggested that enhancing positive motivational orientation is likely to influence enhancing self-regulated learning which, in turn, helps increase academic achievement.

Wolters (1998) studied self-regulated learning and students' regulation of motivation from 115 college students by using a questionnaire. He found that students regulated their amount of effort in academic tasks by using various cognitive, volitional, and motivational strategies. In addition, their use of strategies varied depending on different motivational problems with which they were presented. Besides, different aspects of students' motivational regulation were related positively to their goal orientation, use of some cognitive strategies, and course grade.

#### Research in Thailand

There is not much research relating to this topic conducted in Thailand. And when it had been conducted, most of them used students in schools as subjects. Sngobkay (1990) studied effects of self-regulatory on self-efficacy and mathematics learning achievement of 5<sup>th</sup> graders by means of experimental approach. 60 students were divided into experimental and control groups. Students in experimental groups received self-regulatory training for seven sessions. Results showed that, after treatment, students in experimental groups got scores on self-efficacy and mathematics learning achievement significantly higher than those in control groups.

Suwannit (1990) investigated factors effecting self-efficacy of 6<sup>th</sup> graders by using tests and questionnaires. The research revealed that learning skill and learning experience had positive direct on self-efficacy while levels of anxiety and modeling had negative direct effect.

Asawakul (1984) studied efficacy expectancy for an assigned task of high and low achievement 9<sup>th</sup> graders by using a Digit-Symbol Test. The findings indicated that high achieved students had higher efficacy expectancy than low achieved students. However, sex difference in this kind of expectancy had not been found.

Sanguansuk (1973) studied the relationship of academic achievement and self-perception of intellectual and social abilities in 150 students of 9<sup>th</sup> grade by using a questionnaire developed by the researcher. The results showed that there were no significant correlations between self-perception of intellectual and social abilities, both perceived and ideal self, and academic achievement.

For undergraduate students, Wongsawathiwat (2000) examined effects of learning and study strategies on academic achievement of students in a private university by using questionnaires. Learning strategies in this study included planning, monitoring, learning motivation, anxiety management, knowledge inquiry and exam strategies. The findings showed that learning strategies, particularly learning motivation, had strong influence on academic achievement. Nevertheless, this research investigated students' learning strategies in general, not specific in a particular subject domain.

Rujiporn (1969) compared the self-conceptions of high and low achievers. Subjects were 120 sophomore students of the Faculty of Education of a large public university. The study used the Adjective Check List to measure self-concepts. The results indicated that high and low achievers did not differ significantly in their self-concepts.

In sum, most of research on self-efficacy and other related variables conducted in Thailand focused on students in schools rather than those in college and universities. Furthermore, research on goal orientations and self-regulated learning is scanty.

### Conclusion

This chapter discussed major concepts guiding the present study including self-efficacy, goal orientations, and self-regulated learning. Research conducted in Thailand focused on this topic was also described. The next chapter will relate to research methodology such as sample selection, the instrument used to measure the examined variables, and statistical analysis methods employed to analyze data.

## CHAPTER THREE

### Methodology

In this chapter, four topics concerning the research method are discussed including selection of subjects, research instruments, data collection, and statistics used for data analysis. The details of each topic are as follows.

#### Subjects

Subjects in this study were undergraduate Thai students. Data were collected from 322 students in a large-size (approximately 12,000 students) private university in Bangkok, Thailand. They were 4-year undergraduate business students in the day class. Academic departments in the faculty of Business Administration which provide 4-year degrees consist of departments of Accounting, Finance and Banking, Marketing, General Management, International Business, and Business Computer. Samples were taken from all of these departments and from 3-year levels: sophomore, junior, and senior. All sophomores, except those in Business Computer Department, were classified as general business administration students since they would not choose their majors until the beginning of their third year. 1st-year students were excluded from this study since they had no GPA. Data were collected from various subject domains in various disciplines (humanities and social science, mathematics and natural science, and foreign language).

The sample size in this study was calculated according to the Yamane's (1970) formula as below.

$$n = N / (1 + Ne^2)$$

$$n = \text{number of sample}$$

$$N = \text{number of population}$$

$$e = \text{error ratio}$$

Calculation on actual figures of students was as follows:

$$\begin{aligned} n &= \frac{1630}{1 + (1630 \times .05^2)} \\ &= \frac{1630}{1 + (1630 \times .0025)} \\ &= \frac{1630}{1 + 4.075} \\ &= 321.18 \end{aligned}$$

The stratified random sampling (95% confidential interval) by students' majors was a sampling method in this study. The proportion of population and sample used in this study are presented in Table 3.

Table 3The Proportion of Population and Sample Used in the Study

Major	Population	Sample	Percent
<b>General Business</b>			
Administration	233	46	14.29
Finance	182	36	11.18
Accounting	127	25	7.76
Marketing	248	49	15.22
General Management	71	14	4.35
International Business	278	55	17.08
Business Computer	491	97	30.12
Total	1630	322	100

The Instrument

The Motivated Strategies for Learning Questionnaire (MSLQ) was the instrument used in the study. This scale was developed by Pintrich, Smith, Garcia, and McKeachie (1991) at National Center for the Improvement of Postsecondary Teaching and Learning (NCRIP TAL). MSLQ consists of fifteen subscales including intrinsic goal orientation, extrinsic goal orientation, task value, control beliefs, self-efficacy for learning and performance, test anxiety, rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking. The first four subscales are motivation scales. The rest are learning strategies scales. The fifteen different scales on the MSLQ are designed to be modular and can be used together or singly (Pintrich et al., 1993). In this study

only 12 subscales were used for measuring the studied variables. The Intrinsic Goal Orientation Scale was used to measure students' mastery goal orientation, whereas the Extrinsic Goal Orientation Scale was used to measure their performance goal. The Self-efficacy for Learning and Performance Scale measured their self-efficacy. These 3 subscales are grouped together as Part 1 (motivation scales). The Rehearsal, Elaboration, Organization, Critical Thinking, Metacognitive Self-regulation, Time and Study Environment, Effort Regulation, Peer Learning, and Help Seeking scales were combined together as Part 2 to measure self-regulated learning strategies. The reason in combining these 9 subscales to represent self-regulated learning is because, according to Pintrich et al. (1993), self-regulated learning strategies include three general categories of strategies: (1) cognitive, (2) metacognitive, and (3) resource management. Cognitive strategies include both basic (rehearsal) and complex (elaboration, organization, and critical thinking) strategies students use to facilitate their learning process. Metacognitive control strategies relate to the ability to monitor and regulate their own learning and strategy use. Resource management concerns students' regulatory strategies for controlling other resources besides their cognition such as selecting environments that optimize learning and regulating their own effort as well as their use of others such as peers or instructors in learning. When considered these 9 subscales of MSLQ, they apparently contributed to self-regulated learning as mentioned by Pintrich et al. (1993). The overall questionnaire consisted of 66 items. Descriptions of each



scale as presented in the User's Manual are found in Appendix B and the scale used in this study is found in Appendix C.

### Scoring the MSLQ

In each item students had to rate themselves on a 7- point Likert scale of one ("not at all true of me") to seven ("very true of me"). Scale scores were constructed by taking the mean of the items that make up that scale (Pintrich, et al., 1991). For example, self-efficacy scale had 8 items. A student's score for this scale was computed by summing the 8 items and taking the average. Some items were negatively worded, and, therefore, their scores had to be reversed from 1 to 7, 2 to 6, and so on before an individual's score could be computed. These items were marked as "reversed" as shown in Appendix B.

### The Instrument Effectiveness

Scale reliabilities were robust as shown in Table 4. Cronbach' alphas for these 12 subscales as reported by Pintrich et al. (1991) ranged from .52 to .93 (N=380). Confirmatory factor analyses indicated good factor structure and established the scale' s psychometric integrity (Pintrich et al., 1993). Additionally, according to Pintrich et al. (1993), the instrument showed reasonable predictive validity to the actual course performance of students.

MSLQ has been used extensively (Andrew & Vialle, 2001; Barker & Olson, 2001; Bong, 1997; Pintrich & De Groot, 1990; VanZile-Tamsen & Livingston, 1999; Wolters, 1998). It was appropriate to use this scale in this study since it was designed to measure the motivation and learning strategies of college students who were target subjects in the present study. Besides, it was domain

specific, measuring goal orientations, self-efficacy, and self-regulated learning in a particular subject. This was consistent with Bandura's proposal that to increase accuracy of prediction, scales of perceived self-efficacy should be tailored to the particular domain (Bandura, 1995).

The selected subscales of MSLQ were translated from English into Thai. 3 doctoral cohort students were requested to be the experts for checking the accuracy of translation. After that, 3 undergraduate business students were asked to edit wording for the reason that the language teenagers use may differ from those of adults. Since MSLQ was designed for an American sample, a measure of the internal reliability (Cronbach's alphas) of the research scale for Thai students was examined. 79 Thai undergraduate business students were asked to respond to the translated scale. The data, then, were analyzed by Statistical Package for the Social Sciences for Personal Computer (SPSS for PC+). Cronbach's alphas for the 12 subscales as well as the scale of total self-regulated learning (created by combining 9 learning strategies subscales together) were presented in Table 4 which provided the information about Cronbach' alphas of the Thai scale compared to those of the original one. Thai scale's alphas ranged from .48 (for effort regulation and help seeking) to .90 (for total self-regulated learning).

Table 4Internal Reliability Coefficients of English and Thai Subscales of MSLQ

Scale	Coefficient Alpha of MSLQ	
	English	Thai
Self-Efficacy	.93	.89
Intrinsic (Mastery) Goal Orientation	.74	.71
Extrinsic (Performance) Goal Orientation	.62	.69
Rehearsal	.69	.65
Elaboration	.75	.84
Organization	.64	.72
Critical Thinking	.80	.72
Metacognitive Self-Regulation	.79	.81
Time and Study Environment Management	.76	.63
Effort Regulation	.69	.48
Peer Learning	.76	.62
Help-Seeking	.52	.48
Total Self-Regulated Learning	-	.90

Data Collection

The researcher asked for the permission to collect data from the instructor in each class. The scale was actually administered in the faculty of Business Administration classrooms two weeks before the end of the first semester, taking around 20 minutes. Subjects were informed about the purpose of the study and the direction to respond to the scale. Students were told that there were no right or wrong responses, but only their own responses that reflected their attitudes and behaviors during learning that course. The students were assured that their responses would be confidential because no personal identifiers were used on

the instrument form and that the responses would not impact their grade. In addition, students were notified that their participation was voluntary. The details of the script are found in Appendix D.

### Data Analysis

After finishing data collection, the complete questionnaires were taken to analyze by using SPSS for PC+. The statistics used in the study were mainly expected to answer the following research questions

1. What are the relationships between self-efficacy, academic goal orientation, and the use of self-regulated learning strategies in Thai students?
2. How different are high achievers and low achievers in their self-efficacy and the use of self-regulated learning strategies?

To respond to these questions, several methods of statistical analysis were employed including the followings.

1. Descriptive statistics (means and standard deviations) as well as frequency and percentage were used to analyze the demographic data and scores on the questionnaire.
2. A Pearson product-moment correlation was executed to examine the relationships between the scores on self-efficacy, goal orientations, and self-regulated learning scales in order to answer Research Question 1.
3. Two-tailed t-tests were used to examine the differences between two GPA groups (low and high as divided by median) on students' self-efficacy, their goal orientations, and their use of self-regulated learning strategies so as to answer Research Question 2. This method of statistical analysis was also used

to investigate the differences between groups of low and high self-efficacy and mastery and performance goal orientations on students' self-regulated learning and groups of low and high goal orientations on students' self-efficacy.

4. Analysis of Variance (ANOVA) was employed to test the interaction between mastery and performance goal orientations on students' self-efficacy and self-regulated learning for supplemental analysis.

5. Stepwise multiple regression analysis was used to test GPA, self-efficacy, and mastery and performance goal orientations as predictors of self-regulated learning.

### Conclusion

This chapter discussed methodology of the current study. Its major topics included subjects and the sampling method, the research instrument and its effectiveness, data collection and statistics used to analyze data. In the next chapter demographic information of participants and research results will be presented in accordance with research questions.

## CHAPTER FOUR

### Results

There are three main parts discussed in this chapter. First, are concerns with demographic information of participants being studied in this research. Then, important findings are presented in accordance with research questions. The last part of this chapter relates to supplemental analysis.

#### Characteristics of Participants

Among 322 participants in this study, around three-fourths of them (75.16%) were female. This is quite normal for the faculty of Business Administration which consists of female students much more than the male ones. Students ranged in age from 18 to 25 years, with a mean of 20.6 years (*S.D.* = 1.10). Their GPAs ranged from 1.50 to 3.90, with a mean of 2.50 (*S.D.* = .48). The sample was composed of 89 sophomores (27.64%), 142 juniors (44.10%), and 91 seniors (28.26%). They came from 7 majors of 4-year degrees in the day classes. The most number of the sample (97 students, 30.12%) came from the Business Computer major. The fewest number (14 students, 4.35%) came from the General Management major. There were 9 courses from 3 disciplines (humanities and social science, mathematics and natural science, and foreign language) being included in the study. The details of the information about characteristics of participants are shown in Table 5.

Table 5

## Frequency and Percentage of Demographic Variables (N=322)

Variable	Frequency	Percent
Gender		
Male	80	24.84
Female	242	75.16
Year		
2 <sup>nd</sup>	89	27.64
3 <sup>rd</sup>	142	44.10
4 <sup>th</sup>	91	28.26
Major		
General Business		
Administration	46	14.29
Finance	36	11.18
Accounting	25	7.76
Marketing	49	15.22
General Management	14	4.35
International Business	55	17.08
Business Computer	97	30.12
Subject		
Business and Environment	46	14.29
International Finance and Banking	23	7.14
Consumer Behavior	34	10.56
English 3	43	13.35
Fundamental of Computer and Information System	46	14.29

Table 5 Cont'd

Variable	Frequency	Percent
Strategic Management	47	14.60
Database Development and Management	33	10.25
English for International Business	30	9.32
Advertising and Sales Promotion	20	6.21

#### Results of Data Analysis

Before results are presented, it should be noted that several abbreviates for many variables are used in some tables due to the space limitation. The followings are these abbreviates and their meanings.

SE	:	Self-Efficacy
MGO	:	Mastery Goal Orientation
PGO	:	Performance Goal Orientation
REH	:	Rehearsal
ELAB	:	Elaboration
ORG	:	Organization
CRIT	:	Critical Thinking
META	:	Metacognitive Self-Regulation
TSE	:	Time and Study Environment
EFF	:	Effort Regulation
PEER	:	Peer Learning
HELP	:	Help Seeking
SRL	:	Self-Regulated Learning



Means and standard deviations for all measured variables are presented in Table 6 and 7. A mean of each variable was calculated by summing scores from the items contributed to that variable and taking the average. For the overall sample, Table 6 shows that the variable which received the highest rating was performance goal orientation ( $M = 5.62$ ). The mean of this variable was much higher than the mean of mastery goal orientation ( $M = 4.87$ ). Obviously, this finding indicated that, in the learning context, students tended to focus more on external goals than on learning itself. For the measure of self-regulated learning, the time and study environment strategy was rated highest ( $M = 4.83$ ), whereas the peer learning strategy was rated lowest ( $M = 3.62$ ). When considered only the use of cognitive strategies, one out of three major strategies contributed to self-regulated learning, which consisted of rehearsal, elaboration, organization, and critical thinking, it was found that students used rehearsal most ( $M = 4.60$ ) compared to other three cognitive strategies ( $M$ s = 4.55, 4.20, and 4.27, respectively).

In order to investigate the difference of genders on the studied variables, the method of a two-tailed t-test was used to analyze the data. The findings about this issue which are also presented in Table 6 revealed that there were no significant differences for self-efficacy, mastery goal orientation, and performance goal orientation ( $t$ s = -1.70, 1.55, 1.05, respectively) between male and female students. Nevertheless, when it came to the use of self-regulated learning strategies, the result showed that female students used significantly more self-regulated learning strategies than male students did ( $t = 2.95, p < .05$ ). When

considered each particular strategy comprising of self-regulated learning, there were some strategies that female students used significantly more than male students did including rehearsal ( $t = 3.07$ ), elaboration ( $t = 2.24$ ), organization ( $t = 1.99$ ), metacognitive self-regulation ( $t = 2.66$ ), time and study environment ( $t = 4.22$ ), and effort regulation ( $t = 2.36$ ),  $p < .05$ . However, there were some other strategies that no significant difference in usage existed between male and female students including critical thinking ( $t = .50$ ), peer learning ( $t = -.04$ ), and help seeking ( $t = .21$ ).

Table 6

Descriptive Statistics and Differences of Genders on Scores of Self-Efficacy and Goal Orientations (N = 322; n = 242 for female and 80 for male)

Variable		Mean	S.D.	t	Sig.
SE	Female	4.30	.98	-1.70	.090
	Male	4.48	.75		
	Total	4.34	.93		
MGO	Female	4.91	.89	1.55	.122
	Male	4.73	.96		
	Total	4.87	.91		
PGO	Female	5.65	.95	1.05	.297
	Male	5.50	1.17		
	Total	5.62	1.01		

For the measure of self-regulated learning, Table 7 reveals that the time and study environment strategy was rated highest ( $M = 4.83$ ), whereas the peer learning strategy was rated lowest ( $M = 3.62$ ). When considering only the use of cognitive strategies, one out of three major strategies contributed to self-

regulated learning, which consisted of rehearsal, elaboration, organization, and critical thinking; it was found that students used rehearsal most ( $M = 4.60$ ) compared to other three cognitive strategies ( $M_s = 4.55, 4.20, \text{ and } 4.27$ , respectively).

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Table 7

Descriptive Statistics and Differences of Genders on Scores of Learning  
Strategies (N = 322; n = 242 for female and 80 for male)

REH	Female	4.72	1.16	3.07	.002*
	Male	4.27	1.08		
	Total	4.60	1.15		
ELAB	Female	4.63	1.11	2.24	.026*
	Male	4.31	1.03		
	Total	4.55	1.10		
ORG	Female	4.27	1.13	1.99	.047*
	Male	3.99	.98		
	Total	4.20	1.10		
CRIT	Female	4.28	.91	.50	.614
	Male	4.22	.97		
	Total	4.27	.92		
META	Female	4.52	.87	2.66	.008*
	Male	4.23	.78		
	Total	4.44	.85		
TSE	Female	4.94	.82	4.22	.000*
	Male	4.50	.82		
	Total	4.83	.84		
EFF	Female	4.75	.95	2.36	.020*
	Male	4.51	.75		
	Total	4.69	.91		
PEER	Female	3.62	1.07	-.04	.969
	Male	3.63	.95		
	Total	3.62	1.04		
HELP	Female	4.48	1.12	.21	.832
	Male	4.45	.92		
	Total	4.48	1.07		

SRL	Female	4.53	.71	2.95	.003*
	Male	4.27	.64		
	Total	4.47	.70		

\*  $p < .05$

Analysis in Table 8 responded to the first research question of the study related to the relationships between self-efficacy, academic goal orientations, and the use of self-regulated learning strategies. To answer this question, a Pearson product-moment correlation was executed. The result indicated that the 4 major variables were positively correlated with each other. Students' scores on self-efficacy, mastery goal, and performance goal measures significantly correlated with self-regulated learning measures ( $r_s = .53, .48, .21$ , respectively,  $p < .01$ ). Furthermore, self-efficacy also related positively to mastery ( $r = .53$ ) and performance ( $r = .29$ ) goal orientation at the .01 significance level. In addition, mastery goal was found correlated significantly with performance goal, although their relationship did not reach high degree ( $r = .24$ ). The three main variables including self-efficacy, mastery, and performance goals also positively correlated with 9 subscales of self-regulated learning ( $p < .05$ ), except for the relationship between self-efficacy and help seeking ( $r = .03$ ). Perhaps the reason why self-efficacy is not significantly correlated with help seeking is because when students feel self-efficacious to accomplish academic work to accomplish academic work through their own ability, they have no need to seek help from the others. For measures of self-regulated learning, the analysis indicated that its 9

subscales positively correlated with the overall scale at the .01 significance level. These relationships reached quite high degree, *rs* ranged from .35 to .89. Among these 9 subscales, the correlation between metacognitive self-regulation and self-regulated learning was highest ( $r = .89$ ), whereas the relationship between help seeking and self-regulated learning was lowest ( $r = .35$ ). Apart from the significant correlation between each learning strategy scale and the total self-regulated learning scale, all learning strategy scales also correlated with each other ( $p < .05$ ). The exception was only for the relationship between peer learning and effort regulation, which was not statistically significant. This may be because when the individuals can regulate their effort toward the academic work, it is not necessary for them to depend on their peers in order to attain academic achievement. Table 8 also illustrated that students' GPA had significant relationship with many variables including self-efficacy, mastery goal, rehearsal, metacognitive self-regulation, time and study environment, effort regulation, and overall self-regulated learning.

Table 8

Intercorrelations among the studied variables

	SE	MGO	PGO	REH	ELAB	ORG	CRIT	META	TSE	EFF	PEER	HELP	SRL	GPA
SE	-													
MGO	.53**	-												
PGO	.29**	.24**	-											
REH	.45**	.33**	.20**	-										
ELAB	.49**	.41**	.20**	.65**	-									
ORG	.50**	.34**	.13*	.69**	.72**	-								
CRIT	.43**	.49**	.16**	.54**	.70**	.56**	-							
META	.50**	.47**	.16**	.67**	.74**	.69**	.67**	-						
TSE	.34**	.33**	.12*	.50**	.49**	.48**	.42**	.52**	-					
EFF	.18**	.14*	.12*	.34**	.33**	.30**	.23**	.35**	.39**	-				
PEER	.30**	.28**	.13*	.34**	.38**	.41**	.40**	.40**	.26**	.07	-			
HELP	.03	.15**	.11*	.16**	.20**	.13*	.21**	.21**	.23**	.16**	.26**	-		
SRL	.53**	.48**	.21**	.79**	.89**	.80**	.77**	.89**	.70**	.46**	.52**	.35**	-	
GPA	.14*	.18**	-.08	.14*	.10	.08	.09	.12*	.22**	.21**	-.06	.03	.16**	-

\*  $p < .05$ , \*\*  $p < .01$

Table 9 showed two-tailed t-test analyses exploring the mean differences of self-regulated learning depending on different levels of self-efficacy and mastery and performance goals. Each of three independent variables was split by median into two groups: low and high. Students with scores of these variables equal to or below the median were classified as being in the low group, whereas those with scores above the median were classified as being in the high group. The median scores of these three variables are 4.38, 4.75, and 5.75, respectively. Results indicated that there were significant differences on scores of self-regulated learning in low and high groups of every independent variable ( $p < .01$ ). Students who had low self-efficacy, mastery, and performance goals reported lower self-regulated learning use than those who had higher in these variables.



Table 9

Descriptive Statistics and Differences of Self-efficacy and Mastery  
and Performance Goal Orientations on Self-Regulated Learning (N= 322)

Variable	n	Self-regulated learning		t	Sig.
		Mean	S.D.		
Self-efficacy					
Low	166	4.15	.65	-9.23	.000*
High	156	4.80	.60		
Mastery goal					
Low	166	4.20	.65	-7.62	.000*
High	156	4.75	.65		
Variable	n	Self-regulated learning		t	Sig.
		Mean	S.D.		
Performance goal					
Low	180	4.36	.62	-2.97	.003*
High	142	4.60	.78		

\*  $p < .01$

Analysis on Table 10 revealed the mean differences of students' self-efficacy between low and high mastery and performance goal groups. Low and high groups of the two independent variables were classified by median as described earlier. Results showed that there were significant differences on scores of self-efficacy in low and high groups of each independent variable ( $p < .01$ ). Students who had low mastery goal reported significantly lower self-efficacy than those who had higher mastery goal ( $t = -9.12$ ). In addition, students with lower performance goal had significantly lower self-efficacy than those with higher performance goal ( $t = -4.64$ ).

Table 10

Descriptive Statistics and Differences of Mastery and Performance Goal Orientations on Self-Efficacy (N= 322)

Variable	n	Self-efficacy		t	Sig.
		Mean	S.D.		
<b>Mastery goal</b>					
Low	166	3.93	.83	-9.12	.000*
High	156	4.78	.84		
<b>Performance goal</b>					
Low	180	4.14	.88	-4.64	.000*
High	142	4.60	.94		

\*  $p < .01$

The answer for the second research question was presented in Table 11. This research question related to the differences between high and low achievers in their self-efficacy, goal orientations, and self-regulated learning strategies use concerning to a course being studied. In this study high and low achieving students were dichotomized by a median split of their GPAs. Students with GPA above the median were classified as high achievers, whereas those with GPA equal to or below the median were classified as low achievers. The median score for GPAs of the entire sample was 2.38. A two-tailed t-test was used to examine the mean differences of self-efficacy, mastery and performance goal orientation, and the use of self-regulated learning strategies between low and high GPA groups. The result revealed that there were non-significant differences

on scores of these four variables between the two groups. This result is somehow surprising since it contrasts to VanZile-Tamsen and Livingston's study (1999) which revealed that higher achieving students reported greater use of self-regulated learning strategies than their lower achieving peers. The cause of different results of the two studies may come from the different approaches in dividing students into high and low groups. VanZile-Tamsen and Livingston use one standard deviation above and below the mean GPA as the criteria to classify high- and low-achievement groups. In the current study the median score of GPA was used to classified students into two groups. Nevertheless, the median score of the entire sample was quite low (GPA = 2.38). This can affect the result of the study for it seems unsuitable to identify students with GPA around 2.38 or a little bit more than that as high achievers. As a result, to acquire deeper understanding, in supplemental analysis more clear-cut approach in classifying students will be used to explore the differences of the studied variables between different achieving groups.

Table 11

Descriptive Statistics and Differences of Low and High GPA Groups as Divided  
by Median on Self-Efficacy, Mastery and Performance Goal Orientations, and  
Self-Regulated Learning (N = 322)

Variable	Low (n = 164)		High (n = 158)		t	Sig.
	Mean	S. D.	Mean	S. D.		
SE	4.32	.92	4.37	.95	-.42	.674
MGO	4.81	.90	4.93	.93	-1.18	.241
PGO	5.65	1.03	5.58	.99	.63	.533
SRL	4.42	.69	4.52	.72	-1.34	.180

\*  $p < .01$

#### Supplemental Analysis

To provide more profoundly test on the mean differences of self-efficacy, goal orientations, and self-regulated learning between high- and low-achieving groups, the more clear-cut criteria in identifying students as high and low achievers had been adopted. Students' GPAs had been sorted out. Then, students with GPA equal or below the 25<sup>th</sup> percentile (2.13) were assigned to the low achievement group and those with GPA equal or above the 75<sup>th</sup> percentile (2.8075) were assigned to the high achievement group. A two-tailed t-test was used in this analysis again. This time the result as presented in Table 12 showed that high-achieving students reported significantly higher level of self-efficacy and mastery goal orientation as well as greater use of self-regulated learning strategies than low-achieving students. However, significant differences in performance goal between these two groups were not found. As a whole, using

the 25<sup>th</sup> and 75<sup>th</sup> percentiles of GPAs obviously can discriminate high- and low-achieved students better than using median GPA.

Table 12

Descriptive Statistics and Differences of Low and High GPA Groups as Divided by the 25<sup>th</sup> and 75<sup>th</sup> Percentiles on Self-Efficacy, Mastery and Performance Goal Orientations, and Self-Regulated Learning

Variable	Low (n = 82)		High (n = 80)		t	Sig.
	Mean	S. D.	Mean	S. D.		
SE	4.30	.99	4.68	.87	-2.57	.011*
MGO	4.72	.87	5.17	.90	-1.18	.002**
PGO	5.67	1.13	5.48	1.01	.63	.279
SRL	4.47	.66	4.72	.69	-1.34	.018*

$p < .05$ , \*\*  $p < .01$

Results in Table 13 demonstrated that high-achieving students reported significantly greater use of rehearsal, elaboration, time and study environment, and effort regulation strategies than low-achieving students. Nevertheless, the two groups of students were not found having differences in the use of organization, critical thinking, metacognitive self-regulation, peer learning, and help seeking strategies.

Table 13

Descriptive Statistics and Differences of Low and High GPA Groups as Divided  
by the 25<sup>th</sup> and 75<sup>th</sup> Percentiles on Learning Strategies

Variable	Low (n = 82)		High (n = 80)		t	Sig.
	Mean	S. D.	Mean	S. D.		
REH	4.62	1.16	5.03	1.07	-2.31	.022*
ELAB	4.53	1.06	4.86	1.03	-2.01	.046*
ORG	4.30	1.17	4.47	1.08	-.98	.328
CRIT	4.36	.88	4.50	.85	-1.02	.308
META	4.43	.79	4.67	.91	-1.76	.080
TSE	4.77	.75	5.20	.79	-3.59	.000**
EFF	4.52	.93	5.06	.87	-3.73	.000**
PEER	3.78	1.03	3.55	1.01	1.40	.161
HELP	4.52	1.08	4.51	1.10	.07	.945

\*  $p < .05$ , \*\*  $p < .01$

To examine if the combination of mastery and performance goals influenced students' self-efficacy and self-regulated learning, A 2 x 2 analysis of variance (ANOVA) was conducted. The two goals were classified as low or high on the basis of a median split, creating 4 goal groups: low mastery/low performance; low mastery/high performance; high mastery/low performance; and high mastery/high performance. For the relationship between the two goals and self-efficacy, analysis showed that there were statistically significant main effects for both mastery and performance goals,  $F_s(1, 318) = 70.97$ , and  $13.35$ , respectively,  $p < .001$ . However, the interaction between the goal orientations was not significant. Post hoc multiple comparisons by the Fisher's least-significant-difference method (LSD) for the four goal orientation groups showed

that mean scores of all 4 groups were significantly different with each other ( $p < .05$ ). Students in the high mastery/high performance goal group endorsed the highest self-efficacy, followed by those in the high mastery/low performance goal group and the low mastery/high performance group, respectively, whereas students in the low mastery/low performance group reported the lowest self-efficacy. Information about mean differences of students' self-efficacy depending on the two goal orientations is presented in Table 14.

Table 14

Mean Differences of Students' Self-Efficacy as a Function of  
Mastery and Performance Goal Orientations (N = 322)

Mastery Goal		Performance Goal	
		Low	High
<u>Low</u>	<i>M</i>	3.79	4.19
	<i>S.D.</i>	.79	.85
	n	106	60
<u>High</u>	<i>M</i>	4.63	4.91
	<i>S.D.</i>	.77	.88
	n	74	82

For the relationship between the two goals and students' self-regulated learning, analysis revealed that there was a statistically significant main effect for the mastery goal,  $F(1, 318) = 52.37, p < .001$ , whereas the main effect for the performance goal almost reached the significance level,  $F(1, 318) = 3.83, p = .052$ . The interaction between the two goal orientations was not significant. Post hoc multiple comparisons by the LSD method indicated that students in the high

mastery/high performance and high mastery/low performance groups used self-regulated learning strategies significantly more than those in the low mastery/low performance and low mastery/high performance groups ( $p < .01$ ). However, there were no significant differences on self-regulated learning strategies use between the low mastery/low performance and low mastery/high performance groups and between the high mastery/high performance and high mastery/low performance groups. Mean differences of students' self-regulated learning in each goal group are illustrated in Table 15.

Table 15

Mean Differences of Students' Self-Regulated Learning as a Function of  
Mastery and Performance Goal Orientations (N = 322)

Mastery Goal		Performance Goal	
		Low	High
<u>Low</u>	<i>M</i>	4.16	4.27
	<i>S.D.</i>	.58	.75
	n	106	60
<u>High</u>	<i>M</i>	4.65	4.84
	<i>S.D.</i>	.57	.71
	n	74	82

For further analysis, stepwise multiple regression for the entire sample was conducted to determine which combination of variables (self-efficacy, mastery goal, performance goal, and GPA) best predicted self-regulated learning. Self-efficacy entered the equation first, accounting for 28% of the variance,  $F(1,320) = 126.26, p < .001, R^2 = .28$ . When mastery goal orientation, the only other variable, entered the equation later, the combination of these two



variables accounted for 34% of the variance in predicting self-regulated learning,  $F(2,319) = 80.67, p < .001, R^2 = .34$ . Accordingly, although self-efficacy and mastery goal were independently and significantly related to self-regulated learning, when combined together, they were the strongest predictors of self-regulated learning. Table 16 displays regression analyses for predicting students' self-regulated learning.

Table 16

Stepwise Multiple Regression Analyses for Variables  
Predicting Students' Self-Regulated Learning

Variable	B	SE B	$\beta$	t
<u>Step 1</u>				
Self-Efficacy	.40	.04	.53	11.24*
<u>Step 2</u>				
Self-Efficacy	.29	.04	.39	7.16*
Mastery Goal	.21	.04	.27	5.04*

\*  $p < .001$

Conclusion

This chapter provided information about characteristics of subjects participated in this study. It also elucidated major findings of the present research. In sum, self-efficacy, mastery goal, performance goal, and self-regulated learning have significantly positive relationships with each other. Among 4 independent variables including GPA, self-efficacy, mastery, and performance goal orientations, self-efficacy and mastery goal were the strongest predictors of self-regulated learning. Analysis also revealed that there were

significant differences on scores of self-efficacy, mastery, and self-regulated learning between low and high achievers. In the last chapter summary of the study will be presented, followed by discussion of research results. In addition, implications for theory, research, and practice, as well as recommendations will be proposed.

## CHAPTER FIVE

### Summary, Discussion, and, Implications

The main content in this chapter comprises of the summary of the study in its major issues including purposes of the study, research questions, samples, research instruments, data analysis, and significant findings. Also, discussion of research results has been addressed, followed by implications for theory, research, and practice expected valuable for the involved educators, and recommendations.

#### Summary of the Study

Due to the problem of students' motivation to learn to which instructors in educational institutions have been confronting nowadays and the scarcity of research in this area conducted in contexts different from the western world, the present study was aimed to explore the relationship of Thai students' motivational beliefs, particularly their self-efficacy and academic goal orientations, and their use of self-regulated learning strategies. Additionally, it was expected to examine the differences of these inclinations between high-and low-achieving Thai students.

The current study was based on two research questions: 1) what are the relationships between self-efficacy, academic goal orientations, and the use of self-regulated learning strategies in Thai students, and 2) how different are high achievers and low achievers in their self-efficacy and the use of self-regulated learning strategies? These research questions were the guideline for conducting the research and for the analysis of data collected from the participants.

Participants of this study were 322 undergraduate Thai students from the Faculty of Business Administration of a private university in Bangkok, Thailand. The stratified random sampling by students' majors was a sampling method in this study. Participation was voluntary.

The instrument used in this study was 12 subscales from the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich, Smith, Garcia, and McKeachie (1991). The scale was translated into Thai and its internal reliability was investigated. Then, it was actually administered in classrooms, taking around 20 minutes for participation.

After finishing data collection, Statistical Package for the Social Sciences for Personal Computer (SPSS for PC+) was used for analyzing data. Various methods of statistical analysis were employed in order to answer research questions including descriptive statistics, a Pearson product-moment correlation, t-test, Analysis of Variance (ANOVA), and stepwise multiple regression.

The present study found that there were significantly positive relationships among students' self-efficacy, mastery goals, performance goals, and self-regulated learning. As a whole, these relationships were moderately high, except for the relationships between performance goals and self-efficacy, mastery goals, and self-regulated learning, which were rather low. Results also revealed that students with high self-efficacy, mastery goals, and performance goals reported more self-regulated learning strategies use than students lower in these variables. Furthermore, those who endorsed high mastery and performance goals reported higher self-efficacy than those who endorsed lower mastery and

performance goals. Analysis also showed that there were non-significant differences on the 4 variables between high and low achievers. Supplemental analysis illustrated the main effects of both mastery and performance goals on self-efficacy among the 4 goal groups, while there was only the main effect of the mastery goal on self-regulated learning. Results further indicated that among 4 predictor variables including self-efficacy, mastery and performance goal orientations, and GPA, self-efficacy and mastery goal orientation were the best predictors of self-regulated learning.

### Discussion of Research Results

For the first research question related to the relationships between students' self-efficacy, academic goal orientations, and self-regulated learning, the findings manifested moderately high positive relationships between self-efficacy, mastery goals, and self-regulated learning. This result supports much of previous research findings which demonstrated intimate links among these variables. For example, Pintrich and De Groot (1990), in their study with seven graders, found that student involvement in self-regulated learning was closely related to self-efficacy beliefs in performing classroom tasks. They discovered that higher levels of self-efficacy were correlated with higher levels of cognitive strategy use and self-regulation which represented by use of metacognitive strategies. The similar finding was also found by Wolters and Pintrich (as cited in Sewell & St. George, 1999) that highly efficacious students reported using more kinds of cognitive and self-regulatory strategies. This finding is in accordance with Bouffard-Bouchard, Parent, and Larivee's study (as cited in Pajares, 1997)

investigating junior and senior high aged students. In addition, Zimmerman and Martinez-Pons (1990) found that students' perceptions of both verbal and mathematics efficacy were related to their use of self-regulated strategies. Schunk (1991) alike mentioned that highly efficacious students usually participate in learning activities in more active ways than low efficacious students. Pintrich and De Groot (1990) proposed that self-efficacy plays a facilitative role in relation to cognitive strategies use. Therefore, enhancing this kind of beliefs in students might help raise their use of self-regulated learning strategies and thus enhance their performance.

For the positive relationship between self-efficacy and mastery goals which was found in the present study, the finding agrees with that of Garcia and Pintrich's study (as cited in Hagen & Weinstein, 1995) in that possessing mastery goals was usually related to higher levels of self-efficacy and higher use of self-regulated learning strategies. Moreover, Archer and Scevak (1998) also found a significant correlation between students' perceived ability and perception of a mastery climate, a situation occurs when students perceived the lecturer to be encouraging a mastery goal. From the same study, in a mastery climate, students reported greater use of effective learning strategies, a more adaptive approach to the subject, and more willingness to cope with difficult tasks.

Mastery goal orientation, a main variable studied in the present research, was found to relate to self-regulated learning. Again, the result supports much earlier research including that of Meece, Blumenfeld, and Hoyle (1988). Meece and her colleagues discovered that students who placed more emphasis on task-

mastery goals reported more active cognitive engagement, whereas students who emphasized performance goals reported a lower level of cognitive engagement. Additionally, Pintrich (2000) demonstrated that students with high mastery goals reported more use of effective strategies for learning. This finding is accordant with those studied by Ablard and Lipschultz (1998), Albaili (1998), Ames and Archer (1988), and Schraw, Horn, Thorndike-Christ, and Bruning (1995).

From the discussion presented earlier, it is not surprising that self-efficacy and mastery goal orientation was found in this study to be the strongest predictors of self-regulated learning. This result in part supports Ablard and Lipschultz's (1998) finding which discovered that mastery goals and gender were independently and significantly related to this kind of learning. It also supports Elliot, McGregor, and Gable's (1999) study which showed that mastery goals were positive predictors of deep processing (also labeled elaboration or critical thinking), persistence, and effort. Furthermore, it agrees with Ames and Archer's (1988) study which pointed out that perceived ability (relative to self-efficacy) and mastery goal orientation were significant predictors of learning strategies. All of these studies used the multiple regression analysis method alike.

In sum, self-efficacy is closely related to mastery goal orientation and self-regulated learning. According to Bandura (2001), this relationship emerges from the fact that there are intimate links between individual's beliefs, affects, and behaviors. If someone believes that he has capability to accomplish a given task, he will have high motivation to perform that task and will regulate himself to

persist to any obstacles on the way to achievement. Undoubtedly, those who possess these favorable characteristics usually succeed in their work better than those who are self-doubt, lack of motivation, and unable to regulate themselves.

For the influence of the combination between mastery and performance goals on students' self-efficacy and self-regulated learning, the study illustrated that both mastery and performance goals positively contributed to self-efficacy. And although a main effect of a performance goal, when combined with a mastery goal, was not found on self-regulated learning, the tendency seemed to be the same, for mean scores in low performance goal groups were lower than those in high performance goal groups. These findings are in line with Ablard and Lipschultz's (1998) and Pintrich's (2000) studies. These researchers found that the high-mastery, high-performance goal group possessed the highest levels of motivations and strategy use, whereas the low-mastery, low performance goal group possessed the lowest levels of these variables. From these results, it seems favorable if students endorse both high mastery and high performance goals. However, implications from these findings should be cautioned for performance goals were found to be related to maladaptive patterns of adjustment due to distractions generated by the focus on competing with others or to negative judgments regarding the self after failure. For, example, students with a high performance goal had a tendency to avoid challenging tasks (Dweck, 1986; Dweck & Leggett, 1988; Elliott & Dweck, 1988); evaluate their ability negatively and attribute failure to lack of ability (Ames & Archer, 1988); use of superficial or short-term learning strategies such as rehearsing (Meece et al.,



1988); and experience learned helplessness (Eppler & Harju, 1997).

Nevertheless, Pintrich (2000) found that the high-mastery, high-performance group was not more anxious and did not experience more negative affect than the high-mastery, low-performance group. In sum, he illustrated that a high performance goal, when coupled with a high mastery goal, did not reduce the positive effect of a mastery goal. No matter how different these results were, it seems apparent that the most handicapped students in learning contexts are those low in both mastery and performance goal. These students are at high risk in academic failure and dropping out from school. As a result, educators should pay close attention to these learners, investigate causes of their low motivations, and find ways to enhance their motivation to learn.

Although sex differences were not major concerns in this study, the results gained from analyses are fairly interesting. Female students were found to have higher total self-regulated learning score than male students. This result agrees with those of Ablard and Lipschultz's (1998) and Zimmerman and Martinez-Pons's (1990) works. Nevertheless, it opposes their findings in that the current result found no differences between students' genders on their goal orientations and self-efficacy, while the latter revealed that girls had higher mastery goals than boys and boys surpassed girls in verbal efficacy. When looked closer on particular strategies, the present study manifested that female students reported greater use of cognitive strategies including rehearsal, elaboration, and organization than did male students. Females also reported significantly more use of metacognitive strategies regarding goal setting, planning, and monitoring,

as well as time and environmental management and effort regulation than males did. This finding may be interpreted that male and females students might employ different pathways to approach learning and to attain high achievement. Educators could use this finding to find means to facilitate some particular learning strategies that their students did not utilize them well.

For the second research question related to differences between high and low achievers on the studied variables, the result showed significant differences in self-efficacy, mastery goal, and self-regulated strategy use. This finding agrees with VanZile-Tamsen and Livingston's (1999) study which indicated that lower achieving college students reported less self-regulated strategy use than higher achieving students. Nevertheless, Ablard and Lipschultz (1998) demonstrated that high achieved students ranged widely in their use of self-regulated learning strategies and that many of these students reached high academic achievement without using these strategies. For the current result, there are some aspects that should be mentioned about. First, although high-achieved students reported greater use of self-regulated learning than low-achieved students, it did not mean that they used all learning strategies more. The results showed that there were only some particular strategies that high achievers adopted more including rehearsal, elaboration, time and study environment, and effort regulation, whereas they were not different from low achievers in using such strategies as organization, critical thinking, metacognitive self-regulation, peer learning, and help seeking. To get a good grade, students may not need to use all or most of self-regulated learning strategies. In many

exam tests only memorizing or rehearsal are enough to gain a favorable grade.

This circumstance can impede the opportunity for students to develop other more useful study habits. Unfortunately, unlike organization and critical thinking which are deep processing, rehearsal is just surface processing of information which cannot maintain for a long time in the learner's memory and cannot provide profound understanding to that information. Nevertheless, from the past to the present, Thai education system seems to emphasize rote learning and memorizing more than creative and critical thinking (Kaewdang, 1999, 2001). Academic success, therefore, often belongs to students who can memorize well rather than those who can think well. However, when students enter the workplace, the situation is different. In order to learn and achieve their work, they need to possess more other strategies. For example, collaborative learning and metacognition including planning, monitoring, goal setting, and self-regulating are necessary for effective learning habits both in school and in lifelong learning.

The second issue from the present result that should be mentioned is dealt with technical ways of analysis. Approaches to classify students into high and low achievement groups are very important causes to mediate research results. As it took place in this study, when students are assigned to different groups by median score of GPA, no differences in all studied variables between high and low achievers were found. However, when the 25<sup>th</sup> and 75<sup>th</sup> percentiles of GPA were used as a criteria to classify students, mean differences in three main variables between the two groups were found. As a result, interpretation

and comparison of results from any studies should be concerned about this issue.

### Implications for Theory

Most parts of the present study supports the social cognitive theory proposed by Bandura (1986). In this theory, Bandura mentioned about triadic reciprocity. He assumed that there was reciprocal causation among three influence processes including personal (self), environmental, and behavioral ones. According to the social cognitive view, self-regulated learning is determined by these three determinants. And as already discussed in chapter 2, Bandura (1986) also claimed that “what people think, believe, and feel affects how they behave” (p. 25). People beliefs that Bandura emphasizes most are efficacy beliefs for these beliefs influence adaptation and change through their impact on other determinants (Bandura, 2001). He stated that if individuals do not believe they can produce desired outcomes, they will have low motive to act or to persist when face with difficulties. Bandura (2001) pointed out that “Whatever other factors may operate as guides and motivators, they are rooted in the core belief that one has the power to produce effects by one’s actions” (p. 10). From this point of view that demonstrates the intimate link between individuals’ beliefs and actions, obviously it is concordant with the current result which manifested closely positive relationship between self-efficacy and self-regulated learning strategies use. This finding implies that, although the social cognitive theory has been constructed under western contexts, it can explain what happens in the learning contexts in the eastern world, such as Thailand, as

well. Besides, the positive relationship between self-efficacy and students' GPA found in this study reflects the overlooked fact that self-efficacy is one of the main roots of academic achievement. Moreover, self-efficacy also influences self-regulated learning, which is fundamental for lifelong learners, human resources that are needed in Thailand. Nevertheless, this study used only one group of sample from only one educational institutions. As such, further research conducted with different groups of sample and in different cultures is still needed in order to help clarify the accuracy of the theory across contexts.

#### Implications for Future Research

Although many findings in the present study agree with those from previous research as already mentioned in the discussion section, interpretation of these findings should be cautioned before taking them into practice due to some limitations of the study. Subjects in this study came from only the faculty of business administration in a private university. Future research should include students from other faculties. Besides, it may compare motivational beliefs and self-regulated learning strategy use between students from private and public universities since these institutions may have different cultures and learning environments which could affect students' motivations to learn and learning behaviors. Moreover, although there has been much research investigated the relationship between these variables and academic achievement, most of them had been conducted within the western contexts. Researchers should extend their attention to other cultures beyond the western circumstances in order to acquire better understanding on this area. One major limitation in this study is

that it relied on only self-report in measuring students' motivational beliefs and strategy use. Nothing guaranteed that what being reported was students' actual beliefs and behaviors. As a consequence, future researchers should use other means to measure these variables supplementary to self-report such as observation, in-depth interview, or behavioral measures (Pintrich & De Groot, 1990). Additionally, research on this topic should be done across various courses of time so as to examine the development and alteration of these characteristics, instead of a specific point of time as the present study did.

#### Implications for Practice

From the major finding of the current study that self-efficacy and mastery goal orientation were the strong predictors of self-regulated learning and from the findings of much previous research reported that these variables were associated with other positive variables such as academic achievement, adaptive patterns of cognitive strategy use, affect, and behaviors, educators should pay more attention on the variables if they aim to produce self-directed learners. At this point, many theorists suggest several approaches to generate and develop these desirable characteristics. For self-efficacy beliefs, Pajares (in press) proposed that instructors should pay as much attention to students' perceptions of competence as to their actual competence since the perceptions can influence the motivation and academic success. Knowledge about students' perceptions of ability can help teachers in designing and initiating appropriate interventions to improve them. Pajares and Schunk (in press) mentioned that teachers should engage in effective modeling practices. At the same time, classroom structures

should be cooperative and individualized in order to minimize social comparisons. Furthermore, teachers should provide the opportunity for a student to succeed a task suitable for his ability for mastery experience is the most influential source of self-efficacy information (Bandura, 1986). For mastery goals, Ames (1992) emphasized three instructional strategies to facilitate mastery goal orientation including types of tasks assigned to students, the level of autonomy given to students, and the way tasks are evaluated. Tasks should be meaningful, interesting, and challenging to the students. Students should be given control of their learning such as having opportunities to make choices about course assignments. Finally, instructors should focus on each student's progress and mastery of the material instead of compare his or her performance with those of their classmates. Evaluation on students' performance should be privatized rather than publicized. If these contexts are created in academic institutions, it is quite certain that academic self-efficacy and mastery goal orientation are cultivated in students. These similar contexts also appropriate for students to learn to become self-regulated learners. And since self-regulated learning is teachable (Pintrich, 1995), some institutions may offer courses in study or learning skills so that students can reduce time wasted from learning by trial and error.

### Recommendations

Since academic self-efficacy, mastery goal orientation, and self-regulated learning are the significant contributors to desirable behaviors and academic achievement according to the findings from much research, policy makers and

educators should focus their interest to these virtues and initiate practical approaches to enhance these qualities. If this process is accomplished, there will be at least three positive outcomes according to Purdie (2000). First, teaching will be more personally satisfying because students will have intrinsic motivation to learn and take responsibility to their own learning. Second, when students are self-regulated, they will become lifelong learners who can make a worthwhile contribution to society. Third, students' employment opportunities will be increased because employers undoubtedly prefer employees who are self-starters and enthusiastic to learn new things.

#### Conclusion

This study was mainly aimed to investigate the relationship between motivational beliefs, including self-efficacy and academic goal orientation, and students' self-regulated learning in Thai contexts. The findings showed positive relationship between these variables. Self-efficacy and mastery goals were found to be the strongest predictors of self-regulated learning. Nevertheless, there were no differences found between high and low achievers on the studied variables. Discussion on research results and implications for theory, research, and practice are mentioned.



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**Appendix A**  
**Institutional Review Board Approval**

Oklahoma State University  
Institutional Review Board

Protocol Expires: 9/16/02

Date: Monday, September 17, 2001

IRB Application No ED0220

Proposal Title: SELF-EFFICACY, GOAL ORIENTATIONS, AND SELF-REGULATED LEARNING IN THAI STUDENTS

Principal  
Investigator(s):

Duanpen Thongnourm  
233 Willard  
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Margaret Scott  
233 Willard  
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Reviewed and  
Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

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Dear PI :

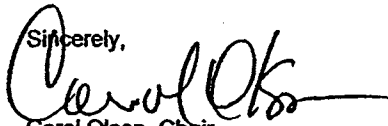
Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact Sharon Bacher, the Executive Secretary to the IRB, in 203 Whitehurst (phone: 405-744-5700, sbacher@okstate.edu).

Sincerely,



Carol Olson, Chair  
Institutional Review Board

## Appendix B

### The Description of the Scale

## Appendix B

Intrinsic Goal Orientation Scale

Goal orientation refers to the student's perception of the reasons why he/she is engaging in a learning task. On the MSLQ, goal orientation refers to the student's general goals or orientation to the course as a whole. Intrinsic goal orientation concerns the degree to which the student perceives herself to be participating in a task for reasons such as challenge, curiosity, mastery. Having an intrinsic goal orientation towards an academic task indicates that the student's participation in the task is an end all to itself, rather than participation being a means to an end.

## Item

- 1 In a class like this, I prefer course material that really challenges me so I can learn new things.
- 5 In a class like this, I prefer course material that arouses my curiosity, even if it is difficult to learn.
- 8 The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.
- 12 When I have the opportunity in this class, I choose course assignments that I can learn from even if they don't guarantee a good grade.

Extrinsic Goal Orientation Scale

Extrinsic goal orientation complements intrinsic goal orientation, and suggests the degree to which the student perceives herself to be participating in a task for reasons such as grades, rewards, performance, evaluation by others, and competition. When one is high in extrinsic goal orientation,

engaging in a learning task is the means to an end. The main concern the student has is related to issues that are not directly related to participating in the task itself (such as grades, rewards, comparing one's performance to that of others). Again, this refers to the general orientation to the course as a whole.

Item

- 2 Getting a good grade in this class is the most satisfying thing for me right now.
- 6 The most important thing for me right now is improving my overall grade point average, so my main concern in this class is getting a good grade.
- 9 If I can, I want to get better grades in this class than most of the other students.
- 15 I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.

Self-Efficacy for Learning and Performance Scale

The items comprising this scale assess two aspects of expectancy: expectancy for success and self-efficacy. Expectancy for success refers to performance expectations, and relates specifically to task performance. Self-efficacy is a self-appraisal of one's ability to master a task. Self-efficacy includes judgments about one's ability to accomplish a task as well as one's confidence in one's skills to perform that task.

Item

- 3 I believe I will receive an excellent grade in this class.

- 4 I'm certain I can understand the most difficult material presented in the readings for this course.
- 7 I'm confident I can understand the basic concepts taught in this course.
- 10 I'm confident I can understand the most complex material presented by the instructor in this course.
- 11 I'm confident I can do an excellent job on the assignments and tests in this course.
- 13 I expect to do well in this class.
- 14 I'm certain I can master the skills being taught in this class.
- 16 Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.

#### Cognitive and Metacognitive Strategies: Rehearsal Scale

Basic rehearsal strategies involve reciting or naming items from a list to be learned. These strategies are best used for simple tasks and activation of information in working memory rather than acquisition of new information in long-term memory. These strategies are assumed to influence the attention and encoding processes, but they do not appear to help students construct internal connections among the information or integrate the information with prior knowledge.

#### Item

- 24 When I study for this class, I practice saying the material to myself over and over.
- 31 When studying for this class, I read my class notes and the course readings over and over again.

- 44 I memorize key words to remind me of important concepts in this class.
- 57 I make lists of important terms for this course and memorize the lists.

#### Cognitive and Metacognitive Strategies: Elaboration Scale

Elaboration strategies help students store information into long-term memory by building internal connections between items to be learned. Elaboration strategies include paraphrasing, summarizing, creating analogies, and generative notetaking. These help the learner integrate and connect new information with prior knowledge.

#### Item

- 38 When I study for this class, I pull together information from different sources, such as lectures, readings, and discussions.
- 47 I try to relate ideas in this subject to those in other courses whenever possible.
- 49 When reading for this class, I try to relate the material to what I already know.
- 52 When I study for this course, I write brief summaries of the main ideas from the readings and the concepts from the lectures.
- 54 I try to understand the material in this class by making connections between the readings and the concepts from the lectures.
- 66 I try to apply ideas from course readings in other class activities such as lecture and discussion.



### Cognitive and Metacognitive Strategies: Organization Scale

Organization strategies help the learner select appropriate information and also construct connections among the information to be learned. Examples of organizing strategies are clustering, outlining, and selecting the main idea in reading passages. Organizing is an active, effortful endeavor, and results in the learner being closely involved in the task. This should result in better performance.

#### Item

- 17 When I study the readings for this course, I outline the material to help me organize my thoughts.
- 27 When I study for this course, I go through the readings and my class notes and try to find the most important ideas.
- 34 I make simple charts, diagrams, or tables to help me organize course material.
- 48 When I study for this course, I go over my class notes and make an outline of important concepts.

### Cognitive and Metacognitive Strategies: Critical Thinking Scale

Critical thinking refers to the degree to which students report applying previous knowledge to new situations in order to solve problems, reach decisions, or make critical evaluations with respect to standards of excellence.

#### Item

- 23 I often find myself questioning things I hear or read in this course to decide if I find them convincing.
- 32 When a theory, interpretation, or conclusion is presented in

class or in the readings, I try to decide if there is good supporting evidence.

- 36 I treat the course material as a starting point and try to develop my own ideas about it.
- 51 I try to play around with ideas of my own related to what I am learning in this course.
- 56 Whenever I read or hear an assertion or conclusion in this class, I think about possible alternatives.

#### Cognitive and Metacognitive Strategies: Metacognitive Self-Regulation Scale

Metacognition refers to the awareness, knowledge, and control of cognition. We have focused on the control and self-regulation aspects of metacognition on the MSLQ, not the knowledge aspect. There are three general processes that make up metacognitive self-regulatory activities: planning, monitoring, and regulating. Planning activities such as goal setting and task analysis help to activate, or prime, relevant aspects of prior knowledge that make organizing and comprehending the material easier. Monitoring activities include tracking of one's attention as one reads, and self-testing and questioning: these assist the learner in understanding the material and integrating it with prior knowledge. Regulating refers to the fine-tuning and continuous adjustment of one's cognitive activities. Regulating activities are assumed to improve performance by assisting learners in checking and correcting their behavior as they proceed on a task.

#### Item

- 18 During class time I often miss important points because I'm thinking of other things (REVERSED)

- 21 When reading for this course, I make up questions to help focus my reading.
- 26 When I become confused about something I'm reading for this class, I go back and try to figure it out.
- 29 If course materials are difficult to understand, I change the way I read the material.
- 39 Before I study new course material thoroughly, I often skim it to see how it is organized.
- 40 I ask myself questions to make sure I understand the material I have been studying in this class.
- 41 I try to change the way I study in order to fit the course requirements and instructor's teaching style.
- 42 I often find that I have been reading for class but don't know what it was all about. (REVERSED)
- 46 I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying.
- 61 When studying for this course I try to determine which concepts I don't understand well.
- 63 When I study for this class, I set goals for myself in order to direct my activities in each study period.
- 64 If I get confused taking notes in class, I make sure I sort it out afterwards.

#### Resource Management Strategies: Time and Study Environment

Besides self-regulation of cognition, students must be able to manage and regulate their time and their study environments. Time management

involves scheduling, planning, and managing one's study time. This includes not only setting aside blocks of time to study, but the effective use of that study time and setting realistic goals. Time management varies in level, from an evening of studying to weekly and monthly scheduling. Study environment management refers to the setting where the student does her class work. Ideally, the learner's study environment should be organized, quiet, and relatively free of visual and auditory distractions.

Item

- 20 I usually study in a place where I can concentrate on my course work.
- 28 I make good use of my study time for this course.
- 37 I find it hard to check to a study schedule. (REVERSED)
- 50 I have a regular place set aside for studying.
- 55 I make sure I keep up with the weekly readings and assignments for this course.
- 58 I attend class regularly.
- 62 I often find that I don't spend very much time on this course because of other activities. (REVERSED)
- 65 I rarely find time to review my notes or readings before an exam. (REVERSED)

Resource Management Strategies: Effort Regulation

Self-regulation also includes students' ability to control their effort and attention in the face of distractions and uninteresting tasks. Effort management is self-management, and reflects a commitment to completing one's study goals, even when there are difficulties or distractions. Effort

management is important to academic success because it not only signifies goal commitment, but also regulates the continued use of learning strategies.

Item

- 22 I often feel so lazy or bored when I study for this class that I quit before I finish what I planned to do. (REVERSED)
- 33 I work hard to do well in this class even if I don't like what we are doing.
- 45 When course work is difficult, I give up or only study the easy parts. (REVERSED)
- 59 Even when course materials are dull and interesting, I manage to keep working until I finish.

Resource Management: Peer Learning

Collaborating with one's peers has been found to have positive effects on achievement. Dialogue with peers can help a learner clarify course material and reach insights one may not have attained on one's own.

Item

- 19 When studying for this course, I often try to explain the material to a classmate or a friend.
- 30 I try to work with other students from this class to complete the course assignments.
- 35 When studying for this course, I often set aside time to discuss the course material with a group of students from the class.

Resource Management: Help Seeking

Another aspect of the environment that the student must learn to manage is the support of others. This includes both peers and instructors.

Good students know when they don't know something and are able to identify someone to provide them with some assistance. There is a large body of research that indicates that peer help, peer tutoring, and individual teacher assistance facilitate student achievement.

Item

- 25 Even if I have trouble learning the material in this class, I try to do the work on my own, without help from anyone.  
(REVERSED)
- 43 I ask the instructor to clarify concepts I don't understand well.
- 53 When I can't understand the material in this course, I ask another student in this class for help.
- 60 I try to identify students in this class whom I can ask for help if necessary.

**Appendix C**

**Motivated Strategies for Learning Questionnaire**

## Appendix C

## Motivated Strategies for Learning Questionnaire

The questionnaire is a part of the investigation of students' motivation and learning strategies. We would like to ask you for your participation in the study. The questionnaire asks you about your learning skills and your motivation for work in this course. **There are no right or wrong answers to this questionnaire.** This is not a test. Please respond to the questionnaire as accurately as possible, reflecting on your own attitudes and behaviors in this course. Your answers to this questionnaire will be analyzed by computer. All your responses are strictly confidential and only the researcher will see your individual responses. Thank you for your cooperation.

Demographic Information

1. Gender                      1. Female                                      2. Male
2. Age                                      ..... years old
3. Class level
  1. Freshman      2. Sophomore      3. Junior      4. Senior
4. GPA.....
5. Major.....

## Part A. Motivation

The following questions ask about your motivation for this class. **Remember there are no right or wrong answers, just answer as accurately as possible.** Use the scale below to answer the questions. If you think the statement is very true of you, check 7; if a statement is not at all true of you, check 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.





9. If I can, I want to get better grades in this class than most of the other students.	1	2	3	4	5	6	7
10. I'm confident I can understand the Most complex material presented by the instructor in this course.	1	2	3	4	5	6	7
11. I'm confident I can do an excellent job on the assignments and tests in this course.	1	2	3	4	5	6	7
12. When I have the opportunity in this class, I choose course assignments that I can learn from even if they don't guarantee a good grade.	1	2	3	4	5	6	7
13. I expect to do well in this class.	1	2	3	4	5	6	7
14. I'm certain I can master the skills being taught in this class.	1	2	3	4	5	6	7
15. I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.	1	2	3	4	5	6	7
16. Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.	1	2	3	4	5	6	7

## Part B. Learning Strategies

The following questions ask about your learning strategies and study skills for this class. **Again, there are no right or wrong answers. Answer the questions about how you study in this class as accurately as possible.** Use the same scale to answer the remaining questions. If you think the statement is very true of you, check 7; if a statement is not at all true of you, check 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

	1	2	3	4	5	6	7
	not at all true of me			very true of me			
17. When I study the readings for this course, I outline the material to help me organize my thoughts.							
18. During class time I often miss important points because I'm thinking of other things.							
19. When studying for this course, I often try to explain the material to a classmate or friend.							
20. I usually study in a place where I can concentrate on my course work.							
21. When reading for this course, I make up questions to help focus my reading.							
22. I often feel so lazy or bored when I study for this class that I quit before I finish what I planned to do.							
23. I often find myself questioning things I hear or read in this course to decide if I find them convincing.							

24. When I study for this class, I practice saying the material to myself over and over.	1	2	3	4	5	6	7
25. Even if I have trouble learning the material in this class, I try to do the work on my own, without help from anyone.	1	2	3	4	5	6	7
26. When I become confused about something I'm reading for this class, I go back and try to figure it out.	1	2	3	4	5	6	7
27. When I study for this course, I go through the readings and my class notes and try to find the most important ideas.	1	2	3	4	5	6	7
28. I make good use of my study time for this course.	1	2	3	4	5	6	7
29. If course readings are difficult to understand, I change the way I read the material.	1	2	3	4	5	6	7
30. I try to work with other students from this class to complete the course assignments.	1	2	3	4	5	6	7
31. When studying for this course, I read my class notes and the course readings over and over again.	1	2	3	4	5	6	7
32. When a theory, interpretation, or conclusion is presented in class or in the readings, I try to decide if there is good supporting evidence.	1	2	3	4	5	6	7
33. I work hard to well in this class even if I don't like what we are doing.	1	2	3	4	5	6	7

34. I make simple charts, diagrams, or tables to help me organize course material.	1	2	3	4	5	6	7
35. When studying for this course, I often set aside time to discuss course material with a group of students from the class.	1	2	3	4	5	6	7
36. I treat the course material as a starting point and try to develop my own ideas about it.	1	2	3	4	5	6	7
37. I find it hard to stick to a study schedule.	1	2	3	4	5	6	7
38. When I study for this class, I pull together information from different sources, such as lectures, readings, and discussions.	1	2	3	4	5	6	7
39. Before I study new course material thoroughly, I often skim it to see how it is organized.	1	2	3	4	5	6	7
40. I ask myself questions to make sure I understand the material I have been studying in this class.	1	2	3	4	5	6	7
41. I try to change the way I study in order to fit the course requirements and the instructor's teaching style.	1	2	3	4	5	6	7
42. I often find that I have been reading for this class but don't know what it was all about.	1	2	3	4	5	6	7
43. I ask the instructor to clarify concepts I don't understand well.	1	2	3	4	5	6	7
44. I memorize key words to remind me of important concepts in this class.	1	2	3	4	5	6	7

45. When course work is difficult, I either give up or only study the easy parts.	1	2	3	4	5	6	7
46. I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying for this course.	1	2	3	4	5	6	7
47. I try to relate ideas in this subject to those in other courses whenever possible.	1	2	3	4	5	6	7
48. When I study for this course, I go over my class notes and make an outline of important concepts.	1	2	3	4	5	6	7
49. When reading for this class, try to relate the material to what I already know.	1	2	3	4	5	6	7
50. I have a regular place set aside for studying.	1	2	3	4	5	6	7
51. I try to play around with ideas of my own related to what I am learning in this course.	1	2	3	4	5	6	7
52. When I study for this course, I write brief summaries of the main ideas from the readings and my class notes.	1	2	3	4	5	6	7
53. When I can't understand the material in this course, I ask another student in this class for help.	1	2	3	4	5	6	7
54. I try to understand the material in this class by making connections between the readings and the concepts from the lectures.	1	2	3	4	5	6	7

55. I make sure that I keep up with the weekly readings and assignments for this course.	1	2	3	4	5	6	7
56. Whenever I read or hear an assertion or conclusion in this class, I think about possible alternatives.	1	2	3	4	5	6	7
57. I make lists of important items for this course and memorize the lists.	1	2	3	4	5	6	7
58. I attend this class regularly.	1	2	3	4	5	6	7
59. Even when course materials are dull and uninteresting, I manage to keep working until I finish.	1	2	3	4	5	6	7
60. I try to identify students in this class whom I can ask for help if necessary.	1	2	3	4	5	6	7
61. When studying for this course I try to determine which concepts I don't understand well.	1	2	3	4	5	6	7
62. I often find that I don't spend very much time on this course because of other activities.	1	2	3	4	5	6	7
63. When I study for this class, I set goals for myself in order to direct my activities in each study period.	1	2	3	4	5	6	7
64. If I get confused taking notes in class, I make sure I sort it out afterwards.	1	2	3	4	5	6	7
65. I rarely find time to review my notes or readings before an exam.	1	2	3	4	5	6	7
66. I try to apply ideas from course readings in other class activities such as lecture and discussion.	1	2	3	4	5	6	7

**Appendix D**

**Script**



## Appendix D

### Script

Hello, Students,

My name is Duanpen Thongnour. I'm a doctoral student at Oklahoma State University. I'm doing the dissertation titled, "Self-efficacy, goal orientations, and self-regulated learning in Thai students." The purpose of the study is to investigate the relationship between students' motivation and their learning strategies. The research is expected to have benefits on improving teaching and learning processes in the Thai educational system. You have been selected to participate in the research. I would like to ask you to fill out this questionnaire. It takes no more than 20 minutes. If you do not want to participate, you are free to decline without any penalty in your coursework. The participation in this research is voluntary. For those who are willing to participate, your responses will be kept confidentially, and you have the right to withdraw from participation at any time without penalty. The data collected will be presented in an aggregated format and will be destroyed after the completion of project. There are no right or wrong answers, just answer as accurately as possible. If you have any questions about the questionnaire, please do not hesitate to ask me. Thank you very much for your cooperation.

VITA 2

Duanpen Thongnoum

Candidate for the Degree of

Doctor of Education

**Thesis: SELF-EFFICACY, GOAL ORIENTATIONS, AND SELF-REGULATED  
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