

CHAPTER ONE INTRODUCTION

1.1 Theoretical Background

Motivation, one cognitive and affective aspect of individual differences, has been widely investigated and commonly agreed as a fundamental factor influencing acquisition of a second or foreign language (L2) (Gardner, 1985; Gardner, Tremblay, & Masgoret, 1997). Studies on L2 motivation date back to Gardner and Lambert's socio-educational model (Gardner & Lambert, 1972), which has dominated the research of L2 motivation for decades. Recent research, however, has suggested that this model may be problematic and limited in its application to understanding L2 motivation in EFL (English as a foreign language) contexts (Belmechri & Hummel, 1998; Clément, Dörnyei, & Noels, 1994; Warden & Lin, 2000).

Accordingly, L2 researchers started to make paradigmatic moves from a social approach emphasizing learners' social integration into the target language culture to mainstream cognitive approaches which look into learners' mental evaluation and management. Among these cognitively-oriented explorations of learning motivation, a great number of studies (Bandura, 1993; Clément, et al., 1994; Clément & Kruidenier, 1983; Eccles, 1983; Feather, 1988; Noels, 2001; Noels, Clément, & Pelletier, 2001; Noels, Pelletier, Clément, & Vallerand, 2003; Schunk, 1991; Tremblay & Gardner, 1995; Wigfield, 1994; Wigfield & Eccles, 1992) have addressed expectancy and/or value (E-V) constructs encompassed in the E-V framework proposed by Eccles and Wigfield (Eccles, 1983; Eccles & Wigfield, 1995; Wigfield & Eccles, 1992, 2000).

Essentially, this framework postulates that motivation to perform a given task is determined by two critical factors: *expectancy of success* and *value*. The former refers to the individual's evaluation of the probability of attaining successful performances, while the latter is defined as the psychological value a learner attaches to success on

that task or reasons for doing the specific activity.

Although E-V related components have been integrated into the investigation of language learning motivation, it is argued that few empirical studies directly examined this E-V framework in EFL contexts and explored its relationships with motivated learning behaviors or outcomes, such as strategy use and learning achievement. Thus, the present study aims to examine language learning motivation of EFL learners in Taiwan from an expectancy-value perspective and to further investigate its association with language learning behaviors and achievement.

The link between L2 motivation and L2 achievement, one of the research foci in SLA (second language acquisition), is commonly believed and, in most cases, has been empirically found to be positively significant (Csizer & Dörnyei, 2005; Dörnyei & Csizer, 2002; Ely, 1986; Gardner, 1985; Gardner & MacIntyre, 1991; Gardner et al., 1997; Noels, Clément, & Pelletier, 1999; Oxford & Shearin, 1994; Samimy & Tabuse, 1992; Schmitt & Watanabe, 2001; Tremblay & Gardner, 1995; Wen, 1997). However, contradictory results have also been indicated in either qualitative (Huang & Chang, 1996) or quantitative studies (Chen, Warden, & Chang, 2005; Teweles, 1995; Shaaban & Ghaith, 2000; Vandergrift, 2005). Thus, it appears that high motivation detected at a certain point of time does not guarantee high L2 achievement in the long run and the impact of motivation on language learning is not so linear and straightforward as expected. That is, motivation to learn a foreign language is necessary and fundamental, but not sufficient.

Possessing the wish to learn a language well does not necessarily lead to a successful execution of the learning plan. Learners' self-regulatory capacity, therefore, is needed to protect the initial intention and to further support the demonstration of motivated learning behaviors such as strategy use (Dörnyei, 2005; Tseng & Schmitt, 2008). As Tseng suggested (2006, p. 4), "motivation is like commitment and

self-regulation is like follow-through, i.e., the subsequent processes to protect the initial set-up goal.” Besides, recent research has argued that the initial level of self-regulatory capacity was affected by the magnitude of motivation (Dörnyei, 2001b; Zimmerman, 2000). It implies that motivation and self-regulation are interwoven and both are required in the process of language learning because motivation influences self-regulation and the execution of self-regulatory capacity guides the manifestation of learning behaviors.

Although self-regulation has been argued to be significant in language learning and also have been empirically examined together with motivation in some pioneering studies (Garcia, McCann, Turner, & Roska, 1998; Pintrich & De Groot, 1990; Tseng, Dörnyei, & Schmitt, 2006; Tseng & Schmitt, 2008), it is noted that, in the field of SLA research, learners’ self-regulatory capacity is still a fresh concept and its effects on language learning in general have not been systematically investigated. Thus, empirical studies are required to provide a deeper understanding of the role which self-regulation plays in motivated language learning.

Besides protecting the initial motivation, self-regulatory capacity also functions as a mediating power to support learning behaviors such as use of learning strategies. Learning strategy use, the most frequently explored type of motivated learning behaviors (MacIntyre & Noels, 1996; Schmidt & Watanabe, 2001; Tseng & Schmitt, 2008; Vandergrft, 2005), has been discussed with regard to its effects on language learning achievement. Research findings regarding the connection between L2 strategy use and L2 achievement, however, were rather mixed. Some admittedly showed a significant positive link (Park, 1997), some a fairly weak correlation (Nisbet, Tindall, & Arroyo, 2005) and others perplexingly a negative association (Gardner et al., 1997).

This inconsistency concerning the predictive power of learning strategy use on

L2 achievement, as suggested by SLA researchers (Gardner et al., 1997; Ellis, 1994; Tseng et al., 2006; Tseng & Schmitt, 2008), resulted from the fact that previous research only investigated the *quantity* dimension of strategy use, i.e. how many language learning strategies were used and how frequently, and addressed little about the *quality* dimension of strategy use, i.e. how well language learning strategies were used.

In fact, a larger repertoire of learning tactics and a high frequency of strategy use does not guarantee adequacy and effectiveness in the employment of learning strategies. Besides, several researchers (Gardner et al., 1997; Ellis, 1994) have indicated that the quality dimension of strategy use is crucial to L2 achievement and needs to be explored more for a better understanding of L2 learners' strategy use. Although strategy use has been a popular issue in SLA research, not many studies made an explicit distinction between quantity-quality dimensions and examined their respective roles. Therefore, it seems necessary to systematically evaluate learners' strategic behaviors based on these two distinct aspects, one on learners' quantity-based overall involvement in using language learning strategies and the other on learners' quality-based mastery of specific language learning tactics.

Grounded on the theoretical backgrounds discussed above, the present study, from an expectancy-value perspective on language learning motivation, aims to examine the causal relationships between the relevant motivational variables in language learning, namely, choice motivation, self-regulation, learning strategy use and achievement. As for the strategy use variable, both the quantity and the quality dimensions are addressed. Moreover, the study intends to construct a model in which L2 motivation as a process is integrated with the motivational variables in language learning.

1.2 Purpose of the Study and Research Questions

The objective of the present study is to establish a motivated language learning model from an expectancy-value perspective and a process-oriented point of view. It integrates five motivational variables: *choice motivation of language learning*, *self-regulatory capacity in language learning*, *strategic language learning involvement*, *strategic language learning mastery*, and *language learning achievement*. The study aims to examine the causal links among these motivational related variables in the context of language learning in general and to answer the following research questions:

1. To what extent can motivation as expectancy-value predict the demonstration of self-regulatory capacity?
2. To what extent can self-regulatory capacity influence learners' strategic language learning mastery?
3. To what extent can strategic language learning mastery predict language learning achievement?
4. To what extent can a motivated language learning model incorporating choice motivation, self-regulatory capacity, strategic involvement, strategic mastery, and language learning achievement, be established?

1.3 Significance of the Study

The study has both theoretical and pedagogical significances:

Theoretically, the present study makes the first step to systematically explore language learning motivation of EFL learners based on the expectancy-value framework. In addition, it investigates how motivation as a process involving various variables is integrated with English learning in general and further constructs a motivated language learning model. The model developed in the study may shed light

on the elaboration of motivational theories in the SLA field.

Pedagogically, the study can provide educators in such EFL contexts as Taiwan with a better understanding of the mediating forces working on the path from learners' initial language learning motivation to learners' ultimate language learning achievement. Moreover, the results derived from the study can be used to help learners in EFL contexts become more motivated, self-regulated, and strategically competent in language learning and thus attain higher achievement.

1.4 Organization of the Thesis

This chapter has provided a brief introduction of theoretical backgrounds and stated the research questions of the present study. Chapter 2 presents a review of related research and proposes a hypothesized model of motivated language learning. Chapter 3 describes the methodology used in the study, including participants, instruments, procedures, and data analyses. Chapter 4 reports the results of the analyses and Chapter 5 offers a discussion of the main findings. Finally, Chapter 6 summarizes the study and provides limitations of the study, suggestions for future research, as well as some recommendations for EFL pedagogy.

CHAPTER TWO LITERATURE REVIEW

This chapter discusses previous research concerning the issues addressed in the present study, including cognitive approaches to motivation, motivation as a process, and the factors involved in the path from language learning motivation to language learning achievement. Finally, a hypothesized model of expectancy-value motivated language learning is proposed based on the entire literature review.

2.1 Cognitive Psychological Approaches to Learning Motivation

Motivation is an intricate, multifaceted construct which has been widely investigated from various perspectives and in different approaches. Although disagreements still commonly prevail with regard to interpretations of learning motivation, a great number of recent educational psychological theories on motivation stress the cognitive aspects of motivation to learn (Ames, 1992; Bandura, 1993; Deci & Ryan, 1985; Locke & Latham, 1990; Ryan & Deci, 2000; Weiner, 1992; Wigfield & Eccles, 1992, 2000; Williams & Burden, 1999).

Contemporary motivational psychology is characterized by a cognitive approach which places an emphasis on the individual's thoughts, beliefs, and mental processes that are transformed into action (Dörnyei, 2001b). The fundamental conception underlying the cognitive approach to learning motivation is the belief that human beings are innately active learners with inherent curiosity to know the environment and to meet given challenges with the assistance of mental operations. Learners, not as passive recipients of knowledge, are metacognitively, motivationally, and behaviorally active producers of their learning achievement (Zimmerman, 1990). Accordingly, the main focus in cognitively-based motivational approaches is learners' mental processes working together to form the existing motivation.

Driven by this belief, educational psychology researchers have expanded the conceptualization of learning motivation by incorporating various concepts, such as self-determination (Deci & Ryan, 1985; Ryan & Deci, 2000), self-efficacy (Bandura, 1993), goal setting and orientation (Ames, 1992; Locke & Latham, 1990), attribution styles (Weiner, 1992; Williams & Burden, 1999), and expectancy/value (Atkinson, 1957; Wigfield & Eccles, 1992, 2000).

Among these cognitively-oriented explorations on learning motivation, numerous studies (Bandura, 1993; Eccles, 1983; Eccles et al., 1989; Feather, 1988; Schunk, 1991; Wigfield, 1994; Wigfield & Eccles, 1992) have specifically addressed expectancy and/or value (E-V) constructs. In addition, a substantial body of E-V-directed research have transformed E-V concepts into empirically measurable constructs and examined their effects on learning motivation, cognitive engagement and learning achievement.

2.1.1 Expectancy-Value Theory

Expectancy-value theory, originating from Atkinson's classic achievement motivation theory (Atkinson, 1957), is one of the most influential and long-standing cognitive motivational theories. Essentially, it postulates that motivation to perform a given task is determined by two critical factors: *expectancy of success* and *value*. The former refers to the individual's evaluation of the probability of attaining successful performances, while the latter is defined as the psychological value a learner attaches to success on that task or reasons for doing the specific activity.

Theorists in this tradition argue that learners' choice, persistence, and performance can be explained by their beliefs about how well they will do on the task and the extent to which they value the task (Wigfield, 1994; Wigfield & Eccles, 1992, 2000). More specifically, the greater the perceived possibility of goal achievement and

the higher the recognized value of the goal, the more positively motivated the learner may be. Conversely, if a learner is convinced that he or she can not achieve the given goal no matter how hard he or she tries, and also fails to perceive the valuable outcomes which the task will contribute to, it is very likely that the learner will lose motivation, and thus invest no effort on a seemingly hopeless and worthless task.

2.1.1.1 Expectancy of Success

In Atkinson' achievement motivation model (1957, 1964), the expectancy construct was called probability for success, which, together with incentive values, was assumed to determine achievement behaviors. Following Atkinson's theoretical assumption, Eccles, Wigfield, and their colleagues (Eccles, 1983; Eccles & Wigfield, 1995; Feather, 1988; Wigfield & Eccles, 1992, 2000), holding a more social-cognitive view towards motivation than Atkinson, led the development of modern E-V theories and constructed a comprehensive framework in which achievement performance is predicted by expectancy and task value.

In this model, task value and expectancy together are supposed to influence or even determine learners' choice, persistence, quality of efforts, cognitive engagement and actual performance. Moreover, it is assumed that task value depends on goals while the formation of one's expectancy is predicted by task-specific self-concept and perceptions of task difficulty. Basically, the expectancy dimension in this influential framework and other related theories is concerned with the question, "Can I do this task?" (Eccles, 1983; Eccles & Wigfield, 2002; Pintrich 1988; Wigfield, 1994; Wigfield & Eccles, 1992) That is, expectancy of success concerns the learner's perception of confidence in successfully performing an upcoming task.

In terms of the antecedents of expectancy, Eccles and Wigfield (2002) proposed that task-specific self-concept beliefs and task difficulty were weighed together to

produce an expectancy judgment. Self-concept represents learners' evaluation of their current ability to do a task while task difficulty involves their perception of difficulty they may encounter in the process of task completion. Besides indicating the two antecedents, Eccles and Wigfield, based on their extensive related studies, further proposed that both of the determiners were relatively domain-specific and may vary according to subject areas in school contexts (Harter, 1985; Marsh, 1990). For instance, the expectancy in math and in English, to a single learner, may differ dramatically and contribute to different behavioral outcomes.

Since expectancy is commonly believed to correlate with learners' perception of competence in certain domain, it has been frequently discussed within self-efficacy theory (Bandura, 1993, 1997; Bandura & Schunk, 1981), which suggests that the sense of self-efficacy, namely, learners' assessment of their ability to accomplish a specific task, plays a significant role in learning motivation and performances. Self-efficacy is assumed to be a multidimensional construct which varies in strength, generality, and level (or difficulty). Learners' efficacy expectations, according to Bandura (1993, 1997), were hypothesized to be a major determinant of goal setting, task choices, effort expenditure and perseverance in the face of difficulties. Moreover, it has been empirically supported to serve as a predictor of learners' achievement regardless of individual variables such as proficiency level, gender, and age (Condy, 1999). Bandura's self-efficacy construct is closely related to expectancy for success in Eccles and Wigfield's E-V framework, especially the self-concept beliefs. However, self-efficacy theory differs from E-V theory in that self-efficacy perceptions are more situation-specific and contextually-changeable (Eccles & Wigfield, 2002).

In a series of large-scale correlational studies, Eccles, Wigfield and their colleagues (Eccles, 1983; Eccles et al., 1989; Wigfield, 1994; Wigfield & Eccles, 1992) investigated the effects of expectancy on learning achievement. This

considerable body of research adopted cross-sectional as well as longitudinal research designs in which upper elementary and junior high students were given self-report measures directed to self-conception of capabilities and expectancy of success in math and English. The studies have shown that the strongest predictors of achievement, measured with standardized exams or course grades, were self-perception of competence (self-efficacy). This finding exhibited the mediating role of expectancy between environmental contexts and actual achievement and further demonstrated the importance of learners' beliefs and the cognitive aspect of learning motivation.

Besides examining the relations between expectancy and achievement, researchers were also interested in the interplay of expectancy and cognitive engagement. For instance, Pintrich and his associates (Pintrich & De Groot, 1990; Pintrich & Schrauben, 1992) examined how expectancy beliefs corresponded to learners' use of cognitive strategies such as elaboration and metacognitive strategies. They have consistently found that the reported use of learning strategies was positively related to the level of expectancy and perceptions of competence. That is, the more competent the participants felt, the more learning strategies they reported using and the more cognitively engaged they were.

In summary, expectancy of success concerns learners' cognitive evaluation of their competence and their appraisal of the contextual factors within a given task. Empirically, it has been supported to be a motivational mediator between cognition and behavior.

2.1.1.2 Value

The other component in the E-V theory, value, also labeled as 'valence', 'incentive value', 'task value' by different researchers, refers to the subjective value a learner associates with the success in a given task. Compared with expectancy, as

Wigfield and Eccles (1992) indicated, the value component received less attention and fewer theoretical discussions because most theorists using E-V models have recently focused on expectancy. Due to this inadequacy, Eccles, Wigfield and their associates (Eccles, 1983; Eccles, Adler, & Meece, 1984; Wigfield, 1994; Wigfield & Eccles, 1992, 2000) developed a thorough framework in which value was elaborately discussed. Rooted in traditional E-V models such as Atkinson's, their model incorporates social cognitive research on intrinsic and extrinsic motivation inspired by Deci and Ryan's research (1985), and assumes that both expectancy and value are cognitive beliefs related to the decisions learners consciously make about their achievement.

According to Eccles and Wigfield (1995), achievement task value consists of four components: *attainment value*, *intrinsic value*, *utility value*, and *cost*. Attainment value refers to the importance of doing well on a task. Intrinsic value is the enjoyment a learner gains from doing the task or the aesthetic appreciation of the task itself, while utility value is defined as the usefulness of the task in terms of learners' current or future goals such as fulfilling a requirement for a master degree or getting higher grades for entering a prominent university. Intrinsic value and utility value in the value framework echo with the distinction Deci and Ryan (1985) made in their influential intrinsic/extrinsic motivational model. According to Deci and Ryan, intrinsic motivation is the most self-determined form of motivation, which can be defined as doing an activity for its inherent satisfaction rather than for external reasons whereas extrinsic motivation concerns engagement in a task for obtaining external rewards such as grades or for avoiding possible punishment (Ryan & Deci, 2000). The last component of value is cost, which refers to the perceived negative consequences of engaging in the task, which may include not only the perceived amount of efforts required as well as time invested, but also anticipated emotional

states such as anxiety and fear. As a whole, these four elements are assumed to operate together to determine the task value a learner perceive and thereby influence learners' intensity of motivated learning behaviors.

With a comprehensive value pattern, in their empirical work, Eccles et al. (Eccles, 1983; Wigfield, 1994; Wigfield & Eccles, 1992, 2000) have focused on how the value components interplay with expectancy beliefs to affect learners' actual behaviors in authentic school settings. Longitudinal and correlational in design, the studies used self-report surveys with large samples of students learning English and math.

Several consistent findings have emerged in the large-scale body of serial research. First, the first three components of value, namely, attainment, intrinsic, and utility values, were empirically differentiable constructs. That is, learners did make distinct judgments about importance, interest, and usefulness of a learning task. Furthermore, the research has shown that these value components positively correlated with expectancy beliefs. For instance, the students tended to highly value the tasks they thought they could do well (Eccles & Wigfield, 1995). This finding strongly supported the assumption that expectancy and value are positively related, not inversely associated as originally proposed by Atkinson (1964).

Third, value was positively correlated with achievement. That is, the extent to which the learner valued the domain-specific task predicted their actual performances (Eccles, 1983; Eccles & Wigfield, 1995). However, when both expectancy beliefs and task values were used to predict achievement, expectancy beliefs were significant determinants while values were not (Eccles et al., 1983; Meece, Wigfield, & Eccles, 1990).

In contrast, when it comes to choice behaviors, such as intentions to take courses or to keep enrollment, values, including attainment value, intrinsic value, and

utility value, had more predictive power than expectancy beliefs (Eccles et al., 1983; Meece, et al., 1990). It seems, from an E-V perspective, expectancy is more directly related to learning achievement while value is more closely tied to decision-making process which provides further opportunity for future achievement.

This finding suggests that once a learner has started the learning process in a school setting, in order to improve their classroom achievement, it is more crucial for instructors to enhance learners' expectancy and self-efficacy beliefs, rather than worry about increasing their value judgment and interest in the course material. However, enhancing learners' value beliefs is very likely to have a beneficial impact on their enrollment as well as willingness to participate in the given learning activities, which may indirectly determine the degree of learners' achievement.

2.1.1.3 Assessing Expectancy-Value Learning Motivation

Like most empirical studies on motivation, the vast majority of the research based on a cognitive approach to learning motivation, especially from the expectancy-value perspective, have been using self-report instruments to ask about participants' judgments on their expectancy of success and value beliefs toward a domain-specific task. In general, these questionnaire items are rated on a Likert scale and analyzed with a variety of statistic tools.

Among the cognitively-based motivational instruments, the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia, & McKeachie, 1993) is one of the most reliable and valid measures. It has been translated into multiple languages and conducted by hundreds of researchers for different research purposes (Rao & Sachs, 1999; Sachs, Law, & Chan, 2001). As its name indicates, the instrument items cover two broad areas, 31 of which on motivation and 60 on learning strategies —here only the motivation section will be

elaborately discussed.

In essence, the MSLQ was developed based on a social-cognitive view of motivation, assuming that learners are active processors of information whose cognitive beliefs mediate important instructional input and task characteristics. Besides, behind the MSLQ stands a notion that motivation is dynamic and contextually bound (Garcia & McKeachie, 2005). In other words, learners' motivation varies according to different domains such as physics, mathematics, and English. Therefore, the MSLQ was designed to focus on the course level, situated between the very general level of all learning situations and the impractical level of every specific situation within one course.

The motivation section of the MSLQ is grounded on three constructs, *expectancy*, *value* and *affect*, and consists of six subscales: *control of learning beliefs* (expectancy), *self-efficacy for learning and performance* (expectancy), *intrinsic goal orientation* (value), *extrinsic goal orientation* (value), *task value* (value), and *test anxiety* (affect). Expectancy components refer to learners' beliefs of the extent to which they can control learning outcomes and to which they expect themselves to accomplish a task. Value components focus on the reasons why learners engage in an academic task, such as learning for learning itself and mastery (intrinsic goal orientation), learning for grades or approval from others (extrinsic goal orientation), and judgments on the usefulness, enjoyment, and importance of the learning course. The third motivational construct is affect and has been operationalized into the test anxiety scale, which assesses learners' worry and uneasiness over taking exams.

Although MSLQ has been extensively applied in a substantial body of educational research and also has been proven to be highly reliable and valid (Garcia & McKeachie, 2005), few studies adopted it to examine L2 motivation. It is reasonable to argue that such an academic-motivation directed and instructional

learning situated measure is potentially useful to explore the nature of L2 motivational dispositions EFL learners hold because most of the learners receive formal English instruction as a major learning medium and generally take English as a school subject for examinations rather than a tool for interpersonal communication.

2.1.2 Expectancy-Value in Studies on L2 Motivation

Before 1990, the investigation of L2 motivation was dominated by a social psychological approach, especially guided by the socio-educational model by Gardner and Lambert (Gardner, 1985; Gardner & Lambert, 1972). However, realizing the practical but limited applicability of this social approach, after 1990, L2 researchers (Clément et al., 1994; Mori, 2002; Mori & Gobel, 2006; Noels et al., 1999; Noels et al., 2003) started to make paradigmatic moves from a social approach to mainstream psychological cognitive approaches, aiming at the expectancy-value related constructs in particular.

No concrete E-V model has been offered in L2 motivation research, but some E-V related components have been incorporated into several L2 motivation studies (see Dörnyei, 2001b, for a comprehensive review) For instance, Tremblay and Gardner (1995) included ‘valence’ and ‘self-efficacy’ variables in their prominent socio-educational model to signal the positive role which learners’ cognitive judgments may play in L2 motivation. They indicated that valence and self-efficacy, together with goal salience, will affect motivational behaviors, including attention, motivational intensity, and persistence, and in turn work upon language learning achievement.

In terms of the aspects of expectancy, Clément and his associates (1983, 1994) explored L2 learners’ linguistic self-confidence and have identified its significance in intercultural communication. Basically, linguistic self-confidence is similar to

self-efficacy, since both refer to a L2 learner's perception of his or her ability to perform tasks competently. However, linguistic self-competence is more generalized in nature while self-efficacy is highly task-specific (Dörnyei, 2001b). Moreover, in contrast to the cognitive dimension of self-efficacy, self-competence seems to be socially-oriented because it involves the quality and quantity of the direct or indirect contact between language learners and native speakers (Dörnyei, 2001b).

With regard to value components, Noels and his associates (Noels, 2001; Noels et al., 2001, 2003) investigated how intrinsic motivation (intrinsic value) and extrinsic motivation (utility value) were related to integrative orientation and the motivational model proposed by Clément and Kruidernier (1983), which is composed of travel, friendship, knowledge and instrumental orientation. It was found that extrinsic regulation (the least self-determined form of extrinsic motivation) correlated strongly with instrumental orientation and the others were more linked with intrinsic types of L2 motivation.

Although these aforementioned L2 studies have incorporated some E-V related components into their investigation, few empirical studies in the field of EFL (English as a foreign language) directly examined the expectancy-value framework. That is to say, the application of E-V theory in the L2 field is a hybrid combination in which social dimensions of L2 motivation is emphasized with the cognitive aspect as a minor supplement.

The only E-V based studies which could be found in the literature were those conducted by Mori et al. (Mori, 2002; Mori & Gobel, 2006). These researchers, from an E-V perspective, explored what constituted English learning motivation in a specific EFL setting of Japanese universities. By a principle components analysis, it was shown that expectancy for success, attainment value, intrinsic value, and utility value were not only conceptually distinct but also empirically distinguishable in the

contexts under investigation. It suggested that the general forms of motivation identified in the expectancy-value theory could adequately reflect foreign language motivation in Asian EFL contexts.

Though Mori et al. have taken a preliminary step to directly apply the E-V theory to the investigation of EFL learning motivation, they examined solely the constructs encompassed in the E-V framework and did not explore their relationships with motivated behaviors or learning outcomes, such as strategy use or achievement. Therefore, for a more complete picture of L2 motivation, the links between E-V constructs, learners' actual motivated behaviors, and language learning achievement should be simultaneously and closely explored.

2.2 Motivation as a Process

Although most of the aforementioned motivational theories imply that motivation is relatively stable and can be precisely measured by tapping into it at a specific point of time, learning motivation has been gradually believed to be dynamic, contextually-bound and temporally changing because a great body of research has shown that learners' motivation to learn a language does not remain constant and often weakens over time (Dörnyei & Csizer, 2002; Inbar, Donitsa-Schmidt, & Shohamy, 2001; Koizumi & Kai, 1992; Tachibana, Matsukawa, & Zhong, 1996).

In addition, L2 learners often experience a change of motivational types with the school years increase (Tachibana et al., 1996; Wen, 1997). That is, instead of an unchanging state, L2 motivation is fluctuating in nature. It may involve a process where a sequence of events and variables may interplay to influence motivated behaviors and thereby learning achievement.

In fact, it is certainly reasonable to hold the belief that L2 motivation fluctuates more or less according to external contextual changes or internal mental

transformation, because L2 learning, whether in EFL or ESL contexts, often takes a considerable period of time to accomplish. As Schumann (1998) indicated, L2 learning is sustained deep learning, which displays distinct motivational features from short-term activities. Therefore, how motivation evolves and how motivational strength is maintained for a long period is supposed to be a significant issue in L2 studies. To go deep into the nature of L2 motivation, SLA (second language acquisition) researchers should take the temporal and dynamic dimension of learning motivation into consideration and examine what factors mediate the motivational process.

Although this dynamic and process-oriented dimension is seldom doubted, few of the available motivational theories, especially in the SLA field, provided a detailed, systematic framework to display motivational transformation over time. However, with the increasing awareness of motivation as a process, this aspect of motivation have been recently addressed by a rising number of studies in psychology, especially those inspired by Heckhausen and Kuhl's action control theory (1985). Moreover, some preliminary endeavors have also been made in L2 research such as a process-oriented model of L2 motivation proposed by Dörnyei and Ottó (1998).

2.2.1 Heckhausen and Kuhl's Action Control Theory

One step to conceptualize motivation as a process which involves distinct phases was taken by Heinz Heckhausen and Julius Kuhl (Heckhausen & Kuhl, 1985; Kuhl, 1985, 1987), two prominent motivational psychologists in recent decades. They proposed a motivational theory, referred to as action control theory, and presented a "temporal perspective that begins with the awakening of a person's wishes prior to goal setting and continues through evaluative thoughts entertained after goal striving has ended" (Gollwitzer, 1990, p. 55). In other words, motivation, according to the

action control theory, entails different stages and evolves from initial formation of a goal, striving for the goal, and eventually to an evaluation of the whole process.

This theory attempts to explain the common observation that people do not always behave in accordance with their intentions which have been formed based on an expectancy-value assessment. That is, there seems to be an obvious gap between one's intention and one's behavior. Besides, it is prevalently observed that even though the planned goal or intention remains unaltered, people's motivational strength wax and wane over time. It is also a common phenomenon that, even though more attractive alternative activities exist, people still persist in pursuing the goal and engage in given tasks.

For an adequate account for these ordinary phenomena, Kuhl, Heckhausen and their associates (Gollwitzer, 1990; Heckhausen & Kuhl, 1985; Kuhl, 1985, 1987; Kuhl & Beckmann, 1994) highlighted the dynamic nature of motivational processes by making a distinction between two separate, temporally-ordered phases, and most importantly, introduced the mediating role of action control in the discrepancy between intention and behavior.

2.2.1.1 Distinction of Two Motivational Phases

The action control theory proposes that a goal-directed activity should be divided into two distinct major phases, the *predecisional* and the *postdecisional* phases:

Predecisional phase: a decision-making or intention-formation stage at which the intention to learn is formed based on the assessment of efficacy and value. It concerns a pre-actional process in which *choice motivation* exercises to select a goal and reach a resultant intention.

Postdecisional phase: an implementation stage at which an established intention is executed and maintained by means of volitional management.

It involves *executive motivation* which guides how intentions are realized and how action control is manipulated to protect the desirable intention against other competing activities and thus maintain motivational intensity.

The boundary separating the predecisional phase (the planning stage) and the postdecisional phase (the implementation stage), is the commitment (or Rubicon as a metaphorical analogy) the learner makes to an intention. At the first stage, a goal turns into an intention, or an ‘activated plan to which the actor has committed herself or himself’ (Kuhl, 1987, p. 282), while at the second phase, this committed intention is activated into actual behavior with a mechanism dealing with the task itself (e.g. the use of cognitive learning strategies) and with another mechanism employed to maintain or protect the intention (e.g. the use of self-regulatory strategies).

The basic assumption behind this distinction is that how intentions are formed is one thing and how intentions are implemented is another (Heckhausen, 1991). In fact, for a more in-depth understanding of motivational processes, these two phases should receive equal attention and even be explored simultaneously to investigate their connections.

However, most mainstream psychological theories have only focused on the predecisional phase with an exhaustive analysis of goal-setting processes and factors which may influence intention formation. This line of research inquiry has directly guided the direction of L2 motivational studies. To put it specifically, most of the previous studies on L2 motivation (Belmechri & Hummel, 1998; Clément & Kruidenier, 1983; Gardner, 1985; Gardner & Lambert, 1972; Mori, 2002; Noels et al., 2003; Warden & Lin, 2000) focused on the motivational antecedents which influenced learners’ motivational dispositions, rather than examine how these motivational tendencies were protected, scaffolded, and enhanced.

However, in an EFL environment such as Taiwan where English is a compulsory school subject of secondary education and to learn English is usually an non-self-determined intention of learners, we may argue, it is more meaningful and pedagogically valuable to explore the ongoing motivational process learners experience when implementing their learning tasks and the interplay between motivation and behavior than to narrow the research focus down on what forms L2 motivation and the reasons for doing a specific learning activity.

2.2.1.2 Action Control: the Mediator between Intention and Behavior

Besides clearly differentiating two temporally-ordered motivational phases, the action control theory emphasizes the crucial impacts of *action control*, also termed as *volitional control* or *self-regulatory control*, on learning behaviors. It is assumed to dominate the processes “that mediate intention-behavior consistency by protecting a current intention from being replaced by a competing action tendency” (Kuhl, 1985, p. 102).

According to Kuhl (1987) and Corno (1993), motivation and volition should be distinguished because the former drives the *decisions* to engage in the task and form an intention but the latter guides the actual *behaviors* to pursue a decided intention. In other words, volition is the mediator bridging the gap between intention (choice motivation) and behaviors (performances). Kuhl argued that many motivational theorists have neglected volitional processes by assuming that motivation directly, linearly leads to outcomes or achievements. He proposed a contrary concept that the path from motivation to achievement is dynamic and concerns certain mediating power because motivation only contributes to the intention to learn and can not completely dominate the execution of this intention. He further suggested that once a learner engages in a learning activity, volitional processes, governed by action control,

will take over. Moreover, the efficiency of self-regulatory control will influence intention execution and task completion.

In a broader sense, action control can be defined as “those thoughts and/or behaviors that are directed toward *maintaining* one’s intention to attain a specific goal in the face of both internal and external distractions” (Garcia et al., 1998, p. 393). It is exercised in the post-decisional phase, conceptualized as executive motivation, to help a committed intention preserved until the current intention is accomplished or terminated. In a learning context, action control is assumed to mediate the intention to learn (choice motivation) and the use of learning strategies (cognitive engagement) (Corno, 1993; Kuhl, 1985).

Based on Kuhl’s more detailed theory of action control, learners with low level of action control can be characterized as state-oriented, while learners with high level of action control are recognized as action-oriented. Research has indicated that action-oriented learners, even encountering failures, persisted in using effective strategies and maintained their sense of competence (Brunstein & Olbrich, 1985). A series of qualitative studies conducted by Reed, et al. (Reed, Hagan, Wicker, & Schallert, 1996; Reed & Schallert, 1993; Reed, Schallert, & Deithloff, 2002), in addition, has suggested that volitional control was critical in helping learners enter into involvement. Also, action control has been found to lead to a better performance on achievement tests (Menec & Schonwetter, 1994; Menec, Schonwetter, Struthers, & Perry, 1993).

In general, action control has been operationalized as a repertoire of self-regulatory strategies (Kuhl & Beckmann, 1994). Based on his preliminary studies on the techniques which the learners reported using to strengthen their learning focus and avoid distractions, Kuhl concluded the following taxonomy of self-regulatory strategies, which was believed to facilitate the protection of a current intention against

the attractive power exerted by other competing action tendencies (summarized from the work by Kuhl (1985, 1987) and Dörnyei (2001a)):

1. *Active Attentional Selectivity* refers to selectively attending to relevant information and intentionally neglecting attractive alternatives.
2. *Encoding control* refers to selectively encoding those features of a stimulus related to the current intention.
3. *Emotion control* refers to the inhibition of the emotional states which might hinder the implementation of the intention. Emotion control also involves the generation of positive emotions that are beneficial for intention execution.
4. *Motivation control* refers to the strengthening of the current intention's motivational basis, aiming at a change of the present hierarchy of tendency strength. Frequently-used motivation control strategies are to think about what will happen if the original intention fails, and to remind oneself of the favorable expectancies or positive incentives.
5. *Environment control* refers to the manipulation of the environment to make the abandonment of the intention more difficult and less convenient. Typical environment control strategies are to make social commitments and to create a setting facilitative for intention implementation.
6. *Parsimony of information-processing* refers to a 'let's not think about it any more but get down to doing it' strategy.

In response to Kuhl's taxonomy of volitional control strategies, Corno and Kanfer (1993) presented a scheme composed of five distinct categories of self-regulatory actions, namely, *metacognitive control*, *environment control*, *attentional control*, *emotion control*, and *motivation control*. For an assessment of learners' ability to exercise volitional control in academic situations, the Academic Volitional Strategy Inventory (AVSI) was developed (McCann & Garcia, 1999; McCann & Turner, 2004) and have recently adopted in several psychological studies (Bembenutty, 2004; McCann & Garcia, 1999; McCann & Turner, 2004). Although empirically applicable and adequate in terms of its psychometric properties, however, this self-report instrument only addresses students' management in Corno's categories

of emotion and motivation and neglects the other three types of self-regulatory strategies which have been shown to be effective for learners' self-regulation (see Zimmerman & Schunk, 2001, for review). Thus, the development of a more exhaustive measure tapping into self-regulatory capacity is critically required for an entire picture of learners' exerted effort to protect their learning intentions.

Several empirical studies (Bembenutty, 2004; Garcia et al., 1998; McCann & Garcia, 1999; McCann & Turner, 2004) have been overtaken to examine the mediating role of action control in the relationships between motivation and learning strategy use. These studies have consistently indicated that motivation and volition were not only conceptually distinct but also empirically distinguishable, which was in accordance with Kuhl's assumption about the distinction of choice motivation and executive motivation.

In addition, it has been shown that the use of volitional control strategies, although having no significant effects on course performance measured by final course grades, positively affected learners' cognitive engagement measured by the use of learning strategies (Garcia et al., 1998; Pintrich & De Groot, 1990). It is also noticeable that, according to Garcia et al.'s study (1998), the indirect link of motivational factors such as task value, self-efficacy and intrinsic goal orientation, to learning strategy use through action control was much stronger than the direct effect of choice motivation on the use of learning strategies. That is, volitional control did protect one's intention to learn and maintain goal-directed activities by amplifying the effects of initial motivational level on the use of learning strategies.

To sum up, all of these related studies have provided sound evidence to support the assumption that volitional control or self-regulatory capacity is a mediator in the motivation-cognitive engagement-performance equation.

2.2.2 Dörnyei and Ottó's Process-oriented Model of L2 Motivation

In response to the dynamic and temporally unstable nature of L2 motivation, although few, some SLA researchers have started to address L2 motivational processes and discuss respective elements involved at each motivational phase. One of the latest and most comprehensive frameworks constructed with this effort was a process model of L2 motivation proposed by Dörnyei and Ottó (1998). Inspired by Heckhausen and Kuhl's action control theory, Dörnyei and Ottó tried to introduce a process-oriented perspective of L2 motivation and synthesized an ample body of L2 motivation research into a unified and systematic framework.

This model, as Dörnyei summarized (2003, p. 18), is a process model of L2 motivation that “breaks down the overall motivational process into several discrete temporal segments organized along the progression that describes how initial wishes and desires are first transformed into goals and then into operationalized intentions, and how these intentions are enacted, leading (hopefully) to the accomplishment of the goal and concluded by the final evaluation of the process.” The following section gives a detailed description of Dörnyei's model and provides related empirical findings.

2.2.2.1 The Sequential Pattern of L2 Motivational Process

Similar to the action control theory, Dörnyei and Ottó's model demonstrates an action sequence which is basically composed of three discrete phases: *preactional* (concerning choice motivation preceding the implementation of action, dealing with how motivation is formed), *actional* (referring to executive motivation which regulates the motivation generated at the first stage and maintains the current intention when it is implemented) and *postactional* (regarding an overall appraisal after the action has been accomplished or terminated). Preactional phase includes goal setting,

intention formation, and initiation of intention enactment. Actional phase concerns action while post-actional phase addresses a retrospective evaluation after the action has been completed.

This model, furthermore, specifies the corresponding motivational effects on each phase. More specifically, the model details the motivational forces or motives that facilitate or hinder the behavioral process. It is worth noting that the motives indicated to affect each motivational stage differ greatly as learners move from one to another. For example, the executive motivational influences associated with the actional phase are not directly related to the motives working upon the earlier or later stages of the motivational process. This tenet echoes with the assumption of the action control theory that the predecisional phase (choice motivation) and the postdecisional phase (executive motivation) encompass essentially distinct variables.

A recent study by MacIntyre, MacMaste, and Baker (2001) has provided empirical evidence to indicate the process aspect of L2 motivation. These researchers conducted a factor analysis to examine the convergence of 23 motivational scales from multiple L2 motivational frameworks. They found that these scales neatly fell into three separate factors. The first two, labeled as attitudinal motivation and self-confidence, were associated with established components of L2 motivation, chiefly concerned with the preactional phase. However, the third factor, termed as action motivation, was closely tied with the actional stage of L2 motivation. The emergence of action motivation as an independent variable explicitly indicates the process dimension of L2 motivation.

As a whole, Dörnyei and Ottó's process-oriented model highlights the dynamic character and temporal variation of L2 motivation, which is a potentially fruitful approach to interpreting and integrating motivational factors that affect language learning behaviors in classroom settings (Dörnyei, 2003; Dörnyei & Skehan, 2003).

Two recent empirical studies (Chen, Warden, & Chang, 2005; Tseng & Schmitt, 2008) have made initial steps to approach L2 motivation based on this model and have both indicated that this process-oriented perspective on L2 motivation led to a fuller understanding of the whole motivational learning process.

Chen *et al.* (2005) examined the interrelations among variables functioning in preactional (instrumental, integrative, and required orientation), actional (actual language use measured by effort and success), and postactional phases (self-evaluation). It was shown that the preactional phase did not highly correlate with the variables in the postactional phase, but the actional phase was significantly related to postactional phase factors. This finding supported the mediating effect of the actional phase and implied that high levels of initial motivation may not transform directly to skill achievement.

The other study from a process-oriented motivational view is a causal one by Tseng and Schmitt (2008). Tseng and Schmitt, by constructing structural equation modeling, validated a proposed model of motivated English vocabulary learning. This model, drawing on the work by Dörnyei (2001a, 2001b) about the motivational stages, consisted of six variables, one of which (initial appraisal of vocabulary learning experience) represented the outcomes of the preactional phase, three (self-regulating capacity, strategic involvement, and mastery of learning tactics) the actional and two (vocabulary knowledge and post-appraisal) the postactional phase. A systematic cycle from the initial motivational level (the preactional stage) to the retrospective evaluation (the postactional stage) was found, which demonstrated that, instead of an initial state, motivation was an integral segment of the whole vocabulary learning process. It also showed that the predictive power of choice motivation on effective strategy use was positively significant only via the demonstration of self-regulatory capacity. To put it differently, in an EFL setting, volitional control was also confirmed

to mediate between motivational factors and strategic learning behaviors.

Although Tseng and Schmitt (2008) examined the role of motivation as a process and made the first endeavor to explore learners' self-regulatory capacity in language learning, their research target solely fell on the vocabulary learning process, which is merely one particular domain of language learning. Accordingly, further studies are needed to examine L2 motivation in general from a process-oriented perspective and to investigate the potential impacts of volitional control by applying Tseng and Schmitt's soundly-developed vocabulary learning model to general language learning processes.

2.2.2.2 Self-Regulatory Strategies

Following the main assumption of the action control theory, Dörnyei and Ottó's (1998) process model of L2 motivation also marked the influence of action control strategies during the actional stage. As mentioned above, action control strategies are self-regulatory mechanisms activated to enhance, scaffold or protect learning-specific actions (Dörnyei, 2001a).

They are particularly important, as Dörnyei and Ottó suggested, for two basic reasons. First, it has been found that academic schoolwork were generally considered by teenage learners the least rewarding, motivating, interesting activity (Wong & Csikszentmihalyi, 1991; Schneider, Csikszentmihalyi, & Knauth, 1995). This negative belief widely held by learners establishes numerous opportunities for a wide range of distractions to interfere with learning. Self-regulatory strategies are therefore needed for the sake of learning effectiveness. Second, in school contexts, learners were frequently imposed with tasks which they had little room to choose during the preactional phase. Since the motivational force stimulated at the choice motivation stage is relatively fragile, the volitional control mechanism is required to maintain and

even enhance learners' motivation to reach the ultimate goal of acquisition.

Based on Kuhl's (1987), Corno and Kanfer's (1993) taxonomy of action control strategies, Dörnyei (2001a) developed a scheme of language learning self-regulatory or self-motivating strategies as follows (cf. Dörnyei, 2001a, p. 110-115):

1. *Commitment control*, techniques that help to preserve or enhance the learners' original goal commitment (e.g. keeping in mind favorable expectancies or positive incentives, or focusing on what would happen if the original intention failed).
2. *Metacognitive control*, techniques used to monitor and control concentration and to stop procrastination (e.g. giving oneself regular self-reminders to concentrate, giving oneself regular self-reminders of the deadline, or intentionally ignoring attractive alternatives or irrelevant aspects).
3. *Satiation control*, technique intended to add extra attraction to the task (e.g. adding a twist to the task, or using one's fantasy to live up the task).
4. *Emotion control*, techniques used to manage obtrusive states and generate emotions which are conducive to implementing the intentions (e.g. generating useful diversions, self-affirmation, constructing positive narratives of events, or finding humorous elements).
5. *Environment control*, techniques used to eliminate negative environmental influences and exploit positive ones (e.g. removing environmental sources of interference and temptations, asking friends to restrict you, or making a public commitment).

Dörnyei's (2001a) taxonomy of self-motivating strategies, mainly derived from the psychological field, has not been extensively transferred to a concrete instrument assessing language learners' self-regulatory capacity. The only measure of self-regulation in L2 learning we can find from the literature is a self-report instrument conceptualized, developed, and validated by Tseng, Dörnyei, and Schmitt (2006), which is named 'Self-Regulating Capacity in Vocabulary Learning Scale (SRCvoc)'. With the notion that the most crucial aspect of strategic learning dose not lie in the specific techniques learners actually employ but rely on the fact that learners

exert purposive effort to improve their learning, this measure taps into general tendencies and inclinations of language learners' self-regulation rather than focuses on specific behavioral descriptions.

By means of confirmatory factor analysis, Tseng et al. demonstrated that this psychometrically-based measure of L2 learners' self-regulatory capacity reached satisfactory reliability and validity, and thus suggested that Dörnyei's (2001a) self-regulatory framework is empirically valid. However, this measure, to date, has solely been used to assess learners' self-regulatory capability in a specific domain, i.e. English vocabulary acquisition. The self-regulation of L2 learning in general has not been explored, which can be effectively probed into through Dörnyei's self-regulatory scheme (2001a) and Tseng et al.'s proposed measurement (2006).

2.3 From L2 Motivation to L2 Achievement

The link between L2 motivation and L2 achievement has been a popular issue under SLA investigation for decades. Researchers have indicated that motivation to learn a second or foreign language (L2) is a crucial predictor of success in language learning (Csizer & Dörnyei, 2005; Dörnyei & Csizer, 2002; Ely, 1986; Gardner, 1985; Gardner & MacIntyre, 1991; Gardner et al., 1997; Noels et al., 1999; Oxford & Shearin, 1994; Samimy & Tabuse, 1992; Schmitt & Watanabe, 2001; Tremblay & Gardner, 1995; Wen, 1997). That is, L2 learners with higher degree of learning motivation are widely believed and, in most cases, have been empirically found to achieve better proficiency in the target language.

Although a wide range of L2 studies have supported the strong predictive power of motivation on language learning achievement, contradictory results have been shown in either qualitative (Huang & Chang, 1996) or quantitative studies (Chen et al., 2005; Teweles, 1995; Shaaban & Ghaith, 2000; Vandergrift, 2005). For example,

Huang and Chang (1996), in an ESL (English as a second language) setting, found that the participants' motivational beliefs such as self-efficacy level did not correlate with their learning achievements correspondingly but their achievements positively reflected their motivational level. It suggested that L2 motivation did not necessarily lead to successful performance but it served as a precondition for better achievement.

In a comparative study of two EFL settings, i.e. Japan and China, Teweles (1995) demonstrated that the level of motivation did not highly correlate with proficiency regardless of test-type. Vandergrift (2005) also indicated that L2 motivation seemed not to be a reliable predictor of proficiency in L2 listening comprehension. All of the aforementioned studies signaled the insignificant link between motivation and learning outcomes. It strongly suggested that the path from language learning motivation to language learning achievement is not linearly connected but indirectly correlated via mediators.

One mediator which has been found to be significant in several pioneering studies (Garcia et al., 1998; Pintrich & De Groot, 1990; Tseng et al., 2006; Tseng & Schmitt, 2008) was learners' self-regulatory capacity, which was argued to help protect the initial intention and to further support the demonstration of motivated learning behaviors such as strategy use (Dörnyei, 2005; Tseng & Schmitt, 2008).

In the field of L2 research, in general, the use of language learning strategies has been the most frequently explored type of actual learning behaviors which SLA researchers targeted to contribute to a deeper understanding of the indirect association between L2 motivation and L2 achievement (Garcia et al., 1998; MacIntyre & Noels, 1996; Pintrich & De Groot, 1990; Schmidt & Watanabe, 2001; Tseng & Schmitt, 2008; Vandergrift, 2005). The following section provides a short review of the empirical studies on language learning strategy use and specifies the inherent problems in the L2 research on strategy use.

2.3.1 L2 Motivation and Language Learning Strategy Use

For a link of language learners' motivational disposition with their actual motivated behaviors, a considerable body of research has been conducted to explore the interrelations between choice motivation and learners' cognitive engagement or strategic involvement in learning tasks (Garcia et al., 1998; MacIntyre & Noels, 1996; Printrich & De Groot, 1990; Schmidt & Watanabe, 2001; Tseng & Schmitt, 2008; Vandergrift, 2005). More specifically, these empirical studies aimed to uncover how motivational tendencies reflect learners' reported use of learning strategies, which are generally defined as actions, behaviors, steps or techniques used to enhance language learning (Oxford, 1990).

With regard to the correlation between choice motivation and learning strategy use, previous research has demonstrated that the level of motivation directly affected learners' use of learning strategies, not only the frequency (Gardner et al., 1997) but also the types of strategy use (Garcia et al., 1998; Schmidt & Watanabe, 2001). However, conflicting results also existed. For example, Tseng and Schmitt (2008) found that choice motivation did not directly and positively influence strategy use. It was found that learners' self-regulatory capacity was a determinant mediator functioning on the path from choice motivation to cognitive engagement. Accordingly, it is reasonable to hypothesize that the relation between choice motivation and strategy use can be established by means of learners' capacity in regulating their learning behaviors as a mediator.

2.3.2 Language Learning Strategy Use and L2 Achievement

Besides the relation between L2 motivation and language learning strategy use, how strategy use correlates with language learning achievement has also been an intriguing research issue drawing a wide range of attention. Still, like the empirical

findings concerning motivation and learning strategy use, the results of L2 studies which examined the role of learning strategy use in language learning success were also mixed. Some admittedly showed a significant positive link (Park, 1997), some a fairly weak correlation (Nisbet, Tindall, & Arroyo, 2005), some no significant link (Mori, 2007), and others perplexingly a negative association (Gardner et al., 1997).

This inconsistency and discrepancy of empirical findings concerning the predictive power of learning strategy use on L2 achievement may result from two fundamental problems: one inherent in the frequency-based measurement of strategy use, and the other deriving from the conceptual ambiguity of language learning strategies.

In general, studies on strategy use assessed learners' strategic behaviors by means of self-report questionnaires. In the L2 field, the most frequently adopted measure of language learning strategies from 1990s has been the 'Strategy Inventory for Language Learning' (SILL), developed by Rebecca Oxford (1990). This instrument, composed of six dimensions, focuses on specific strategic behaviors and asks about L2 learners' *frequency of usage* of strategies which ranges from 'always' to 'never'. Scale scores are attained by computing the average of the item scores within a sub-dimension. Essentially, the psychometric assumption behind this measure is that the more usage, the better.

However, it has been argued that the frequency-based instrument only measures the *quantity* of strategy use but fails to reflect another important dimension of strategic behavior, namely, the *quality* of strategy use, i.e. how well these strategies are used (Tseng et al., 2006; Tseng & Schmitt, 2008). A high score on SILL reflects only a high frequency and a wide range of strategy use. It does not indicate the effectiveness of strategy use and learners' adaptive manipulation of available learning tactics.

As for the nature of learning strategy use, researchers (Gardner et al., 1997; Ellis, 1994) have suggested that the quality dimension of strategy use is crucial to learning achievement and should be distinguished from the quantity dimension of strategy use because a larger repertoire of learning tactics and frequent use of learning strategies does not guarantee adequate and resourceful use of language learning strategies which will probably lead to better learning achievement. Therefore, the measurement of learners' strategic competence should touch upon two distinct parts, one on learners' quantity-based, overall involvement in using strategies for language learning and the other on learners' quality-based mastery of specific language learning tactics.

In addition to the inherent instrumental problem, research on language learning strategies has been confronting with a theoretical problem, that is, the conceptual ambiguity of *learning strategy* (Dörnyei & Skehan, 2003). Disagreements prevail in terms of the conceptualizations of language learning strategy and the discriminating criteria for strategic learning from ordinary learning (see Dörnyei, 2005, for a comprehensive review).

In fact, during the past decades, educational psychology has abandoned the confusing term 'learning strategy' and discusses learners' strategic contribution to their learning in a more versatile concept of 'self-regulation'. This theoretical transition implies that it is not what learners do that makes them strategic learners, but rather the fact that they make purposive efforts, get consciously involved, and regulate their own learning process (Pintrich, 2000; Skehan & Dörnyei, 2003; Tseng et al., 2006). The focus, thus, shifts from the actual techniques employed for dealing with the learning task itself to the self-regulatory process whereby learners' underlying self-regulatory capacity works. Again, it appears justifiable to conclude that on the way from L2 motivation to L2 achievement, in addition to strategic learning behaviors,

learners' self-regulatory capacity may also take an important part.

2.3.3 Motivation-Achievement as a Reciprocal Cycle

Although commonly believed to be a determinant of success in language learning, L2 motivation has been gradually regarded also as a result of language learning achievement. As the 'Resultative Hypothesis' claims, "learners who do well are more likely to develop motivational intensity and to be active in the classroom" (Ellis, 1994, p. 515). This proposition, suggesting the positive impact of achievement on motivation, has been supported in several empirical studies (Berwick & Ross, 1989; Gardner & Tremblay, 1997; Strong, 1984; Ushioda, 1996; Tian, 2005). All of the studies indicated that L2 learners' motivational intensity was influenced by their perceived achievement, and this perception of success in language learning did promote their language learning motivation.

It appears that the relation between motivation and achievement is interactive, reciprocal and mutual. In other words, it involves a bi-directional causality. A high level of motivation indeed facilitates language learning, but perceived accomplishment in achieving L2 goals can also help learners maintain their existing motivation and even strengthen learners' motivational dispositions (Ellis, 1994).

2.4 The Hypothesized Model of Motivated Language Learning

Based on the literature review of previous studies, mainly drawing on the work by Tseng et al. (2006, 2008), the present study, from an expectancy-value-directed, process-oriented perspective on L2 motivation, aims to construct a model which incorporates five motivational related variables: *choice motivation of language learning*, *self-regulatory capacity in language learning*, *strategic language learning involvement*, *strategic language learning mastery*, and *language achievement*. The

hypothesized model is presented in Figure 1 to demonstrate the hypothesized causal paths among these five factors. All the paths are assigned a number to signal how the processes of the model may develop and '+' signs are used to indicate an assumed positive impact.

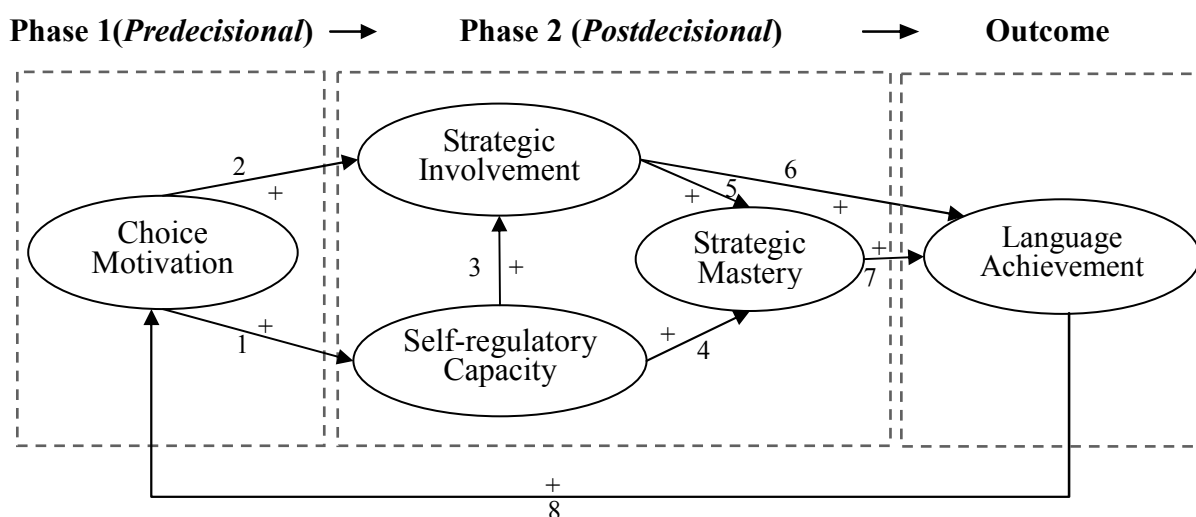


Figure 1. The Hypothesized Model with Five Variables

The following eight hypotheses about the relationships between the variables are further constructed based on the theoretical discussions in this chapter:

Hypothesis 1. Choice Motivation of Language Learning influences Self-Regulatory Capacity in Language Learning.

Hypothesis 2. Choice Motivation of Language Learning influences Strategic Language Learning Involvement.

Hypothesis 3. Self-Regulatory Capacity in Language Learning influences Strategic Language Learning Involvement.

Hypothesis 4. Self-Regulatory Capacity in Language Learning influences Strategic Language Learning Mastery.

Hypothesis 5. Strategic Language Learning Involvement influences Strategic Language Learning Mastery.

Hypothesis 6. Strategic Language Learning Involvement influences Language Learning Achievement.

Hypothesis 7. Strategic Language Learning Mastery influences Language Learning Achievement.

Hypothesis 8. Language Learning Achievement influences Choice Motivation of Language Learning.

As proposed in Chapter 1, the aim of the study is to construct a model of expectancy-value motivated language learning and the research questions are raised as follows:

1. To what extent can motivation as expectancy-value predict the demonstration of self-regulatory capacity?
2. To what extent can self-regulatory capacity influence learners' strategic language learning mastery?
3. To what extent can strategic language learning mastery predict language learning achievement?
4. To what extent can a motivated language learning model incorporating choice motivation, self-regulatory capacity, strategic involvement, strategic mastery, and language learning achievement, be established?

The eight hypotheses are thus raised to answer the questions. Hypothesis 1 is proposed to answer question 1, Hypothesis 4 question 2, and Hypothesis 7 question 3. The rest of the research hypotheses are proposed to answer the primary question 4. To sum up, the proposed model signifies eight specific hypothesized relationships between the five variables under investigation to demonstrate the possible structure of L2 motivation in EFL contexts. All of the links are evaluated by means of multiple regression and path analysis for the strength of each hypothesized path and the overall fitness of the hypothesized model to the empirical data.

CHAPTER THREE METHODOLOGY

The study, from an expectancy-value perspective on L2 motivation, was designed to examine a hypothesized model of motivated language learning, which addresses L2 learners' choice motivation, self-regulatory capacity, strategic language learning involvement, strategic language learning mastery, and L2 achievement. This chapter offers the research methodology of the present study, including participants, instruments, procedures and data analysis.

3.1 Participants

This section provides an introduction of the participants involved in the pilot study and the formal study.

3.1.1 Pilot Study

A total of 93 students at the second year of one public boys' senior high school in Taipei participated in the pilot study. These participants, coming from three separate classes of natural science, used one identical version of English textbooks in Taiwan, i.e. Long-Tung textbooks, as the major English learning material and had the same English teacher, who was also the researcher of the present study. Since English is a required course generally starting from the fifth year of elementary schools in Taiwan, most of the participants have learned English at least for seven years. According to the background information provided by the learners, 34.4% of the students have learned English for seven years, 39.8% for eight to nine years and 23.5% for more than nine years.

As for the English instruction these participants received in general, as in other senior high schools in Taiwan, English, a compulsory subject of secondary education,

was taught with a chief focus on learners' literacy competence, particularly in reading. Besides, learners' achievement in English learning within a semester was principally assessed by three monthly pencil-and-paper tests which were mostly directed to learners' reading and writing abilities.

3.1.2 Formal Study

A total of 190 students at the third year of three public senior high schools were invited to participate in the formal study. The participants, including 92 male students and 98 females, consisted of two classes of the students from a Taipei county senior high school, two from a Taipei city senior high school, and two from a Taipei city boys' senior high school. Five of the classes belong to 'social science' group and the other 'natural science' group. In Taiwan, senior high students, depending on their willingness and dispositional preferences, are mainly grouped into three types of classes, social science, natural science, and medical science. This classification is aimed at students' preparation for future academic majors in colleges.

As for the length of English learning, the participants have learned English for more than seven years since the fifth year of elementary schools. Table 1 provides a summary of the participants involved in the formal study.

Table 1. Summary of the Participants' Background Information

School	Class	Number			English Textbook	English Learning (years)
		M	F	Total		
A	1	4	36	40	Far-East Series	8.55
	2	12	26	38	Series	7.74
B	1	11	25	36	Long-Tung Series	7.86
	2	24	11	35	Series	8.22
C	1	21	0	21	Long-Tung Series	8.19
	2	20	0	20	Series	9.10

3.2 Instruments

A questionnaire was used to collect information on learners' English learning background, choice motivation, self-regulatory capacity, strategic involvement, and strategic mastery. The questionnaire, written in Chinese, could be divided into five parts. The first part concerned individual background information such as age, the length of English learning and the extent of exposure to authentic English-speaking environments. The second part, consisting of 26 items, addressed learners' choice motivation which was based on an expectancy-value assessment. The third part, composed of 20 items, was directed to detect learners' self-regulatory capacity of controlling their motivated language learning process. The fourth and the final sections of the questionnaire were aimed at learners' strategic behaviors, one on the quantity dimension (strategic involvement) and the other on the quality dimension (strategic mastery) of language learning strategy use. Strategic involvement was made up of 31 items and asked about learners' overall involvement in learning English, while strategic mastery, consisting of 26 items, touched upon learners' expertise of the use of language learning tactics. The following sections provide a detailed description of each measure in this questionnaire.

3.2.1 Measure of Choice Motivation of Language Learning

The choice motivation measure was mainly derived from the motivation scale of the Motivated Strategies for Learning Questionnaire (MSLQ) (Garcia & McKeachie, 2005; Pintrich, Smith, Garcia, & McKeachie, 1993), which includes three components, namely, expectancy, value, and test anxiety.

In the present study, however, only expectancy and value scales of MSLQ were adopted. The deletion of the test anxiety measure of MSLQ resulted from one theoretical and one empirical consideration. First, the present study aims to examine

L2 learners' motivational process from an expectancy-value perspective. Test anxiety, in essence, is not an E-V related component, so it was removed from the present measure.

Furthermore, in Garcia et al.'s empirical study (1998), test anxiety, defined as one's affect during a test, was found to be highly specific to testing situations and played no role in learners' studying behaviors during the learning process, which was relatively longer than the period of test-taking. Since the concern of the present study fell on learners' motivated language learning process, rather than the course of test-taking, the present measure of choice motivation did not encompass the items of test anxiety.

A modified Chinese version of MSLQ was then developed to assess learners' choice motivation, in which expectancy was assessed by two subscales, *control of learning beliefs* and *self-efficacy*, and value was measured by three indicators, *intrinsic goal orientation*, *extrinsic goal orientation*, and *task value*. All of the five indicators adopted a 6-point Likert-scale which ranged from 1 = 'strongly disagree' to 6 = 'strongly agree'. A summary of the choice motivation measure is given in Table 2.

Table 2. Summary of the Choice Motivation Measure

Latent Variables		Indicators	Number of Items	Item Number
Choice Motivation of Language Learning	Expectancy	Self-efficacy	8	4,5,10,12,16,17,24,26
		Control of Learning Beliefs	4	2,7,15,21
	Value	Intrinsic Goal Orientation	4	1,13,18,20
		Extrinsic Goal Orientation	4	6,9,11,25
		Task Value	6	3,8,14,19,22,23

3.2.2 Measure of Self-regulatory Capacity in Language Learning

The measure of self-regulatory capacity in language learning (SRCLL) was a

modified version adapted from the measure of Self-Regulating Capacity in Vocabulary Learning (SRCvoc) (Tseng et al., 2006). It contained five indicators, *commitment control*, *metacognitive control*, *satiation control*, *emotion control*, and *environment control*. Each indicator included four items and took a form of a 6-point Likert-scale ranging from 1 = ‘strongly disagree’ to 6 = ‘strongly agree’. By means of confirmatory factor analysis, it has been proven to be valid and reliable (Tseng, et al., 2006; Tseng & Schmitt, 2008).

As Tseng et al. (2006) indicated, this measure does not target any specific behavioral patterns but rather aims to measure learners’ underlying capacity to regulate their language learning behaviors, especially in the contexts of vocabulary learning. Therefore, the summation of the scores of all the items represents a learner’s overall assessment of his or her ability to regulate their vocabulary learning.

The major modification of SRCvoc made in the present study to form the SRCLL measure was the change of the learning contexts from English vocabulary learning to English learning in general. Table 3 summarizes the measure of SRCLL.

Table 3. Summary of Self-regulatory Capacity in Language Learning

Latent variables	Indicators	Number of Items	Item Number
Self-regulatory Capacity in Language Learning (SRCLL)	Commitment Control	4	4, 7, 10, 13
	Metacognitive Control	4	5, 9, 11, 16
	Satiation Control	4	1, 8, 18, 19
	Emotion Control	4	2, 6, 12, 15
	Environment Control	4	3, 14, 17, 20

3.2.3 Measure of Strategic Language Learning Involvement

In the study, language learning strategy use was divided into two components: *strategic language learning involvement* (quantity-directed) and *strategic language learning mastery* (quality-directed). The measurement of learners’ strategic

involvement in language learning was modified from Tseng and Schmitt's measure of Strategic Vocabulary Learning Involvement (SVLI) (2008), which has been found to be reliable and valid in the contexts of vocabulary learning (Tseng & Schmitt, 2008).

The revised measure in the present study was composed of 31 items, which concerned learners' overall involvement in language learning and the attempts learners have made to pursue L2 acquisition. It included several elements such as how frequently learners were involved in covert or overt learning acts, the range of language learning behaviors learners were involved with, and the general awareness learners possessed of the methods to enhance language learning. To assess the quantity of language learning strategy use, the measure adopted a 6-point Likert-scale which ranged from 1 = 'Never' to 6 = 'Always'.

3.2.4 Measure of Strategic Language Learning Mastery

The quality dimension of strategy use was assessed by the measure of strategic language learning mastery, which was developed based on three systems. The first and the major source was Oxford's (1990) 'Strategy Inventory for Language Learning' (SILL), ESL/EFL Version 7.0. SILL, the most frequently used language learning strategy scale, consists of 50 items which are classified into six subscales: *memory strategies*, *cognitive strategies*, *compensation strategies*, *metacognitive strategies*, *affective strategies*, and *social strategies*. However, two of these categories, namely, metacognitive and affective strategies, were totally excluded from the present study due to the fact that they are conceptually similar to self-regulatory control strategies.

The second reference was Cohen and Chi's (2002) 'Language Strategy Use and Index' (LSUII), which includes six categories (listening, vocabulary, speaking, reading, writing, translation strategies) and contains a total of 90 items. The third system was Tseng and Schmitt's (2008) 'Mastery of Vocabulary Learning Tactics'

(MVLТ), which is composed of 32 items.

After comparing these three systems, 26 items were selected, which although not exhaustive, were representative of the typical language learning strategies applicable in formal EFL learning contexts in Taiwan and relevant for the learners in question. It is necessary to limit the number of questionnaire items because too many items on the self-report survey may produce fatigue effects on the participants. The final measure of strategic language learning mastery, for assessing learners' quality dimension of strategy use, adopted a 5-point Likert-scale, ranging from 1= 'Never used' to 5 = 'Yes, and with lots of mastery'.

3.2.5 Grades of Joint Simulated Examinations

To approach learners' English achievement, grades of a joint simulated examination were obtained from the instructors. In northern Taiwan, for the third graders of senior high schools, several joint simulated examinations are held to prepare the students for the General Scholastic Ability Test and the Department Required Test, which are two major college entrance examinations in Taiwan. These simulated examinations, in general, target at learners' English literacy abilities, mainly inclusive of multiple-choice questions testing vocabulary, grammar, and reading skills and translation, and essay questions assessing writing skills. Grades of joint simulated examinations are better indicators of language learning achievement than course grades because they are large-scale, standardized and relatively more reliable.

Although the simulated examination only measures the literacy abilities, rather than overall language proficiency which is supposed to encompass listening, speaking, reading, and writing competences, it is argued that using simulated examination grades as the indicator of language learning achievement is not invalid because the study aims to measure learners' English achievement in general EFL school learning

contexts where literacy abilities are most emphasized.

3.3 Procedures

This section presents the procedures of the pilot study and the formal study as well.

3.3.1 Pilot Study

Before the formal study, a pilot study was conducted first to examine the reliability of the instruments. 93 students from a Taipei city boys' school participated during the late June in 2007. In order to reduce the impact of potential fatigue effects resulting from the completion of the long questionnaire, the administration of the questionnaire was divided into two stages, each taking 10 minutes. The first stage concerned the completion of the background information and choice motivation parts and the second stage, conducted two days later, was concerned with the completion of the self-regulatory capacity and strategic involvement parts.

Due to the tight schedule of the participants' English course, however, the researcher as well as the English teacher of the participants unfortunately failed to finish the data collection on the measure of strategic language learning mastery. This part, therefore, was examined and elaborated in the formal study.

3.3.1.1 Item Analysis & Correlation Analysis

To examine the discriminative capacity of all the measure items, item analysis was performed through t-testing to determine the critical ratio (CR) of each item and Pearson product-moment correlation coefficient (r) was computed to assess the correlation between each individual item and the total of the whole scale. The items whose CR or r values did not reach a significant level were deleted. Table 4 presents

the results of the item analysis on the measure of choice motivation.

Table 4. Results of Item Analysis on the Choice Motivation Measure

Item Number	Critical Ratio (CR)	Item-Total Correlation (r)	Remained (O) or Deleted (X)
M1	8.253***	.634**	O
M2	4.889***	.518**	O
M3	5.549***	.535**	O
M4	7.654***	.598**	O
M5	6.754***	.569**	O
M6	1.223	.271**	X
M7	3.000***	.351**	O
M8	7.312***	.736**	O
M9	-.454	.049	X
M10	6.616***	.609**	O
M11	3.780***	.473**	O
M12	9.256***	.731**	O
M13	5.790***	.557**	O
M14	7.773***	.719**	O
M15	6.721***	.666**	O
M16	9.893***	.682**	O
M17	6.226***	.602**	O
M18	7.673***	.703**	O
M19	8.691***	.685**	O
M20	3.718***	.416**	O
M21	1.744	.206*	X
M22	6.204***	.620**	O
M23	9.191***	.730**	O
M24	8.165***	.643**	O
M25	5.104***	.528**	O
M26	6.195***	.578**	O

Note. *** p < .001

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

As shown in Table 4, three indiscriminative items of the choice motivation measure, M6 (belonging to *extrinsic goal orientation* subscale), M9 (belonging to *extrinsic goal orientation* subscale), and M21 (belonging to *control of learning beliefs* subscale), were deleted and rewritten. M6 was worded as “I want to learn English

well in order to get a prestigious job in the future” and M9 was turned into “I would feel ashamed if my English were not good.” M21 was rewritten as “If I don’t understand the course material, I think that is because I didn’t study hard enough.”

Table 5 shows the results of item analysis on the measure of self-regulatory capacity in language learning. As it indicated, all items of the measure reached the significant level and thus were remained.

Table 5. Results of Item Analysis on the Self-regulatory Capacity Measure

Item Number	Critical Ratio (CR)	Item-Total Correlation (r)	Remained (O) or Deleted (X)
SR1	4.351***	.466**	O
SR2	6.469***	.578**	O
SR3	5.777***	.572**	O
SR4	8.500***	.680**	O
SR5	10.712***	.768**	O
SR6	8.407***	.795**	O
SR7	6.784***	.671**	O
SR8	6.756***	.707**	O
SR9	5.572***	.612**	O
SR10	5.625***	.564**	O
SR11	4.617***	.613**	O
SR12	5.834***	.539**	O
SR13	7.792***	.674**	O
SR14	4.638***	.620**	O
SR15	7.032***	.713**	O
SR16	7.004***	.722**	O
SR17	4.640***	.532**	O
SR18	8.583***	.802**	O
SR19	8.145***	.794**	O
SR20	7.382***	.547**	O

Note. *** p<.001

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

Table 6 presents the results of item analysis on the measure of strategic language learning involvement. Based on the results, I11 was deleted because it did not pass the t-test and correlation evaluation.

Table 6. Results of Item Analysis on the Strategic Involvement Measure

Item Number	Critical Ratio (CR)	Item-Total Correlation (r)	Remained (O) or Deleted (X)
I1	4.454***	.650**	O
I2	4.874***	.708**	O
I3	6.655***	.783**	O
I4	6.478***	.735**	O
I5	4.538***	.407**	O
I6	6.136***	.648**	O
I7	5.499***	.730**	O
I8	6.862***	.605**	O
I9	7.690***	.822**	O
I10	6.546***	.654**	O
I11	-1.991	-.226*	X
I12	3.008**	.406**	O
I13	3.980***	.530**	O
I14	9.181***	.704**	O
I15	6.876***	.756**	O
I16	3.617***	.386**	O
I17	7.286***	.780**	O
I18	5.651***	.731**	O
I19	4.300***	.683**	O
I20	8.946***	.816**	O
I21	6.121***	.673**	O
I22	7.275***	.689**	O
I23	5.923***	.732**	O
I24	7.737***	.796**	O
I25	5.348***	.607**	O
I26	6.798***	.676**	O
I27	8.008***	.740**	O
I28	4.543***	.416**	O
I29	6.636***	.639**	O
I30	5.237***	.627**	O
I31	3.918***	.424**	O
I32	4.681***	.462**	O

Note. *** p<.001

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

3.3.1.2 Reliability Analysis

For evaluating the internal-consistency of the scales respectively on choice motivation, self-regulatory capacity and strategic involvement, Cronbach's alpha for each measure was calculated: choice motivation (.90), self-regulatory capacity (.92) and strategic involvement (.95). For a fuller exploration of the internal consistency of the given measures, Cronbach's alpha for each subscale was also computed. A summary of the results of reliability analysis is provided in Table 7.

Table 7. Summary of the Reliability of the Measures in the Hypothesized Model

Latent variables		Indicators	Number of Items	Reliability (α)
Choice Motivation of Language Learning	Expectancy	Self-efficacy	8	.87
		Control of Learning Beliefs	4	.57
Self-regulatory Capacity in Language Learning	Value	Intrinsic Goal Orientation	4	.70
		Extrinsic Goal Orientation	4	.61
		Task Value	6	.84
Strategic Language Learning Involvement		Commitment Control	4	.77
		Metacognitive Control	4	.78
		Satiation Control	4	.80
		Emotion Control	4	.68
		Environment Control	4	.75
Strategic Language Learning Involvement			31	.95

Although the overall reliability of the measures was satisfactory, two items of *Control of Learning Beliefs*, Item M2 and item M7, after a thorough statistic examination and a further discussion with the researcher's advisor, were thought to need revisions for a better construct validity. Item 2 was thus changed from "If I study in appropriate ways, then I will be able to learn the material in this course" to "I believe I can find appropriate ways to learn English well." Item 9 was revised from "It is my own fault if I don't learn the material in this course" to "If I don't learn English

well, that is because I am not competent enough.”

3.3.2 Formal Study

The formal study was conducted in mid November of 2007. The researcher contacted the instructors of the participants and briefly explained the purpose as well as the procedure of the study. The questionnaire, composed of background information, choice motivation, self-regulatory capacity, strategic involvement and strategic mastery sections, was administered and finished in 25 minutes. Before the distribution of the questionnaire, an announcement was made to inform the participants of their confidential privacy and to encourage the participants to complete the questionnaire forthrightly. The participants' grades of the first simulated exam were provided by the instructors and, together with the questionnaire data, were entered into the computer for statistical analyses.

3.3.2.1 Item Analysis

Since the strategic mastery section of the questionnaire was not administered in the pilot study, its discriminative capability was examined in the formal study by means of item analysis. Table 8 summarizes the results. As shown in Table 8, all of the items of the measure of strategic language learning mastery passed the T-test and also the Pearson product-moment correlation test. That is, this measure was statistically discriminative.

Table 8. Results of Item Analysis on the Strategic Mastery Measure

Item Number	Critical Ratio (CR)	Item-Total Correlation (r)
SM1	8.186***	.611**
SM2	10.831***	.608**
SM3	3.931***	.360**
SM4	6.746***	.501**
SM5	3.408***	.277**
SM6	3.113***	.309**
SM7	9.721***	.601**
SM8	6.397***	.493**
SM9	8.176***	.608**
SM10	9.353***	.608**
SM11	7.559***	.468**
SM12	7.573***	.529**
SM13	8.461***	.516**
SM14	6.819***	.479**
SM15	8.841***	.580**
SM16	8.944***	.576**
SM17	12.486***	.678**
SM18	4.433***	.395**
SM19	10.073***	.614**
SM20	12.275***	.687**
SM21	8.019***	.574**
SM22	11.470***	.655**
SM23	12.514***	.669**
SM24	5.297***	.397**
SM25	14.896***	.711**
SM26	8.932***	.592**

Note. *** p<.05

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

3.3.2.2 Reliability analysis

Reliability analysis was also conducted in the formal study to evaluate the internal consistency of all the scales adopted. Table 9 demonstrates the Cronbach's alpha of the four measures and shows that the scales were highly reliable.

Table 9. Summary of Reliability of the Measures

Measure	Reliability (α)
Choice Motivation of Language Learning	.939
Self-regulatory Capacity in Language Learning	.904
Strategic Language Learning Involvement	.951
Strategic Language Learning Mastery	.901

3.4 Data Analysis

The collected data were analyzed mainly by means of two statistical tools, multiple regression analysis and path analysis, which were computed respectively via SPSS version 13.0 and Amos 3.0. Multiple regression analysis was conducted to evaluate the interdependency between the constructs investigated and to test each hypothesis proposed in the present study. Path analysis was computed to determine the causal path among the variables and further to verify how well the hypothesized model of motivated language learning proposed in the study fits in with the language learning process of the given population (EFL learners in Taiwan) fits in with.

CHAPTER FOUR RESULTS

This chapter reports the results of the data analysis executed via SPSS 13.0 (on multiple regression analysis) and Amos 5.0 (on path analysis). It is organized into two major sections. One is concerning the results of multiple regression analyses computed to examine the relationships between the variables under investigation and to test the proposed hypotheses respectively. The other is regarding the results of path analyses conducted to simultaneously evaluate the causal paths in the hypothesized model and to determine the extent to which the model fits the collected data.

4.1 Hypotheses Testing: Interdependency between the Motivational Variables

This section provides the results of multiple regression analyses, which were conducted to evaluate the eight proposed hypotheses concerning the interrelations between the five motivationally relevant variables: *Choice Motivation of Language Learning*, *Self-regulatory Capacity in Language Learning*, *Strategic Language Learning Involvement*, *Strategic Language Learning Mastery* and *Language Learning Achievement*.

Table 10 summarizes the descriptive statistics of the variables, including means and standard deviations (SD). Table 11 demonstrates the Pearson product-moment correlation coefficients (Cronbach's alpha) between the five measures. Because the purpose of the study was to examine the hypothesized path model postulated to underlie the data, the correlation matrix was not specifically elaborated. The interrelations indicated in Table 11, however, showed a tendency that the correlation level was on the downside from the very beginning variable of the proposed cyclic model of motivated language learning, i.e. choice motivation, to the terminal variable, i.e. language learning achievement, which suggested the mediating force of variables

working upon the path from motivation to achievement.

Table 10. Descriptive Statistics for All Variables

Variables	Mean	SD
Choice Motivation of Language Learning	113.10	18.81
Self-regulatory Capacity in Language Learning	76.63	13.02
Strategic Language Learning Involvement	113.19	24.52
Strategic Language Learning Mastery	78.16	14.96
Language Learning Achievement	60.57	13.81

Note. N=190

Table 11. Correlations between the Variables

Variables	Correlations			
	1	2	3	4
1. Choice Motivation				
2. Self-regulatory Capacity	.71**			
3. Strategic Involvement	.60**	.63**		
4. Strategic Mastery	.54**	.58**	.62**	
5. Language Achievement	.62**	.51**	.44**	.47**

Note. ** Correlation is significant at the 0.01 level.

4.1.1 Effects of Choice Motivation on Self-regulatory Capacity (Hypothesis 1)

Hypothesis 1. Choice Motivation of Language Learning positively influences Self-Regulatory Capacity in Language Learning.

To examine Hypothesis 1, a multiple regression was performed between self-regulatory capacity in language learning (SRCLL) as the dependent variable and choice motivation of language learning (CM) as the independent variable. The result is provided in Table 12, including unstandardized regression coefficient (B), standardized regression coefficient (β), multiple correlation coefficient (R), multiple determination coefficient (R^2) and F value (F). It showed that CM, accounting for 51.2% of the variance, significantly contributed to the prediction of SRCLL (F =

197.035, $p < .001$, $R^2 = .512$). Accordingly, Hypothesis 1, which postulated a positive effect of CM on SRCLL, was empirically supported. It seems that the learners with higher level of choice motivation tended to possess better capability in controlling their learning process.

Table 12. Multiple Regression of Choice Motivation on Self-regulatory Capacity

Independent Variable	Self-regulatory Capacity				
	Coefficients		Equation		
	B	β	R	R^2	F
Choice Motivation of Language Learning	.495	.715**	.715	.512	197.035**

Note. * $p < .01$. ** $p < .001$.

4.1.2 Effects of Choice Motivation and Self-regulatory Capacity on Strategic Involvement (Hypothesis 2 & Hypothesis 3)

Hypothesis 2. Choice Motivation of Language Learning positively influences Strategic Language Learning Involvement.

Hypothesis 3. Self-Regulatory Capacity in Language Learning positively influences Strategic Language Learning Involvement.

To evaluate Hypothesis 2 and Hypothesis 3, which address the variables contributing to the level of strategic language learning involvement (SLLI), a multiple regression was computed between strategic involvement as the dependent variable and choice motivation and self-regulatory capacity as independent variables. The result is displayed in Table 13.

Table 13. Multiple Regressions of Variables Predicting Strategic Involvement

Strategic Language Learning Involvement					
Independent Variable	Coefficients		Equation		
	B	β	R	R^2	F
Choice Motivation	.396	.303**	.668	.447	75.430**
Self-regulatory Capacity	.785	.417**			

Note. * $p < .01$. ** $p < .001$.

As Table 13 indicated, CM and SRCLL were both significant predictors of SLLI ($\beta = .303$ and $\beta = .417$, respectively), and explained 44.7% of the variance ($R^2 = .447$, $p < .001$). This finding signaled the positive influences of CM and SRCLL on SLLI and thus supported Hypothesis 2 and Hypothesis 3. In the multiple regression analysis, CM and SRCLL were entered simultaneously to identify their predictive power working upon SLLI. A further comparison between these two independent variables showed that SRCLL ($\beta = .417$, $p < .001$) was a slightly stronger predictor than CM ($\beta = .303$, $p < .001$) of SLLI. It suggested that self-regulatory capacity, compared with choice motivation, was more likely to transform into strategic involvement, i.e. a frequent and extensive use of language learning strategies.

4.1.3 Effects of Self-regulatory Capacity and Strategic Involvement on Strategic Mastery (Hypothesis 4 & Hypothesis 5)

Hypothesis 4. Self-Regulatory Capacity in Language Learning positively influences Strategic Language Learning Mastery.

Hypothesis 5. Strategic Language Learning Involvement positively influences Strategic Language Learning Mastery.

A multiple regression analysis, for an assessment of Hypothesis 4 and Hypothesis 5, was executed between strategic mastery as the dependent variable and self-regulatory capacity and strategic involvement as independent variables. The

result, presented in Table 14, demonstrated that when entered simultaneously as predictors, SRC and SLLI together explained 44.1% of the variance in SLLM and both of them significantly predicted learners' perception of their SLLM level ($F = 73.904$, $p < .001$, $R^2 = .441$). Therefore, Hypothesis 4 and Hypothesis 5, based on the regressions, were soundly supported.

Table 14. Multiple Regressions of Variables Predicting Strategic Mastery

Strategic Language Learning Mastery					
Independent Variable	Coefficients		Equation		
	B	β	R	R^2	F
Self-regulatory Capacity	.367	.319**	.664	.441	73.904**
Strategic Involvement	.253	.414**			

Note. * $p < .01$. ** $p < .001$.

Table 14 also indicated that although both SRCLL and SLLI were significant predictors of SLLM, SLLI ($\beta = .414$, $p < .001$) made a somewhat greater contribution to the prediction of SLLM than SRCLL ($\beta = .319$, $p < .001$). That is, SLLI (how frequently language learning strategies were used), in contrast with SRCLL (how much volitional control was executed), had a more direct impact on SLLM (how well language learning strategies were used).

4.1.4 Effects of Strategic Involvement and Strategic Mastery on Language Achievement (Hypothesis 6 & Hypothesis 7)

Hypothesis 6. Strategic Language Learning Involvement positively influences

Language Learning Achievement.

Hypothesis 7. Strategic Language Learning Mastery positively influences Language

Learning Achievement.

To test Hypothesis 6 and Hypothesis 7, a multiple regression analysis was

implemented between language achievement as the dependent variable and strategic involvement and strategic mastery as independent variables. The regressions are presented in Table 15. It was indicated that SLLI and SLLM, functioning as significant positive predictors, together accounted for 25.5 % of the variance in LLA ($F = 31.954$, $p < .001$, $R^2 = .255$), which confirmed Hypothesis 6 and Hypothesis 7. As for their predictive power simultaneously computed, SLLM ($\beta = .314$), in contrast to SLLI ($\beta = .246$), was a stronger contributor to LLA. That is, language learning achievement depended more on how well strategic learning was performed than how frequently language learning strategies were employed.

Table 15. Multiple Regressions of Variables Predicting Language Achievement

Independent Variable	Language Achievement				
	Coefficients		Equation		
	B	β	R	R^2	F
Strategic Involvement	.139	.246*	.505	.255	31.954**
Strategic Mastery	.290	.314**			

Note. * $p < .01$. ** $p < .001$.

4.1.5 Effects of Language Achievement on Choice Motivation (Hypothesis 8)

Hypothesis 8. Language Learning Achievement influences Choice Motivation of Language Learning.

In order to explore the effects of language achievement on choice motivation posited in Hypothesis 8, a multiple regression was computed between choice motivation as the dependent variable and language achievement as the independent variable. Table 16 summarizes the result and indicated that LLA, accounting for 38.7% of the variance in CM, significantly contributed to the prediction of the learners' levels of choice motivation ($F = 118.883$, $p < .001$, $R^2 = .387$). It appears that language learning achievement, not only as an effect of motivation, was but also a

cause which led to motivational strength.

Table 16. Multiple Regression of Language Achievement on Choice Motivation

Independent Variable	Coefficients		Equation		
	B	β	R	R^2	F
Language Achievement	.847	.622**	.622	.387	118.883**

Note. * $p < .01$. ** $p < .001$.

4.2 Model Evaluation: Causal Paths among the Motivational Variables

Although soundly confirming all of the eight proposed hypotheses, the multiple regression analyses only examined the *discrete* relationships *between* the five variables, not the overall *dimensional* associations *among* them. Therefore, in order to simultaneously explore the interrelations among choice motivation, self-regulatory capacity, strategic involvement, strategic mastery, and language achievement, the hypothesized model of E-V motivated language learning, which has been presented in Figure 1, was evaluated by a path analysis via Amos 5.0.

“Path analysis is an extension of multiple regression that allows us to examine more complicated relations among the variables than having several IVs predict one DV and to compare different models against one another to see which one best fits the data” (Streiner, 2005, p. 116). Both multiple regression and path analysis explore the influences that predicting factors have on a criterion variable. Path analysis, however, can be utilized to analyze a given model in which the variables operate in sequence. It can simultaneously assess the hypothesized causal links among the latent variables and most importantly, can determine whether the data is consistent with the proposed model. Essentially, this statistical technique allows researchers to examine the extent to which a proposed mediational model fits in with the empirical data.

4.2.1 Evaluation of the Hypothesized Model

Table 17 summarizes the model fit indices of the hypothesized model, including chi-square(x^2), the degree of freedom (df), chi-square/df ratio (x^2/df), the goodness of fit index (GFI), the adjusted goodness of fit index (AGFI), the normed fit index (NFI), the relative fit index (RFI), the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and AIC (Akaike information criterion).

Table 17. Model Fit Indices for the Hypothesized Model

Model Fit Indices											
	x^2	df	P	x^2/df	GFI	AGFI	NFI	RFI	CFI	RMSEA	AIC
Acceptable Fit				<3	>.9	>.9	>.9	>.9	>.9	.05<x<.08	
The Hypothesized Model	.62	2	.73	.31	.999	.990	.999	.993	1.0	0	26.62

The result of path analysis indicated that five out of the seven provided model fit indices reached acceptable levels and thereby supported the fitness of the hypothesized model (GFI = .999, AGFI = .990, NEI = .999, RFI = .993, CFI = 1.0). Overall, the hypothesized model had a good fit with the empirical data and thus had a satisfactory power to account for the motivated language learning process of the investigated population.

However, an examination of the causal strengths of the links signaled that some modification was required for the model improvement because not all of the causal paths were statistically meaningful. Figure 2 presents the path coefficients of each proposed link, demonstrating the strength of the causal relationships among the five variables. It shows that most links were strong enough to reach significant levels except for the path between strategic involvement and language achievement ($\beta = .02$,

$p > .05$). In other words, when simultaneously investigated within the hypothesized model, the causal path between strategic involvement and language achievement, though displaying a positive association, could not be established. It appears that in the E-V motivated language learning model, frequent use of language learning strategies did not significantly contribute to the learners' actual L2 proficiency.

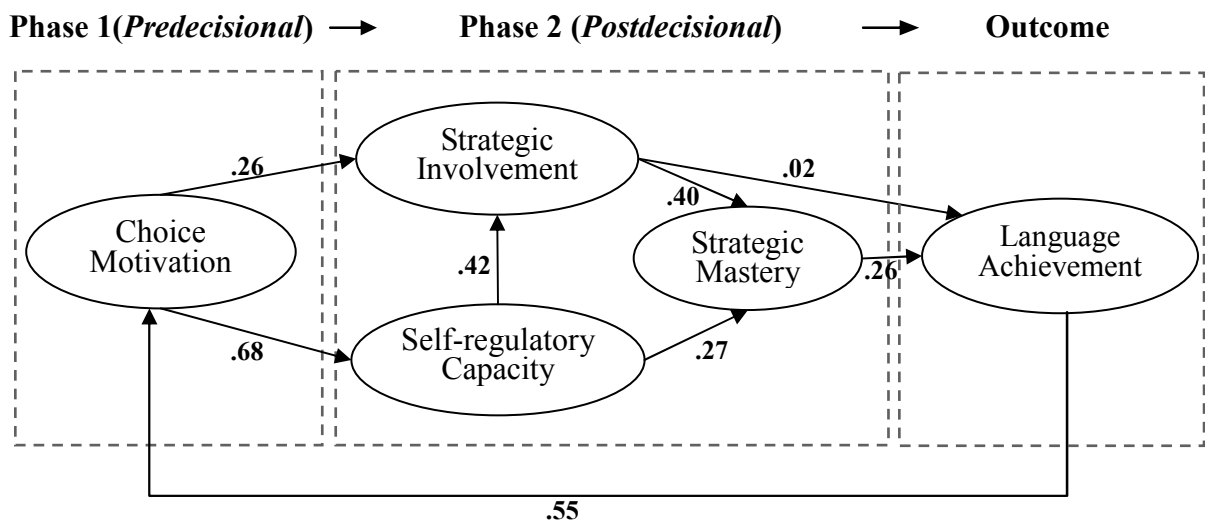


Figure 2. Results of Path Analysis on the Hypothesized Model

Note. Path coefficients represent standardized estimates (β).

4.2.2 Construction of the Revised Model

In order to construct a more parsimonious model, the insignificant link between strategic involvement and language achievement was eliminated and another path analysis was conducted. Figure 3 illustrates the results for the revised model with no statistically unimportant path.

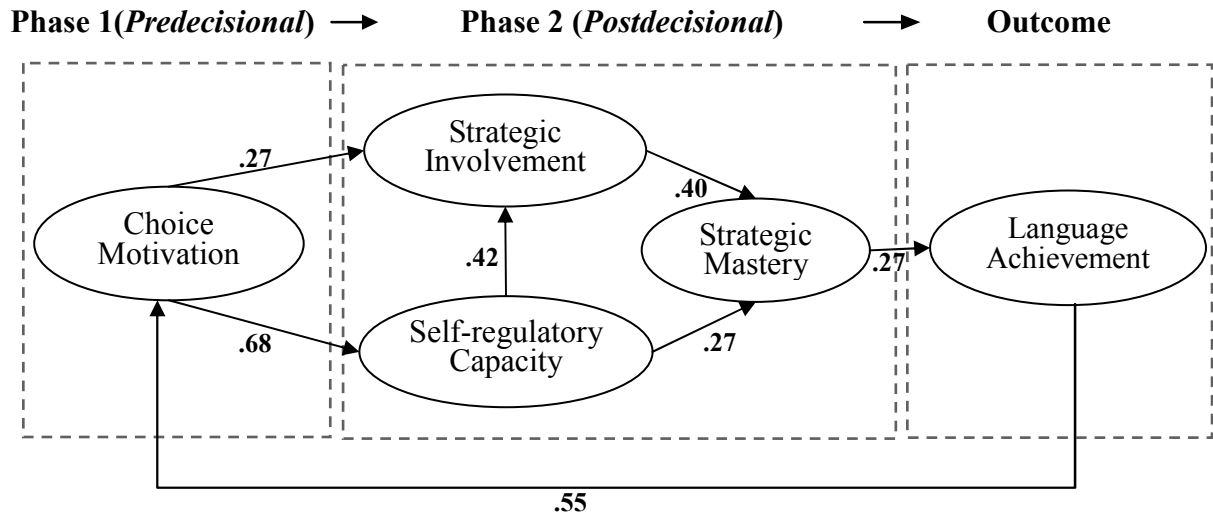


Figure 3. Results of Path Analysis on the Revised Model

As demonstrated in Figure 3, by removing the inconsequential path, the revised model became more powerful due to the fact that it not only maintained the originally meaningful paths but also two of the causal links were slightly strengthened. The path coefficient from choice motivation of language learning to strategic language learning involvement has moderately increased from .26 to .27. The link between strategic language learning mastery and language learning achievement also advanced from .26 to .27.

Table 18 provides a detailed comparison between the hypothesized model and the revised model in terms of their model fit indices. It reveals that the revised model, based on the comparison of the χ^2/df values and the fit indices such as AGFI, RFI and AIC, appeared to slightly outperform the hypothesized model. Specifically, the revised model had a lower value of χ^2/df ($\chi^2 = .65$, $df = 3$, $p < .01$), which suggested that the revised model had a greater degree of parsimony and precision than the hypothesized model. In addition, although these two models had identical values of GFI, NFI and CFI, the revised model had higher value of AGFI and RFI (AGFI = .993, RFI = .995), suggesting a greater suitability of the revised model to reflect the

empirical data. All of the above information indicated that the revised model had a slightly stronger fitting power over the hypothesized model.

Table 18. Comparison of Model Fit Indices for the Two Models

Model Fit Indices											
	χ^2	df	P	χ^2/df	GFI	AGFI	NFI	RFI	CFI	RMSEA	AIC
Acceptable Fit				<3	>.9	>.9	>.9	>.9	>.9	.05<x<.08	
The Hypothesized Model	.62	2	.73	.31	.999	.990	.999	.993	1.0	0	26.62
The Revised Model	.65	3	.89	.22	.999	.993	.999	.995	1.0	0	24.65

As a whole, the results suggested that the path between SLLI and LLA did not make a meaningful contribution to the E-V motivated language process and eliminating this path facilitated the construction of a more precise model. Since the revised model produced a better fit to the data and had a greater degree of parsimony than the hypothesized model, it was taken as an appropriate model best explaining the empirical data and having a more impressive capacity to reflect the process of E-V motivated language learning in the given contexts.

4.3 Summary of Chapter Four

This chapter has provided the major results of multiple regression analyses and path analyses, which were respectively aimed to evaluate the proposed hypotheses and to test the hypothesized model. All of the eight hypotheses proposed in chapter two were empirically supported based on the results of multiple regression analysis. Besides, by a path analysis, the hypothesized model was confirmed to serve as a

statistically acceptable model appropriately reflecting learners' process of expectancy-value motivated language learning.

However, because the hypothesized model included one insignificant path detected by the first path analysis, for a more parsimonious model, a revised model was thus established by weeping out the insignificant path. The second path analysis has shown that the revised model, compared with the hypothesized model, can more precisely explain the empirical data and possesses higher capabilities of capturing the process of E-V motivated language learning. Accordingly, the revised model was accepted as the final outcome model of the present study.

CHAPTER FIVE DISCUSSION

This chapter aims to answer the research questions raised in chapter one and to provide a thorough discussion on the findings derived from the data analysis. An overview of the study is presented first, followed by discussions on the expectancy-value (E-V) motivational model as a whole and the roles which the motivational related constituents of the model respectively play in the language learning process.

5.1 Overview of the Study

The present study attempts to integrate some of the most crucial aspects of second language acquisition into an E-V motivated language learning model. It is the first one to not only empirically examine EFL motivation from an expectancy-value perspective but also systematically explore its causal links with several significant motivationally related variables, in particular the motivated behaviors displayed during the post-decisional phase, such as self-regulation and L2 strategy use. The study also makes an endeavor to link the path from L2 motivation, the original inner drive for language learning, to L2 achievement, the ultimate outcome of second language acquisition, by introducing the mediating force of self-regulatory capacity and specifying the distinct contributions of quantity-based strategic involvement and quality-directed strategic mastery.

By means of the multiple regression analysis, the eight hypothesized relationships between choice motivation, self-regulation, strategy use and achievement were all confirmed. Moreover, the hypothesized model of E-V motivated language learning, based on the results of two sets of path analyses, was modified into a revised model with the support of the enhanced strength of the model fit indices. As

a whole, the revised model does reflect the empirical data to a remarkable degree and therefore, it is reasonable to argue that this model is able to appropriately account for the language learning process of EFL learners in Taiwan.

Although the revised model may not be regarded exhaustive, drawing on E-V motivational theories from a socio-cognitive perspective, it indeed takes the process-oriented dimension of L2 motivation into consideration. Specifically, the outcome model operationalizes motivation as a process consisting of two distinct phases where some significant motivational variables come into interplay, i.e., the pre-decisional and the post-decisional phases.

Another value of the model is its inclusion of self-regulation, which highlights the importance of learners' conscious volitional management of their learning process and their strategic protection of choice motivation. According to the model verified by the empirical data, several interpretations and discussions are provided in the following sections and each section addresses one research question.

5.2 Motivation as a cyclic process

Research Question 4: To what extent can a motivated language learning model incorporating choice motivation, self-regulatory capacity, strategic involvement, strategic mastery, and language learning achievement, be established?

In order to provide a general picture of the motivated language learning process, research question 4 is addressed first. To a notable degree, the model of E-V motivated language learning, which incorporates choice motivation, self-regulatory capacity, strategic involvement, strategic mastery, and language achievement, was successfully constructed on the basis of the statistically remarkable model fits indices ($\chi^2/df = .22$, GFI = .999, AGFI = .993, NFI = .999, RFI = .995, CFI = 1.0).

In essence, this outcome model characterizes motivation as a process involving a sequence of two different phases, including the pre-decisional stage where *choice motivation* exercises to reach a resultant intention and serves as an internal force triggering the L2 learning process, and the post-decisional stage where *executive motivation* performs to fulfill the decided learning plan and to transform an intention into actual motivated behaviors (Heckhausen & Kuhl, 1985; Kuhl & Beckmann, 1994; Dörnyei, 2001b). The established model suggests that English learning at the senior high school level in Taiwan is a motivated process where motivation functions as an indispensable component steering the entire L2 learning system.

In addition to the process-oriented dimension of motivation, the revised model also signals the reciprocal, cyclic nature of the motivation-achievement relationship. The link between choice motivation and L2 achievement is bidirectional and their interaction is mutual and reciprocal, which is exactly in accordance with the findings of previous empirical studies (Berwick & Ross, 1989; Gardner & Tremblay, 1997; Strong, 1984; Ushioda, 1996; Tian, 2005; Tseng & Schmitt, 2008). To put it specifically, the level of choice motivation L2 learners possess when they enter language learning contexts such as English classrooms has a predictive power over their actual learning outcomes. Recursively, the perceived success in language learning also has a substantial potential to cultivate learners' L2 motivation. As the model shows, more than a quarter of the variance of the choice motivation ($\beta^2 = .302$, i.e., .55 x .55) is explained by language learning achievement.

To sum up, the path from choice motivation to L2 achievement is like an interactive cycle in which motivation functions not only as a cause but simultaneously as an effect. Thus, since choice motivation is an inherent driving force guiding the L2 learning process as demonstrated in the revised model, if the model is considered a dynamic organism, in order to keep the system “energetic”, enhancing learners' choice

motivation is one way and promoting learners' perceived L2 success is another.

This cyclic nature of the motivation-achievement process found in the model generates one crucial pedagogical implication. That is, language teachers should provide L2 learners with more opportunities to attain a sense of achievement in language learning. It is argued that reasonably challenging tasks accompanied with immediate feedback are most likely to produce positive learning contexts where L2 learners can sense their gradual progress and perceive reachable L2 success (Weiner, 1992; Williams & Burden, 1999). With enhanced perception of language attainment, learners may become more motivated and the motivated learning process is accordingly activated and energized.

5.3 Predecisional Phase: The Role of Expectancy-Value Choice Motivation

Research Question 1: To what extent can motivation as expectancy-value predict the demonstration of self-regulatory capacity?

Research question 1 explores the role which choice motivation, the significant variable at the pre-decisional stage, plays in the motivated language learning model, particularly its impact on the exertion of self-regulatory capacity. In the current study, L2 choice motivation is approached by two cognitive constructs, *expectancy of success* and *value*. As the revised model indicates, choice motivation has a strong direct effect on self-regulatory capacity ($\beta = .68$), which is consistent with the findings of Garcia et al.'s (1998) and Tseng and Schmitt's (2008) study.

It suggests that learners' initial motivational intensity and dispositions help develop the capacity of protecting their choice motivation and thereby become volitionally self-regulated. The choice motivation measured by expectancy and value beliefs as the major motivational antecedents do influence the level of learners' self regulation. It appears that more motivated learners possess greater competence in

exerting self-regulatory control. They tend to maintain their original motivation by utilizing volitional control strategies.

Besides being a predictor of self-regulatory control, in terms of its role in the model, choice motivation also serves as a contributor to learners' frequent employment of learning strategies ($\beta = .27$), which echoes with the assumption that the beliefs about how well learners will do on the task (expectancy) and the extent to which they appreciate the task (value) will together explain their persistence, efforts, and cognitive engagement (Wigfield, 1994; Wigfield & Eccles, 1992, 2000). Garcia et al's study (1998) also indicated a similar direct link between choice motivation and learning strategy use ($\beta = .21$). In other words, the cognitive dimension of L2 motivation, i.e. expectancy-value, and its presumed association with motivated behaviors are supported in the present study.

However, incompatibly, Tseng and Schmitt's recent study (2008) found no significant pathway between choice motivation and strategy use ($\beta = -.01$). This incongruity may be attributed to the differences in the conceptualization of L2 choice motivation. Tseng and Schmitt operationalized initial motivational state as a composite of anxiety, efficacy, and attitude, which targeted an integration of different lines of motivational theories, while the present model analyzes choice motivation purely based on a socio-cognitive expectancy-value framework. It is likely that this difference in conceptual interpretations of choice motivation may have engendered somewhat dissimilar results.

Moreover, in contrast to vocabulary learning, which Tseng and Schmitt mainly explored, language learning, the present study's target, entails a much broader scope of acquisition of domain-specific knowledge, including grammar, reading, listening, speaking, and writing. It is therefore highly likely that choice motivation can have a direct impact on the overall language learning behaviors involving a variety of

language components and contextual factors.

Based on E-V theories, the study demonstrates the significant role of choice motivation in dominantly enhancing learners' self-regulation ($\beta = .68$) and moderately predicting learners' reported use of L2 learning strategies ($\beta = .27$). Given this importance of E-V motivation, in order to help learners become more motivated, it is potentially beneficial to develop learners' positive sense of such motivational antecedents as expectancy and value beliefs. When learners consider the learning task hopeful (high expectancy of success) and worthy (great value), they are much more likely to persist in their learning intentions and thereby invest actual efforts to attain higher learning achievement. Likewise, when L2 learners think that their learning outcomes will lead to certain meaningful results or valued instrumentality, they may be more motivated to use effective and high-level learning strategies to achieve learning goals (Wen, 1997).

The expectancy-value framework investigated here, accordingly, can be used as a pedagogical guideline for language teachers to develop learners' sense of motivation-promoting beliefs such as self-efficacy, control of learning beliefs, attainment value, intrinsic value, utility value, etc. For instance, teachers can capitalize on some techniques and activities to help learners form a positive but realistic evaluation of L2 self-competence and to guide them to explore L2 learning values, either intrinsic or extrinsic, such as importance, interest, and usefulness of language learning.

5.4 Postdecisional Phase: The Role of Self-Regulation

Research Question 2: To what extent can self-regulatory capacity influence learners' strategic language learning mastery?

This section attempts to answer research question 2 and further to discuss the

role which self-regulation plays in the E-V motivated L2 learning process. In essence, the present study theorizes learners' self-regulation from a volitional perspective and specifies it as an underlying capability to protect, scaffold, and enhance motivational tendencies (Dörnyei, 2005). In other words, it is a proactive mental mechanism to maintain and even strengthen choice motivation.

The revised model verified here suggests two functions of self-regulatory capacity. First, it amplifies the effects of choice motivation on the motivated behaviors. The indirect impact of a learner's initial motivational state on strategic involvement was moderately intensified through self-regulatory control as the mediator (indirect effect = .29, i.e., $.68 \times .42 > \text{direct effect} = .27$).

The other function of learners' volitional control is to support the demonstration of strategic behaviors, both the quantity dimension (strategic involvement, $\beta = .42$) and the quality aspect (strategic mastery, $\beta = .27$) of strategy use. Volitional control examined in the study proves to be a strong predictor of L2 learning strategy use. Overall, learners' self-regulatory capacity serves as a mediator connecting intention (choice motivation) and goal-directed actions (strategic involvement and strategic mastery), which supports the fundamental claim of the action control theory (Corno, 1993; Kuhl, 1985).

This mediating force of volitional control in such extended learning processes as academic learning and language learning has also been indicated in previous empirical studies such as those conducted by Garcia et al. (1998), Pintrich and De Groot (1990), and Tseng and Schmitt (2008). Learners' self-regulatory capacity was consistently found to help augment the impacts of initial learning intention on actual goal-directed activities by means of the regulation of motivation. This finding suggests that strategic behaviors involve two crucial dimensions. One is learners' determination rooted in an assessment of expectancy and value towards given learning

tasks, while the other is an available repertoire of volitional control strategies which is employed to protect the formed intention. In a word, L2 learners need to have both the “will” and “skill” to be successful in classrooms (Tseng & Schmitt, 2008).

Cognitive strategy use without the concomitant use of self-regulatory strategies, as Prinrich and De Groot reported (1990), is not conducive to academic performance, which suggests a cumulative effect of both self-regulatory control and learning strategy use on the achievement. Self-regulated activity via volitional control seems to help learners involve themselves in academic tasks, actively use learning strategies and persist when encountering learning obstacles (Reed, Schallert, & Deithloff, 2002).

Although consistent with the previous research in regard to the mediating force of self-regulation, the present study suggests a more powerful influence of volitional control on strategy use than that found by Tseng and Schmitt (2008). In their study, Tseng and Schmitt reported that the impact of self-regulation on L2 learning strategy use was confined within the quantity dimension of strategy use, i.e. frequency of strategy use. The exertion of self-regulatory capacity, having no direct, significant contribution to determining how well the learning strategies were utilized ($\beta = .17$), only predicted how frequent and how extensive learners’ strategy use was ($\beta = .49$).

In the current study, however, the predictive force of self-regulatory capacity toward motivated behaviors encompasses a fuller scope of learning strategy use, not only the quantity ($\beta = .42$) but also the quality dimension ($\beta = .27$). That is, in addition to the frequency of strategy use (strategic language learning involvement), learners’ action control over the language learning process substantially leads to the mastery of L2 learning tactics (strategic language learning mastery). Furthermore, the direct impact of self-regulatory capacity on strategic mastery is greater than the indirect effect via strategic involvement as a mediator (direct effect = $.27 >$ indirect effect = $.17$, i.e., $.42 \times .40$)

This discrepancy concerning the influence scope of self-regulatory capacity on strategy use induces an urgent need to reconsider the respective contributions of different levels of strategic behaviors, which is thoroughly discussed in 5.5. On the basis of the above analysis, it can be summarized that learners' self-regulation through volitional control does protect choice motivation and simultaneously stimulate goal-directed behaviors.

5.4.1 Enhancement of Self-regulatory Capacity

Self-regulatory control or volitional control, as measured here, is a set of self-regulatory strategies activated toward protecting the intention to learn by maintaining the learning efforts and removing the distractions hindering language learning. From a self-regulatory point of view, Dornyei and Skehan has concluded that (2003, p. 612), "learners can enhance the effectiveness of their learning not only by means of applying creative cognitive operations that suit their particular learning styles, but also by generating motivation to learn and finding ways of *maintaining* their commitment when persistence appears to be flagging." Accordingly, how L2 learners enhance their learning and consequently achieve higher proficiency involves not only their cognitive strategy use employed to deal with the learning task itself but also a self-regulatory mechanism performed to maintain L2 motivation.

Even if students have a repertoire of strategies to help them direct their learning activities, they may not have a repertoire of strategies to help them manage their motivation (McCann & Turner, 2004). Thus, additional intervention programs on cultivating learners' self-regulatory capacity seem to be pedagogically required.

Self-regulatory capacity is important also due to the fact that language learning is an effortful process taking an extensive period of time to accomplish. Academic L2 learning tasks which EFL learners in Taiwan are frequently required to undertake are

fraught with obstacles that are likely to interfere with students' maintenance of an adaptive level of motivation (Wolters, 2003). In general, a major stumbling block to task engagement and completion is learners' lack of ability to support their motivation when confronted with obstacles (McCann & Turner, 2004). Although some students slid effortlessly into involvement, as suggested in the study by Reed, Schallert, and Deithloff (2000), more students need to exercise strong volitional control. In a word, learners often need a collection of volitional strategies to strengthen their resolve to stay task-focused when obstacles to their motivation for learning occur.

Since the crucial impact of learners' self-regulation suggested in educational theories has been supported in the current study, the next issue, therefore, is how this capacity can be enhanced or more pedagogically meaningful to ask, what can language teachers do to facilitate this enhancement? Before the exploration of this issue, the question regarding whether self-regulation is teachable should be addressed first. According to scholars such as Randi and Corno (2000), Tseng (2006) and Winne (1996), self-regulatory capacity is believed to be a developable aptitude and can be strengthened with experience and instruction. This thinking promotes the possibility of teaching and learning how to protect choice motivation by deploying volitional control. To ground on the notion, the set of action control strategies operationalized in the study may thus serve as a target which can be incorporated into periods of designed classes for improving students' skills in the regulation of motivation and for helping learners become volitionally self-regulated.

The scheme of self-regulatory capacity adopted here includes five categories of action control strategies, namely, *commitment control*, *metacognitive control*, *satiating control*, *emotion control*, and *environment control*. Such volitional strategy inventory, as McCann and Turner (2004) recommended, can be practically used in four aspects. First, it can be used to diagnose learners' strengths and weaknesses in self-regulation.

Second, it can be a target of instruction and modeling in regular classes. Third, it is potentially useful to promote reflection by language learners. Last but not least, it can provide learners with peer group interaction to recognize and further support their self-regulatory behaviors. Whatever learners' level is, as McDonough argued (2001), they all possess cognitive control over their learning efforts, can talk about their mental processes and may benefit from this reflective thinking.

However, even though learners are exposed to a long-term instruction aimed at these strategies, it may not guarantee that they can demonstrate their self-regulatory capacity effectively. One of the keys lies in the knowledge and awareness of when their motivational level is lowered and when they are required to promptly apply some strategies to regulate their motivation, as Wolters proposed (2003):

Students' regulation of motivation is likely to be dependent on their metalevel knowledge regarding motivation. This knowledge might include information regarding their current level of motivation, the processes that impact the motivation, and the factors that affect motivation more generally. (p. 193)

Therefore, the development of "metalevel knowledge" concerning motivation may also be a significant component when it comes to the enhancement of L2 learners' self-regulatory capacity.

5.5 Postdecisional Phase: The Role of Language Learning Strategy Use

Research Question 3: To what extent can strategic language learning mastery predict language learning achievement?

This section aims to answer research question 3 and further to discuss the role of L2 learning strategy use in the E-V motivated model, in particular its impact on language achievement. In the present study, similar to Tseng and Schmitt's (2008),

strategic language learning involvement and strategic language learning mastery respectively represent the quantity and quality aspects of goal-directed, motivated language learning behaviors, i.e. strategy use. The revised model shows that with both choice motivation and self-regulation as two prerequisites, learners' strategic involvement directly influences their strategic mastery of learning tactics ($\beta = .40$) and this mastery thereby contributes to language achievement ($\beta = .27$).

Moreover, the direct link between strategic involvement and L2 achievement postulated in the hypothesized model, as shown in the path analysis, failed to be established ($\beta = .02$) and only through strategic mastery can this link be tunneled. In sum, the quality dimension of strategy use, i.e. strategic mastery, significantly leads to language achievement, while the quantity aspect of strategy use, i.e. strategic involvement, has to go through the stage of strategic mastery to reach L2 success.

This finding, according with Tseng and Schmitt's (2008) work, reveals that it is the extent to which L2 learners can effectively deploy available strategies, not the frequency and the width of their strategy use, that directly determines L2 learning success. It seems to reject the belief that "the more, the better", which has been prevailingly held in the SLA literature on strategy use (Oxford & Crookall, 1989) and instead, to support the idea that other factors besides "how often" variable of strategy use, such as "how well" variable, should be taken into account when it comes to L2 strategic competence and to its link with L2 achievement (Tseng & Schmitt, 2008).

5.5.1 Strategy Use as Two Stages Channeled by Metacognition

As mentioned in previous chapters, the items of strategic language learning involvement, similar to those of SILL (Oxford, 1990), represent the cognitive efforts learners consciously make to improve English learning, e.g. *I try to spend time finding new and better methods of English learning, I try to improve the methods of English*

learning I've used, and I make use of break time to study English etc.. Ranging from “Never” to “Always”, this measure, like SILL, targets how often these motivated strategic behaviors occur, which is thus psychometrically quantity-based.

In contrast, the items of strategic language learning mastery specify L2 learning tactics and assess the perceived mastery of L2 strategies which learners adopt to advance English learning, e.g. *I memorize English words by imagining the contexts where the words may be used, I activate English conversation with others, and I keep notes, diaries or write letters in English.* Different from strategic involvement, strategic mastery, ranging from “Never Used” to “Yes, with Lots of Mastery,” taps into how well these strategies are implemented, which is essentially quality-oriented.

The model of the current study shows that usage frequency of various strategies is not a reliable indicator of L2 achievement. Furthermore, even with high strategic involvement sustained by action control, learners may still fail to develop the ability to flexibly employ learning strategies suitable for given learning tasks. That is, learners who are highly involved in L2 learning by frequently using a wide range of strategies may still lack the capability to transform this motivated behavior into efficient and effective contribution to language achievement. This finding seems to reflect Ellis' insightful view proposed a decade ago (1994):

The general assumption that effective strategy use involves frequent strategy use is questionable. It is likely that it is not so much how often learners use strategies as when and with what purpose they use them (Ellis, 1994, p.559).

The beneficial effect of strategies may be relative to the kinds of tasks they are deployed. Effective strategy use may consist of the flexible deployment of the right strategies in the right task, but little is currently known about it (Ellis, 1994, p. 558).

Ellis' comments signal the inappropriateness of using frequency of strategy use

as the only measure tapping into L2 strategic competence and argue that L2 strategic competence involves a skillful manipulation of learning strategies, which is sensitive to contextual variables such as task types and task requirements. A similar argument for the effectiveness of strategy use as a crucial indicator of L2 strategic competence has also been proposed by Chamot (2005), and Chamot and Rubin (1994), who indicated:

The good language learner cannot be described in terms of a single set of strategies but rather through the ability to understand and develop a personal set of effective strategies (Chamot & Rubin, 1994, p.372).

Good language learners are skilled at matching strategies to the task they were working on, whereas less successful language learners apparently do not have the metacognitive knowledge about task requirements needed to select appropriate strategies (Chamot, 2005, p. 116).

In a very recent study, Mori (2007) also observed that frequency of strategy use seemed not to be a significant factor discriminating L2 high achievers from L2 low achievers because it did not vary among the different levels of learners based on the SILL's mean scores. Exploring the links of the frequency and the choice of strategy use with proficiency levels, Mori found that the frequency of overall strategy use did not reflect the learners' proficiency levels, but the choice of the strategy use significantly varied in different levels of learners. It was further suggested that as the learners became more proficient, they tended to choose more strategies reflective of their autonomous and active learning.

Vann and Abraham (1990) also reported that unsuccessful learners were active strategy users but applied strategies inappropriately and in an unorchestrated fashion. They suggested that the difference lay in not only the degree of flexibility the learners showed when choosing strategies, but also how appropriately these strategies were

applied to the given situations. Ehrman, Leaver, and Oxford (2003) held the same argument that ““less able learners often use strategies in a random, unconnected, and uncontrolled manner” (p.315). Based on a similar observation on learners’ strategy use, Nisbet, Tindall, and Arroyo (2005) concluded that a skillful application of strategies might have more to do with proficiency than reported frequency counts.

According to the above discussions and the results of the present study, it is argued that strategic involvement is not sufficient and learners should progress from the stage of “using strategies” to “using strategies well”. Specifically, to achieve L2 success, learners are required to not only actively deploy L2 strategies but to also skillfully apply an arsenal of personalized learning strategies to given contexts to a satisfactory degree.

With this understanding, it may be urgently needed to ask: what mechanism is in charge of the progressing process from the quantity stage to the quality one and what mechanism is likely to transform a “wild” user of cognitive language learning strategies into a “wise” one? The answer may lie in learners’ *metacognition* about their strategy use. It is argued that metacognition plays an important part in this transition and functions as one of the abilities leading to learner expertise (Chamot & O’Malley, 1994; Pintrich, 2002; Tseng & Schmitt, 2008; Sternberg, 1998; Verdergrift, 2003; Wolters, 2003; Yamamori, Isoda, Hiromori, & Oxford, 2003).

For example, by quantitatively and qualitatively analyzing the differences in strategy use of more skilled and less skilled L2 listeners, Verdergrift (2003) reported that more skilled listeners were able to “systematically orchestrate a cycle of cognitive and metacognitive strategies to arrive at a coherent mental representation of the text in memory.” (p. 490). Using the orchestra as a metaphor for illustrating the interaction between metacognitive and cognitive strategies, Verdergrift proposed that “the metacognitive strategies oversee the process, directing the deployment of appropriate

cognitive strategies (as the orchestra conductor directs the players in creating a harmonious performance) to interact with the input and achieve the final goal of comprehension” (p. 485). According to Verdergrift, metacognitive operations appear to function as a crucial factor differentiating more capable strategy users from less capable ones.

Metacognitive ability, in general, is described as consisting of two theoretically distinguishable components: *knowledge of cognition*, and *regulation of cognition* (Bakers, 1994; Carrell, Gajdusek, & Wise, 1998; Wolters, 2003). Knowledge of cognition refers to learners’ understanding or stored information regarding the thinking and the learning process and encompasses three categories of knowledge: *declarative*, *procedural*, and *conditional* knowledge. Declarative knowledge is propositional knowledge, defined as “knowing *what*” to do with the given task. For example, learners may know what a specific strategy is, such as what summarization is and what summaries are. Procedural knowledge refers to “knowing *how*” to perform various strategies, such as knowing the specific way to write summaries. Conditional knowledge means “knowing *when* and *why*” to employ different forms of declarative and procedural knowledge. It includes learners’ construction of the rationale for using a certain strategy (knowing why) and the understanding of the contexts where it can be applied effectively (knowing when). Such conditional knowledge is argued to be an essential element for appropriate use of cognitive strategies (Pressley & Harris, 2006) but many unsuccessful learners are lacking (Chamot & O’Malley, 1994; Yamamori, Isoda, Hiromori, & Oxford, 2003).

Regulation of cognition, on the other hand, is defined as efforts to control the cognitive processing in response to shifting task demands or conditions. It includes management of cognitive processes through three skills: *planning*, *monitoring*, and *evaluation* (Anderson, 2002; Sternberg, 1998). Planning involves the selection of

strategies, monitoring concerns an ongoing supervision of the strategy use, while evaluation is related to examining motivated behaviors for adjustments of the original strategy use. It is argued that if strategy use can not reach a satisfactorily effective level, that is due to the lack of metacognitive regulation necessary to choose and orchestrate strategy use to best effect (Yamamori, Isoda, Hiromori, & Oxford, 2003).

Knowledge of cognition and regulation of cognition forms learners' metacognitive competence and both of them should be exercised in order to reach the stage of qualified strategy use. As Wolters (2003) indicated, "Self-regulated learners have high levels of knowledge about different cognitive learning strategies and have the ability to select, monitor, and regulate their use of those strategies when engaged in academic tasks" (p. 189). Learners are supposed to acquire a repertoire of language learning strategies by increasing declarative and procedural knowledge, and most importantly, to develop this acquired repertoire into a personalized one which can be readily and flexibly applied to appropriate contexts by means of working upon conditional knowledge (Pintrich, 2002). The importance of conditional knowledge was particularly emphasized by Winne (2001) by remarking that, "the more discriminating one's conditional knowledge, the greater the capacity to regulate one's approaches" (p. 162).

From this metacognitive perspective, expertise of strategy use involves a variety of aspects and frequent use (knowing what and how) is only one of them. As shown in the revised model, the quality dimension of strategy use plays an even more crucial part than strategic involvement, which exactly echoes with Sternberg's argument that "it is metacognition about strategies, rather than the strategies themselves, that appears to be essential" (p. 128).

Due to the essential role which metacognition plays in facilitating the progress from the quantity stage to the quality stage of strategy use, the next intriguing issue

would be what can be actually done to help L2 learners develop this metacognitive competence. As Schraw (1998) argues, metacognitive knowledge is multidimensional and teachable. Thus, learners' strategy use can be scaffolded and strengthened by some intervention programs designed with a focus on metacognition (Macaro, 2006). Printrich (2002) suggested that even though some students acquire metacognitive competence through experience and with age, many more students fail to do so. Therefore, the purposeful instruction on metacognitive knowledge should be conducted in an explicit way

Despite the significance of metacognitive knowledge and the potential effect of explicit teaching, it is worth noting that an overemphasis on intentional metacognitive manipulations may hinder the development of automaticity in the mental processing of language learning. Accordingly, when designing and conducting such instruction to assist metacognitively incompetent learners, language teachers should take the above issue into consideration and avoid overwhelming learners with an enormous emphasis on the development of learners' metacognitive mechanism.

5.5.2 Discussion on the Necessity of the Both Stages

The above analyses differentiate "using strategies" (strategic language learning involvement) from "using strategies well" (strategic language learning mastery) and highlight the contribution of strategic mastery to L2 success, which essentially accords with the conclusion drawn in Tseng and Schmitt's study (2008). However, in terms of the weightiness and necessity of the quantity and quality dimensions of strategy use, dissimilar to the argument that "the stages are distinct, but both are necessary", which Tseng and Schmitt proposed, the present study suggests that a more weighed credit should go to how well strategies are used and how many strategies are used is not a necessary and indispensable stage in the motivated language learning

model.

The present model shows that in the E-V motivated language learning process, learners do not necessarily go through strategic involvement to reach the ultimate termination of this motivated process, i.e. language achievement. There is an alternate path: choice motivation → self-regulatory capacity → strategic mastery → language achievement. In other words, strategic language learning involvement is an optional stage not all L2 learners have to experience. Some learners may acquire strategic expertise by means of using strategies extensively and frequently. For these learners, expanding the repertoire of cognitive learning strategies is required because they seem to follow the principle that “practice makes perfect” (Zhang & Goh, 2006). Some learners, however, develop their metacognitive competence in strategy use not via the frequent employment of a wide range of strategies. Even with a limited arsenal of strategies available, these learners can still become effective strategy user. It suggests that although significantly leading to the mastery of L2 learning tactics, the frequency of strategy use is not a necessary condition which has to be fulfilled. Learners with sufficient self-regulatory capacity and learners with great strategic involvement, as the model indicates, are all likely to become skillful language learners.

The same phenomenon has also been observed by Yamamori, Isoda, Hiromori, and Oxford (2003). Yamamori et al., by means of statistical cluster analysis, found four distinct types of EFL Japanese seven-grade learners in terms of their will to learn, reported frequency of strategy use, and English achievement. These groups included two for high achievers (the overall-developing group and the selective-use group) and two for low achievers (the low-awareness group and the unmotivated group). It was shown that the successful learners, all possessing high learning will, significantly differed in their strategy use. Not all of them used a wide array of L2 learning strategies. For some of the high achievers, frequent use occurred for only selected

learning strategies. It suggested that low reported strategy use was not necessarily a sign of ineffective learning and a personalized set of strategies was more effective than an abundant arsenal of learning tactics.

A closer exploration of Yamamori et al.'s research uncovers that the four types of learners recognized based on the cluster analysis can be fittingly explained by the model constructed in the present study. The two groups of low-achievers in their study—one characteristic of low learning motivation and low strategy use, and the other characterized as motivated strategy users who lacked metacognitive awareness to regulate their motivated behaviors—echo with the essential motivational variables indicated in the present outcome model, since the outcome model argues for a juxtaposition of both strong choice motivation and high strategic mastery. The original motivation is the driving force guiding the language learning process and without it, the paths demonstrated in the model seem to be impossible. Besides, even if learners possess a strong will to learn and invest efforts by employing strategies, without the metacognition required for orchestrating strategies to best effect, they may still fail to reach the ultimate learning achievement. That is, high motivation by itself, or even in combination with frequent strategy use, does not guarantee success in language learning.

Overall, it is argued that language learners can reach the ultimate L2 learning goal by different paths and distinct patterns. As for strategy use, much emphasis should be placed on the quality dimension, rather than the quantity, due to the fact that frequent use of strategies, as suggested in the model, is a potentially beneficial but not absolutely crucial characteristic which successful learners have to possess. It implies that the argument for increasing learners' repertoire of available strategies in order to cultivate their expertise of strategy use is questionable. It may be a way, but not the only way.

One pedagogical implication drawn based on the present model and the comparison with Yamamori et al.'s study is that because learners are distinct with regard to their learning patterns, one version of instruction may benefit a particular type of learners, but not others. Therefore, identifying coherent groups within language classes and providing intervention programs may be a possible method to facilitate average learning effectiveness.

5.6 Pedagogical Value of the Motivated Language Learning Model

The motivated language learning model is soundly constructed based on the multiple regressions and path analysis, and the importance of the variables in the model is individually discussed in the previous sections. The next practical issue may be how the entire model can be applied to the real language teaching and learning contexts. In other words, what may be the pedagogical values of this motivated language learning model?

It is argued that using the measures adopted in the study to diagnose learners' strengths and weaknesses in choice motivation, self-regulation, and strategy use may serve as a possible initiative step to embody the model. The used questionnaire can benefit language learners by helping them reflect on their language learning. Moreover, language teachers can approach learners' motivated learning process by comparing the results of the questionnaire scores among learners and further design activities to help the cultivation of the significant constituents proposed in the model.

For example, language teachers can encourage high-motivated learners to share their positive expectancy and value beliefs with peers to help low-motivated learners explore the values of English learning. With the understanding of learners' motivational dispositions, language teachers can implicitly or explicitly give low-motivated learners more positive feedback to enhance their self-competence in

language learning.

As for self-regulatory capacity, language teachers can create a comfortable environment where learners are invited to talk about the obstacles they frequently encounter when studying English, the methods they usually adopt to face these obstacles and the effectiveness of these methods. After the sharing, language teacher can acquaint learners with available self-regulatory strategies and encourage learners to use some of the strategies and to report their exertion of self-regulation.

As for strategy use, language teachers, firstly, can identify coherent learner groups based on their responses to the quantity-directed strategic involvement measure and the quality-directed strategic mastery measure. That is, teachers can distinguish learners into several types of strategy users, such as frequent but unskillful users, skillful but not frequent users, and neither frequent nor skillful users. After the identification of learners' strategy use patterns, purposeful intervention programs can be accordingly designed. For example, for those neither frequent nor skillful users whose major problem may lie in the lack of "knowing what" (declarative knowledge) and "knowing how" (procedural knowledge) about learning strategies, the introduction and modeling of cognitive strategies may be urgently required. In contrast, for those "wild" strategy users who lack satisfactory orchestration of learning strategies, certain class discussion about "knowing when and why" (conditional knowledge), planning, monitoring, and evaluation of strategy use may be useful. Teachers can choose several strategies as model examples and invite those learners who possess higher perceived mastery of learning tactics to describe what strategy or what combination of strategies is effective, when these strategies can be used and why they think they are good at exerting these strategies. Through the sharing among peers, heterogeneous learners can learn from each other and later experiment on their strategy use.

Besides as a diagnostic tool, the questionnaire can be used in the end of learning sessions like academic semesters to assess whether learners' choice motivation, self-regulatory capacity, and strategy use are advanced, and also to evaluate whether the intervention programs or activities for different groups of learners are substantially effective.

5.7 Summary of Chapter Five

In this chapter, discussions have been provided, respectively addressing the revised model in general and the respective roles of the motivationally related variables in specific. These discussions are arranged to answer research questions proposed in chapter one and are accompanied with relevant theoretical and pedagogical implications. As a whole, the revised model established in the current study can indeed shed light on the enhancement of effective language learning in such EFL environments as Taiwan because it provides a detailed picture of how motivation is integrated into L2 acquisition process and how self-regulation and strategy use come into play to lead to the attainment of language learning.

CHAPTER SIX CONCLUSION

In this chapter, the major findings of the present study are summarized first. Pedagogical implications are then presented for EFL instructors to facilitate language learning. Limitations of the study and suggestions for future research are also included.

6.1 Summary of the Major Findings

The study aims to establish an expectancy-value (E-V) motivated language learning model in which L2 motivation is operationalized as a dynamic process mediated by several crucial constituents. The motivational constituents include choice motivation of language learning, self-regulatory capacity in language learning, strategic language learning involvement, strategic language learning mastery, and language learning achievement. To achieve this research objective, multiple regressions and path analyses were sequentially computed to assess not only the discrete but also the dimensional causal links proposed in the hypothesized model.

The initial results showed that the hypothesized model, which contained an insignificant path, could be modified into a more precise one. Thus, by the deletion of the insignificant path between strategic language learning involvement and language achievement, a revised model with higher parsimony and greater model fit indices was thereby constructed. The revised model is accepted as the final model, which can adequately account for the collected empirical data and accordingly is able to reflect the motivated process of language learning in the EFL contexts of Taiwan.

With the construction of the E-V motivated model of language learning, a number of significant research findings have emerged as follows:

First, language learning in EFL contexts is a motivated process mediated by

different phases of L2 motivation, which can be generally separated into the predecisional and the postdecisional phases. That is, the process-oriented dimension of language learning motivation suggested in previous motivational theories is supported in the current study. Since L2 motivation is a dynamic process, instead of a stable state, when it comes to exploring L2 motivation in empirical research, it is suggested that language learning motivation should be operationalized as a series of different stages.

In addition, it is found that choice motivation functions not only as a cause but also as a result of L2 achievement. The model, linking the initial motivational state with the resultant language attainment, acts as an organic cycle which can be energized by enhancing each of the motivational variables involved.

Third, based on an expectancy-value framework, the study demonstrates that this socio-cognitive perspective on choice motivation has a remarkable capability to explain learners' self-regulatory control over language learning and cognitive engagement which is measured by the quantity and the quality dimensions of strategy use.

Fourth, learners' self-regulatory capacity is found to function as an essential mediator which maintains choice motivation and supports goal-directed behaviors such as strategy use. It helps learners to regulate attention, concentration, and emotion, and thereby protects learning motivation. It also directly influences learners' strategic involvement and strategic mastery of language learning tactics.

Fifth, in terms of strategy use, the quality dimension, i.e. how well learning strategies are applied to given learning tasks (strategic language learning mastery), has much more predictive power over L2 success than the quantity aspect of strategy use, i.e. how often strategic behaviors occur and how many strategies are adopted (strategic language learning involvement). L2 acquisition is found to be contingent on

learners' mastery of learning tactics, rather than be dependent on the degree of their learning involvement.

Overall, the outcome model validated in the present study suggests that successful L2 learners are *motivated, volitionally self-regulated* and *skillful in strategy use*. The key to language learning achievement lies in the choice motivation formed with positive expectancy-value beliefs, the self-regulatory capacity appropriately employed when learning obstacles occur, and the mastery of learning strategies developed through the metacognitive operations over cognitive learning strategies.

6.2 Pedagogical Implications

Based on the constructed model of motivated language learning, two major pedagogical implications are proposed as follows:

First of all, language instructors are supposed to hold a process-oriented view towards L2 motivation and can help learners by providing specific pedagogical assistance aimed at the different stages of the motivated L2 learning process. The relevant capacities recognized in the outcome model can provide language teachers with some teaching directions. For instance, EFL practitioners and curriculum designers can devise specialized intervention programs to enhance the strength of expectancy-value choice motivation, self-regulatory capacity, strategic involvement, strategic mastery, or learners' perceived success of language learning. The enhancement of any of the motivational constituents involved in the cyclic model can energize the motivated language learning system and lead to L2 achievement.

In addition, the instruments used in the study to measure the significant motivational variables, particularly choice motivation, self-regulatory capacity and strategic mastery, can be utilized not only as a diagnostic tool tapping into learners' weaknesses in regulating their language learning but also a learning target of

intervention programs.

6.3 Limitations of the Study

Due to the limited resources available to the researcher, the present study has several limitations:

To begin with, one of the limitations lies in the generalizability of the research findings. The participants all came from the senior high schools in Taipei and thereby could not represent all the senior high school students in Taiwan.

Another limitation of the study is related to the drawbacks of using self-report questionnaires as the only data collection instrument. Although questionnaire theory has developed effective ways of improving the psychometric properties of survey data, such data have inherent weaknesses (for an overview, see Dörnyei, 2003a). For example, the questionnaire data may not completely reflect reality and thus not be able to provide sufficient insights into the motivational components under investigation.

Thirdly, the thesis is essentially a cross-sectional study, not longitudinal. It only provides a snapshot of the dynamic process of language learning motivation and seems methodologically insufficient to present the ongoing changes of L2 motivation over time and continuous impacts of the motivational variables on the learning process.

Although the limitations of this study must be kept in mind, the results reported here provide some insights into the complexities of language learning motivation. The outcome model sheds light on the role of choice motivation at the predecisional stage, the role of self-regulation and strategy use at the postdecisional phase, and raises a battery of issues worth exploring.

6.4 Suggestions for Future Research

Based on the limitations stated above, several suggestions are proposed for further research:

One possible direction for future research is to validate the revised model and reduplicate the present study by inviting participants with different characteristics and backgrounds, such as gender, culture, age, proficiency level, types of exposure to language learning. It is theoretically and practically valuable to examine whether the model can be generalized to other populations and to explore whether significant differences in the causal paths of the model exist among various groups of language learners.

Secondly, future studies can be conducted to validate the model by including qualitative data such as interviews, reflective diaries or think-aloud data. This qualitative data may provide insightful and realistic observations of learners' exertion of self-regulatory capacity and the degree of expertise in strategy use.

Thirdly, longitudinal studies are encouraged to be overtaken to explore the change of the whole model system over time. This kind of research can enrich the understanding of the temporal dynamics in language learning motivation.

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APPENDIX A—Questionnaire Used in the Pilot Study

親愛的同學，你好：

首先，謝謝你的參與！這份問卷目的在了解高中生學習英文的情形，問卷內容僅供學術之用，所有資料絕對保密，也不影響你的成績，所以請安心作答。且這份問卷並非考試，答案沒有對錯之分，所以請依照實際情形勾選作答。

祝 學習充實愉快 ☺

師大英語研究所 研究生 李雅玲

基本資料

班級：_____ 座號：_____

性別：_____ 年齡：_____

學習英文的時間：已學習_____年 (從何時開始：_____)

是否曾在英語系國家居住或遊學：是 (多久:_____) 否

(一) 請依據以下敘述，**勾選**最符合自身情況的選項

	非常 同意	同 意	有 些 同 意	有 些 不 同 意	不 同 意	非 常 不 同 意
1. 我喜歡英文課的內容有挑戰性，這樣我才可以學到新東西。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 如果我以適當的方法讀英文，我就能學會英文課所學的東西。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 當我考英文時，我會想到我跟其他同學比起來，表現有多麼不好。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 我覺得我能夠把在英文課所學到的東西應用到別科。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 我相信我英文能得到很好的成績。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 我確定我能理解英文課課堂上所閱讀的最難的東西。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 英文得到好成績，對我來說，是目前最令人滿足的事。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. 當我考英文時，我會想著這份考卷上其他我不會的題目。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. 如果我不學英文，是我自己的錯。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. 學英文對我來說是重要的。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. 現在對我來說，最重要的事就是提高我的成績，所以英文方面，我最在意的就是得到好成績。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. 我有信心我能學會英文課所教的基本概念。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. 如果可以，我想要得到比大多數同學都還要高的成績。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. 當我考英文時，我會想到考壞的結果。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	非常同意	同意	有些同意	有些不同意	不同意	非常不同意
15. 我有信心我可以理解英文老師所講的最困難的部分。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. 我喜歡英文課程的內容能引發我的好奇心，就算這樣的內容比較困難。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. 我對英文課所上的東西很有興趣。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. 如果我努力嘗試，我能理解英文課的課程內容。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. 當我考英文時，我會有一種不安與心煩的感覺。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. 我有信心能把英文作業做好，且把英文考試考好。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. 我期望能在英文課表現良好。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. 英文課最讓我感到滿足的事，就是我試著去徹底了解上課內容。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. 我覺得英文課所學的東西對我有用。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. 如果有機會可以選擇的話，就算不能保證讓我得到好成績，我還是會選擇可以讓我學到東西的英文作業。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. 如果我無法理解英文課程內容，那是因為我不夠努力。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. 我喜歡英文課的上課內容。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. 理解英文課的課程內容對我來說是非常重要的。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. 當我考英文時，我感覺到我的心跳很快。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. 我確信我可以精通英文課所學的東西。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. 因為向家人、朋友或他人展現我的能力很重要，所以我要在英文的表現很好。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. 評估完英文課的難度、英文老師的上課方式、還有我的能力之後，我覺得我可以在英文方面表現良好。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(二) 請勾選以下問卷選項

	非常同意	同意	有些同意	有些不同意	不同意	非常不同意
1. 一旦當初學習英文的新鮮感不見了，我就很容易變得很不耐煩，不想繼續學下去。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 當我覺得學英文的壓力很大時，我知道如何減輕壓力。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	非常同意	同意	有些同意	有些不同意	不同意	非常不同意
3. 在讀英文時，一旦學習環境變得不適合唸書，我會試著尋求解決之道。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 學習英文時，我有我自己的秘訣來達成所訂定的目標。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 在讀英文時，我有讓自己專心的秘訣。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 對於自己減輕英文學習壓力所使用的方式，我感到滿意。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 在讀英文的時候，我相信自己有能力能夠提早達成自己所訂定的學習目標。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. 我對於自己用來擺脫掉念英文的煩悶感所使用的方式，感到滿意。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. 在讀英文時，我覺得自己讓自己專心的方法很有效。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. 念英文的時候，我會努力不懈，以達成自己所訂下的進度目標。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. 在讀英文的時候，我有讓自己不會推託延遲的秘訣。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. 當我覺得讀英文壓力很大時，我就會想放棄。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. 我相信我能克服各種困難來達成英文學習目標。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. 讀英文時，我能夠佈置念書的環境，好讓學習更有效率。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. 當我覺得讀英文的壓力很大時，我會馬上處理這個問題。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. 要讀英文的時候，我覺得我讓自己不拖拖拉拉的方法很有效。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. 讀英文時，我對於學習環境很在乎。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. 我讀英文讀得很煩的時候，我有信心可以擺脫這種心情。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. 我讀英文讀得很煩的時候，我知道如何調整心情，以便重新出發。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. 在讀英文時，我會選擇合適的學習環境。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(三) 請勾選以下問卷選項

	Never	Rarely	Sometimes	Often	Very Often	Always
1. 我試著花時間尋找新的、而且較好的英文學習方法。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 我試著改進我用過的英文學習方法。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Never	Rarely	Sometimes	Often	Very Often	Always
3. 一旦了解到我目前所用的英文學習方法不夠好時，我會試著找出較好的方法來取代。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 我會試著自己分析剛學到的新的英文學習方法，看它有何好處與壞處。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 我會隨身攜帶英文相關書籍以便學習。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 我會花額外時間學英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 我會試著找出新的英文學習方法。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. 當英文老師在課堂上問了一個有關英文的問題，我會想要試著回答。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. 我會試著用不同的方法來學英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. 我會請求我的英文老師幫助我增進英文能力。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. 如果我有英文作業的話，我會等到最後一分鐘才動手。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. 如果我有較多空餘時間的話，我會去補習班參加英文學習相關課程。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. 即使其他學科已經讓我忙不過來，我仍會試著挪出時間來學英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. 我會試著為自己訂定一套英文學習計畫。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. 我會思考如何學更多英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. 我會利用下課時間唸英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. 我會確認新的英文學習方法對我是否有效。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. 我會試著用新的英文學習方法來取代那些沒效的學習方法。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. 我會試著運用與英文老師所教的不同方法來學英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. 我會試著創造運用新的英文學習方法的機會。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. 如果學到新的英文學習方法，我會試著與別人討論它的好處。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. 我會檢視在使用新的英文學習方法上所獲得的進展。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. 我會試著把新學到的英文學習方法跟已經會的其他方法，結合一起使用。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. 我試著改進我嘗試過的新的英文學習方法。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. 我會試著使用跟其他人不同的方法來學英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. 除了英文老師所教的，我也會學習額外的英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. 我會試著用不同的方法來複習學過的英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Never	Rarely	Sometimes	Often	Very Often	Always
28. 如果我遇到不懂的英文，我會試著馬上找出它的意思。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. 我會試著留心注意有關英文學習的材料與資訊。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. 我會進行練習如何把新的英文學習方法應用到適當的學習情境上。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. 我利用課餘時間唸英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. 我會請英文老師給我一些額外的英文作業來做。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

謝謝你的參與 ☺

**APPENDIX B—Chinese Version of the Measure of L2 Choice Motivation
(Formal Study)**

親愛的同學，你好：

首先，謝謝你的參與！這份問卷目的在了解高中生學習英文的情形，問卷內容僅供學術之用，所有資料絕對保密，也不影響你的成績，所以請安心作答。且這份問卷並非考試，答案沒有對錯之分，所以請依照實際情形勾選作答。

祝 學習充實愉快 ☺

台灣師範大學英語研究所 研究生 李雅玲

基本資料

班級：_____ 座號：_____

性別：_____ 年齡：_____

學習英文的時間：已學習_____年 (從何時開始：_____)

是否曾在英語系國家居住或遊學：是 (多久:_____) 否

	非常不同意	不同意	有些不同意	有些同意	同意	非常同意
1. 我喜歡英文課的內容有挑戰性，這樣我才可以學到新東西。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 我認為我能找到適當的方法把英文讀好。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 我覺得在英文課所學到的東西可以應用到別的科目上。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 我相信我能在英文得到很好的成績。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 我確信我能夠理解英文課堂上所閱讀的最難的部分。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 我想把英文學好，因為那會幫助我將來找到一份好工作。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 如果我英文學不好，那是因為我能力不夠。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. 學英文對我來說是重要的。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. 如果我英文不好，我會覺得丟臉。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. 我有信心我能學會英文課所教的基本內容。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. 如果可以，我想要得到比大多數同學都還要高的成績。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. 我有信心我可以理解英文老師所講的最困難的部分。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. 我喜歡英文課程的內容能引發我的好奇心，就算這樣的內容會比較困難。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. 我對英文課所上的東西有興趣。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. 如果我努力嘗試，我能理解英文課的課程內容。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. 我有信心能把英文作業做好，且把英文考試考好。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. 我期望能在英文課表現良好。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. 英文課最讓我滿足的事，就是我試著去徹底了解上課內容。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. 我覺得英文課所學的東西對我有用。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. 如果有機會可以選擇的話，就算不能保證讓我得到好成績，我還是會選擇可以讓我學到東西的英文作業。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. 如果我無法理解英文課程內容，我會覺得那是因為我不夠努力。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. 我喜歡英文課的上課內容。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. 理解英文課的課程內容對我來說是重要的。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. 我確信我可以精通英文課所學的東西。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. 因為向家人、朋友或其他人展現我的能力很重要，所以我想在英文方面表現很好。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. 評估完英文課的難度、英文老師的上課方式、還有我的能力之後，我覺得我可以在英文方面表現良好。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**APPENDIX C—English Version of the Measure of L2 Choice Motivation
(Formal Study)**

Dear fellow students,

First of all, thanks for your participation. This questionnaire aims to explore English learning of senior high school students in Taiwan. It's only for academic purposes. Your response data is absolutely confidential and have no impact on your grades. So please feel comfortable to fill it out. Besides, the questionnaire is not a test and there are no so-called right and wrong responses. Please fill it out based on real learning situations.

Have a good time in learning.

National Taiwan Normal University
Graduate Institute of English
Irene Lee

Background Information

- ✧ Class : _____ Student Number : _____
- ✧ Gender : _____ Age : _____
- ✧ Length of English learning : I have learned English for _____ years
(since _____)
- ✧ Have you ever lived or stayed in English-speaking countries?
Yes (How long : _____) No

	Strongly Disagree	Disagree	Partly Disagree	Slightly Agree	Agree	Strongly Agree
1. I would like my English course to be challenging so that I can learn something new.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I can find appropriate methods to learn English well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I think what I learn in English classes can be applied to other subjects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I believe I can get good grades in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I'm sure I can understand the most difficult part we read in English classes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. I want to learn English well, because it will help me find a good job in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If I don't learn English well, that is because I am not capable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Learning English is important to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. If my English is not good, I will feel ashamed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I'm confident that I can learn the basic content taught in English classes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. If possible, I want to get higher grades than most of the other classmates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I'm confident that I can understand the most difficult part taught in English classes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I would like the course content of English classes to arouse my curiosity, even though such content is more difficult.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I am interested in what is taught in English classes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. If I try hard, I can understand the course content of English classes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I am confident that I can perform well in English assignments and also on English tests.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I expect to perform well in English classes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. The most satisfactory part about English classes is that I try to thoroughly comprehend what is taught.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I think what I learn in English classes is useful to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. If I can choose, although it will not promise a good grade, I will still choose the assignments from which I can learn something.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. If I don't understand the course content in English classes, I think that is because I am not hardworking enough.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I like the course content of English classes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. It is important for me to understand the course content of English classes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I am sure I can master what I learn in English classes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Because it's important to show my capability to my family, friends and others, I want to perform well in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. After evaluating the difficulty level of the English course, the teaching methods of the English teacher and my ability, I think I can perform well in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**APPENDIX D—Chinese Version of the Measure of Self-regulatory Capacity in
Language Learning (Formal Study)**

	非常不同意	不同意	有些不同意	有些同意	同意	非常同意
1. 一旦當初學習英文的新鮮感不見了，我就很容易變得不耐煩，不想繼續學下去。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 當我覺得學英文的壓力很大時，我知道如何減輕壓力。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 在讀英文時，一旦學習環境變得不適合唸書，我會試著尋求解決之道。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 學習英文時，我有我自己的秘訣來達成所訂定的目標。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 在讀英文時，我有讓自己專心的秘訣。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 對於自己減輕英文學習壓力所使用的方式，我感到滿意。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 在讀英文的時候，我相信自己有能力能夠提早達成自己所訂定的學習目標。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. 我對於自己用來擺脫掉念英文的煩悶感所使用的方式，感到滿意。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. 在讀英文時，我覺得自己讓自己專心的方法很有效。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. 念英文時，我會努力不懈，以達成自己所訂下的進度目標。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. 讀英文時，我有讓自己不會推託延遲的秘訣。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. 當我覺得讀英文壓力很大的時候，我就會想放棄。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. 我相信我能克服各種困難，來達成英文學習目標。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. 讀英文時，我能夠佈置念書的環境，好讓學習更有效率。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. 當我覺得讀英文的壓力很大時，我會馬上處理這個問題。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. 要讀英文的時候，我覺得我讓自己不拖拖拉拉的方法很有效。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. 讀英文時，我對於學習環境很在乎。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. 讀英文讀得很煩的時候，我有信心我可以擺脫這種心情。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. 讀英文讀得很煩的時候，我知道如何調整心情，以便重新出發。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. 在讀英文時，我會選擇合適的學習環境。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**APPENDIX E—English Version of the Measure of Self-regulatory Capacity in
Language Learning (Formal Study)**

	Strongly Disagree	Disagree	Partly Disagree	Slightly Agree	Agree	Strongly Agree
1. Once the novelty of learning English is gone, I easily become impatient about it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. When I feel stressed about English learning, I know how to reduce this stress.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. When I am studying English and the learning environment becomes unsuitable, I try to sort out the problem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. When learning English, I have my special techniques to achieve my learning objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. When studying English, I have my special techniques to keep my concentration focused.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I feel satisfied with the methods I use to reduce the stress of English learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. When learning English, I believe I can achieve my goals more quickly than expected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I feel satisfied with the methods I use to eliminate the boredom in studying English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. When learning English, I think my methods of controlling my concentration are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. When learning English, I persist until I reach the goals that I make for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. When it comes to learning English, I have my special techniques to prevent procrastination.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. When I feel stressed about English learning, I simply want to give up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I believe I can overcome all the difficulties in English learning and achieve my English learning goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. When Learning English, I know how to arrange the environment to make learning more efficient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. When I feel stressed about learning English, I cope with this problem immediately.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. When it comes to learning English, I think my methods of controlling procrastination are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. When learning English, I am aware that the learning environment matters.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. During the process of learning English, I am confident that I can overcome any sense of boredom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. When feeling bored with learning English, I know how to regulate my mood in order to invigorate the learning process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. When I study English, I look for a good learning environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**APPENDIX F—Chinese Version of the Measure of Strategic Language Learning
Involvement (Formal Study)**

	Never	Rarely	Sometimes	Often	Very Often	Always
1. 我試著花時間尋找新的、而且較好的英文學習方法。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 我試著改進我用過的英文學習方法。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 一旦了解到我目前所用的英文學習方法不夠好時，我會試著找出較好的方法來取代。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 我會試著自己分析剛學到的新的英文學習方法，看它有何好處與壞處。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 我會隨身攜帶英文相關書籍以便學習。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 我會花額外時間學英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 我會試著找出新的英文學習方法。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. 當英文老師在課堂上問了一個有關英文的問題，我會想要試著回答。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. 我會試著用不同的方法來學英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. 我會請求我的英文老師幫助我增進英文能力。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. 如果我有更多空餘時間的話，我會去補習班參加英文相關訓練課程。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. 即使其他學科已經讓我忙不過來，我仍會試著挪出時間來學英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. 我會試著為自己訂定一套英文學習計畫。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. 我會思考如何學更多英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. 我會利用中堂下課時間讀英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. 我會確認新的英文學習方法對我是否有效。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. 我會試著用新的英文學習方法來取代那些沒效的學習方法。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. 我會試著運用與英文老師所教的不同方法來學英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. 我會試著創造運用新的英文學習方法的機會。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. 如果學到新的英文學習方法，我會試著與別人討論它的好處。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. 我會檢視在使用新的英文學習方法上所獲得的進展。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. 我會試著把新學到的英文學習方法跟已經會的其他方法，結合一起使用。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. 我試著改進我嘗試過的新的英文學習方法。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. 我會試著使用跟其他人不同的方法來學英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. 除了英文老師所教的，我也會吸收學習額外的英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

26. 我會試著用不同的方法來複習學過的英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. 如果我遇到不懂的英文，我會試著馬上找出它的意思。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. 我會留心注意有關英文學習的材料與資訊。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. 我會練習把新的英文學習方法應用到適當的學習情境上。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. 我會利用課後時間唸英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. 我會請英文老師給我一些額外的英文作業來做。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**APPENDIX G—English Version of the Measure of Strategic Language Learning
Involvement (Formal Study)**

	Never	Rarely	Sometimes	Often	Very Often	Always
1. I spend time searching for new and better English learning methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I try to improve my English learning methods that I have used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Once I realize that my current English learning method is not good enough, I try to find a better one.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I try to analyze the advantages and disadvantages of the English learning methods which I just learned.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I try to bring with me an English book whenever possible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I spend extra time learning more English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I try to find new English learning methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. When my English teacher asks an English question in class, I want to try to answer it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I try to use different ways to learn English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I ask my teacher to help me improve my English competence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. If I have more free time, I will go to a private language school to attend an English training course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Even if I am very busy with other school subjects, I try to spare time to learn more English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I try to make a study plan on English learning for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I think about how to learn more English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I study English during break time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I check whether a new English learning method is effective to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I try to replace inappropriate English learning methods with new ones.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I try English learning methods that are different from those taught by English teachers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I try to create opportunities to apply a newly learned English learning method.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I try to discuss the advantages of a newly learned English learning method with someone who also uses it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. I examine the progress I make when using a new English learning method.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I try to integrate newly learned English learning method with the others that I already use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I try to improve the newly learned method that I try out.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I try out English learning methods that are different from those used by my peers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I learn more English than that taught by my English teacher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. I try different ways to review learned English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. If I encounter some English I don't understand, I will try to find out its meaning immediately.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. I look out for materials and information on English learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. I try to apply newly learned methods to the English learning contexts which are suitable for those methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. I study English after school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. I ask my English teacher for some extra English learning tasks/homework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**APPENDIX H—Chinese Version of the Measure of Strategic Language Learning
Mastery (Formal Study)**

	不會用過	但是用過， 但是不熟練	已經用過， 而且有點熟練	已經用過， 而且熟練	已經用過， 而且十分熟練
1. 學英文時，我會把新學的和已學過的東西作一些聯想。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 讀英文例句來幫助背單字。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 把英文單字的發音和這個字的形象或圖像聯想在一起，以幫助記憶。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 藉著想像某個英文字可能會出現的情境，來記憶這個單字。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 使用單字卡來背英文生字。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 運用肢體動作來幫助記憶單字(例如當我學習 nod 時，我會點點頭。)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 複習所學到的英文，例如課文、單字、片語、句型等。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. 反覆練習唸出英文生字。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. 主動用英語和別人對話。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. 收看英語發音的電視節目或電影，從中學習英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. 用英文作筆記、寫信或寫日記。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. 讀英文文章時，我會先很快地瀏覽整段文章以了解大意，然後再回頭仔細閱讀。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. 試著找出英文的句型、文法規則。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. 分析字首字根來學習單字。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. 在閱讀時，我會避免逐字逐句把英文翻成中文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. 將所讀到的英文，在腦中或是在紙上作摘要。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. 閱讀遇到不熟悉的英文單字，我會根據上下文猜測它的意思。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. 當我不知道適切的英文字時，我會使用自創的英文單字(譬如以 airball 來表達氣球 balloon)來表達。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. 試著想像外國人可能會如何用英文表達某件事，然後試著用這樣的方式跟自己練習說英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. 當我想不起某個英文字時，我會用其他意思相近的單字或句子來表達。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. 我會和其他同學一起練習英文。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. 當我遇到英文方面的問題時，我會請教老師、同學或其他人。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23. 藉由修改自己的英文作文，來提升英文寫作能力。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. 使用字典來查不熟悉的單字。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. 嘗試將所學到的單字或句型運用到英文寫作上。(例如:日記或作文等)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. 在英文寫作的過程中，我會回顧已寫好的段落，然後再繼續往下寫。	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**APPENDIX I—English Version of the Measure of Strategic Language Learning
Mastery (Formal Study)**

	Never used	Yes, but with little mastery	Yes, and with some mastery	Yes, and with enough mastery	Yes, and with lots of mastery
1. When learning English, I associate what is newly learned with what has been learned.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I read English illustrative examples to memorize vocabulary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I associate the word's pronunciation with its spelling or image to help memorization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I memorize words by imaging the contexts where they can be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I memorize words by using flashcards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I memorize words by using physical movements. For example, I nod my head when learning the word "nod".	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I review the English materials such as texts, vocabulary, phrases and sentence patterns.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I practice read out English words repetitively.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I activate English conversations with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I learn English from watching English TV programs or movies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I keep notes, write letters or diaries in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. When reading English articles, I skim the whole text quickly to grasp the main ideas and then go back for careful reading.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I try to find out English patterns and grammatical rules.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I analyze prefixes and suffixes of English words to learn vocabulary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. When reading, I avoid doing word-for-word translation from English into Chinese.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I make summaries of the English texts which I read in my mind or on the paper.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. When encountering unfamiliar English words, I guess their meanings based on the contexts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. When I have no appropriate words for expressing certain meaning, I will use the words I invent, such as using "airball" to express "balloon".	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. I try to imagine how native speakers express certain thing in English and practice speaking English to myself in this way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. When I can't come up with certain English word, I use other words or sentences with similar meanings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. I practice English with my classmates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. When I have some questions about English, I consult teachers, classmates or others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I improve English writing ability by revising my English compositions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I look up unfamiliar words in dictionaries.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I try to apply the learned vocabulary and sentence patterns to English writing such as diaries or compositions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. In the process of English writing, I go back to read the previous written passages and then continue writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX J—Summary of the Measures of the Revised Model

Latent variables	Indicators	Number of Items	Scales
L2 Choice Motivation (LCM)	L2 Learning Self-efficacy	8	6-point Likert-scale ranging from 1 = ‘strongly disagree’ to 6 = ‘strongly agree’
	Expectancy Control of Learning Beliefs	4	
	L2 Learning Intrinsic Goal Orientation	4	
	Value Extrinsic Goal Orientation	4	
	Task Value (TAS)	6	
Self-regulatory Capacity in Language Learning (SRCLL)	Commitment Control	4	6-point Likert-scale ranging from 1 = ‘strongly disagree’ to 6 = ‘strongly agree’
	Metacognitive Control	4	
	Satiation Control	4	
	Emotion Control	4	
	Environment Control	4	
Strategic Language Learning Involvement (SLLI)		31	6-point Likert-scale ranging from 1 = ‘never’ to 6 = ‘always’
Strategic Language Learning Mastery (SLLM)		26	5-point Likert-scale ranging from 1 = ‘never used’ to 6 = ‘yes, and with lots of mastery’