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探討高職學生社經地位、英語學習動機、後設認知單字學習策略，及英語單  
字學習之關係

The Relationship Among Socio-economic Status, Learning Motivation, Use  
of Metacognitive Vocabulary Learning Strategies, and English Vocabulary  
Acquisition

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## 中文摘要

本研究探討家庭社經地位對於高職生英語學習動機(包含動機強度及種類)、後設認知單字學習策略運用、及單字成就的影響，並且探究在排除社經地位的影響之下，英語學習動機及後設認知單字學習策略使用對單字成就的解釋力何者較高。本研究共邀請 224 位來自彰化一所高職一年級的受訪者參與，請受訪者填寫三份問卷—基本資料問卷(包含社經地位項目)、學習動機問卷(包含動機強度及種類)、後設認知單字學習策略使用問卷—及一份單字成就測驗。收集到的資料運用多因子變異數分析、單因子變異數分析、及階層迴歸做統計分析以回應上述兩項研究目的。分析結果顯示社經地位對英語學習動機(包含動機強度及種類)、後設認知單字學習策略運用、及單字成就的影響皆不顯著，亦即不同社經地位的學生在這三個變項上的表現並沒有顯著差異。此外，當控制了社經地位對單字成就的影響時，英語學習動機強度是唯一能顯著地預測單字成就的自變項，其他的自變項如學習動機種類及後設認知單字學習策略運用則皆無法顯著預測高職學生的英語單字成就。由此可知，對高職學生來說，學習動機強度對英文單字成就的影響力遠勝於動機種類以及運用後設認知學習策略與否，因此，文末提出了和提升學生學習動機強度相關的教學建議給高職英語教師們參考。本研究盼能增進高職英語教師對學生英語學習的了解：(1)社經地位對英語學習的影響微乎其微，(2)學習動機強度對於單字學習有顯著的預測力。

關鍵字：社經地位、英語學習動機、後設認知單字學習策略、單字學習成就。

## **ABSTRACT**

The present study intends to reveal the role of socio-economic status (SES) in English learning motivation (including intensity and types), metacognitive vocabulary learning strategy use, and lexical achievement. It also explores the explanatory power of motivation and metacognitive strategy use for second language vocabulary acquisition, with the effect of SES controlled. A total of 224 participants were recruited and asked to complete four research instruments: a background information questionnaire that probed into parents' socio-economic status, a motivational questionnaire, a metacognitive strategy use questionnaire, and a vocabulary test. Inferential statistics such as MANOVA, one-way ANOVA, and hierarchical regression were employed. The results uncovered an insignificant effect of SES on English learning motivation, metacognitive vocabulary learning strategy use, and lexical achievement. In addition, motivational intensity was found to be the only predictor that significantly explained vocabulary achievement while metacognitive strategy use and motive types did not account for lexical learning to a significant level. Some pedagogical suggestions for language teachers on how to enhance learners' motivational intensity are provided at the end of the study.

**Keywords:** socio-economic status, English learning motivation, metacognitive vocabulary learning strategy, vocabulary achievement

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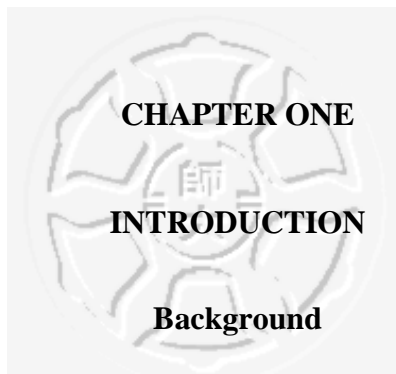
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Learner variables have been acknowledged by many researchers as the core factor in second language acquisition. Two decades ago, in their review of characteristics of language learners, Gardner and MacIntyre (1992, 1993a) synthesized learner factors verified as crucial in the process of language acquisition, classifying them into two types: cognitive and affective factors. The former refers to aptitude, intelligence, and strategy, while the latter comprises attitude, motivation, anxiety, and self-confidence.

Among these characteristics, motivation and strategy constitute the major concern of the present study, for not only has the researcher observed that most of her low-achievement students lack the drive to learn the target language but ELT research (e.g., Gan, Humphreys, & Hamp-Lyons, 2004) has demonstrated that one of the decisive factors in distinguishing more successful learners from less successful ones is the ability to plan, monitor, and evaluate one's learning process, namely, the use of metacognitive strategies. Therefore, it is hoped that this investigation could help the researcher and English teachers in similar teaching situations locate the assets and liabilities of students with respect to language learning motivation and use of metacognitive strategies, and provide pedagogical suggestions to improve the disadvantaged.

Apart from cognition (i.e., use of metacognitive strategy) and affect (i.e., motivation) of language learners, the researcher also intends to broaden the scope of the investigation by taking social context, specifically learners' socio-economic status, into consideration when examining students' language learning outcomes because, for

one thing, learners' socio-economic status is believed to be an integral part of language learning process (Chang et al., 2004) and its relation to other learner variables has been suggested for further research (Gardner & MacIntyre, 1992; Kan, 2004). For another, in view of the wide variation of learners' prior English learning experiences, the researcher conjectures that such variation might associate with the wide dispersion of learners' economic and social status. Accordingly, in order to have a fuller understanding of students' language learning, the researcher argues that a scrupulous look into such a socio-contextual factor and its relation to learning outcomes as well as both affective and cognitive learner variables is in demand.

In other words, the present inquiry will not only look into types and intensity of learning motivation students possess, the frequency they employ metacognitive strategies, and the level of socio-economic support they have but also the relationship among the above-mentioned three factors and their respective contribution to the core of language learning: vocabulary acquisition. The rationale of conducting such a study stems from the following research.

### **Socioeconomic Status and Language Learning**

The contribution of one's socio-economic background to his or her learning outcome has been recognized by researchers in Taiwan. Invited to review and analyze the severe bimodal score distribution of test takers' English achievement in the Basic Competence Test, Chang et al. (2004) found out that students in urban areas, such as those from Northern Taiwan, performed significantly better on the BCT English test than those in rural areas like Southern and Eastern Taiwan. Also, their report revealed that the more years students had received English exposure, the higher their BCT scores were. Most importantly, the researchers validated that English achievement was related to learners' economic background. Those with higher family income did perform significantly better on the BCT English test than lower-income students.

These findings supported Chang's (2002) contention that the severe bimodal distribution of learners' English competence in Taiwan stems primarily from the imbalanced distribution of learning resources between urban and rural areas as well as family's capability to offer students with early English exposure. Despite the fact that city dwellers might also be economically disadvantaged, it is reasonable to infer that on average, people in urban districts have higher income than those in rural regions.

In line with the study by Chang et al. (2004), a few researchers in Taiwan have attempted to corroborate the effect of SES on English achievement across ages, from kindergarten children to senior high school graduates (e.g., Chen, 2004; Hsu, 2009; Lee, 2009; Nieh, 2004). In general, they have all validated that the higher SES, the higher English learning outcome. Such a finding can be explained by Elias and Long's (1984) observation that parents relatively short of education and income are compelled to earn a living by laborious jobs that inhibit them from sparing attention to children's educational upbringing. They are even not aware of the impact of parental support on children's academic learning. In these cases, children usually suffer from insufficient parental support, irrespective of mental or material support, and accordingly, are unlikely to develop healthy values and beliefs about their educational achievement as those with robust parental involvement in learning do, which might have profound impact on academic performance.

Despite the repetitive support of positive relation between SES and English achievement, none of these Taiwanese studies is rooted in vocational high schools, where a wide range of departments and admission thresholds exist. Such a gap inspires the researcher to conduct an investigation on the effects of SES on English learning in her own school, a vocational high school in Changhua County.

Given the positive relation between SES and learning outcomes, it has been argued that the effect is indirect (Keith & Anderson, 1997; Koutsoulis & Campbell,

2001; Stipek, 2001). On the other hand, SES is argued to be directly connected with a variety of learner variables, such as psychological support, attitudes toward school, motivation, and learning strategy (Crnic & Lamberty, 1994; Kan, 2004; Keith & Anderson, 1997; Koutsoulis & Campbell, 2001; Ramey & Ramey, 1994; Stipek, 2001). However, in second language acquisition research, few studies examined the relation between SES and learner variables. Regarding motivation, Gayton's (2010) study is one of the few that investigated the relationship between SES and language learning motivation. He interviewed 11 high school teachers from different counties in order to reveal whether there were any differences in the influence of socioeconomic status on language learning motivation between English as L1 and L2. In both contexts, participants' responses suggested that socioeconomic status made a significant contribution to language learning motivation. The study also indicated a positive correlation between SES and learning motivation across language contexts. Similarly, according to Kan (2004), students from families of different SES demonstrated different degrees and types of motivation to learn English as a foreign language. In particular, students from high SES families were found to have higher motivation than lower-SES students.

Likewise, within the paradigm of second language acquisition, scarce attention has been paid to the association between SES and learners' use of metacognitive learning strategy, a manifestation of their cognitive development and control, whereas the impact of SES on children's general metacognitive development is evident. Research has found that children from lower-income families are more likely to encounter difficulty developing metacognitive knowledge and skills in comparison to those from higher-income families (Carr, 2010). For example, preschool children of low SES were found to have poorer declarative metacognitive knowledge than those of middle SES and were less able to explain their problem solving processes in

mathematics (Pappas, Ginsburg, & Jiang, 2003). Similarly, a significant positive correlation between SES and metacognitive self-regulation strategy use has been observed in primary school children's learning of science. Akyol, Sungur, and Tekkaya (2010) revealed that parents' educational level, number of reading materials at home, frequency of buying a daily newspaper were conducive to learners' use of metacognitive strategy and science achievement.

The influence of SES on metacognition also applies to L1 literacy development. Research has noted that higher-SES children engage in more social, language, and literacy enhancement activities than lower-SES children do (Hay, Elias, Fielding-Barnsley, Homel, & Freiberg, 2007). It is such parental activities as shared reading, reading aloud, and discussing stories and vocabulary with children that facilitate the transition from "learning to read" to "reading to learn", which also demands metacognitive skills.

Despite the rich evidence of SES' impact on learner variables in general education, the connection between SES and metacognition has not been sufficiently explored in second language acquisition; neither has SES' connection with learning motivation. Thus, both directions require further investigation.

### **Motivation and Language Achievement**

Efforts to define motivation have pervaded the field of second language acquisition. Among them, Gardner's (1985) socio-educational model is one of the most renowned theories of language learning motivation. Although this model has aroused criticism in terms of the interpretation of terms used in the model and its generalizability to different learning contexts (Csizér & Dörnyei, 2005), the model remains the most prestigious and widely-adopted in the field. Hence, a considerable amount of research (Clement, Gardner, & Smythe, 1977; Clement, Gardner, & Smythe, 1980; Gardner & Masgoret, 2003; Lett & O'Mara, 1990) has dedicated to

investigating the direct or indirect effect of learners' motivation on learning achievement within the paradigm of Gardner's socio-educational model.

Influential as Gardner's model is, the present study only relies on one component of the theory – motivational intensity – and resorts to another renowned motivation framework in the domain of cognitive psychology – Deci and Ryan's (1985) self-determination theory – for the foundation of research on types of motivation. This distinguished theory proposed the distinction between intrinsic and extrinsic motivation and was accredited by Brown (1991) as “a more powerful conception of the motivation construct” (p.247). Therefore, the theory was later applied to second language acquisition by Noels and colleagues (Noels, 2001b; Noels, Clément, & Pelletier, 2001; Noels, Pelletier, Clément, & Vallerand, 2000), and has laid theoretical ground for a multitude of studies, including the present one.

As a primary indicator of second language proficiency, vocabulary achievement has been verified to have close association with learners' attitudes and motivation, especially in terms of the rate of acquiring vocabulary (Gardner & Tremblay, 1998; Tremblay, Goldberg, & Gardner, 1995). The researcher thus hopes to investigate whether the connection between vocabulary learning outcomes and motivation to learn English holds in her students in a vocational high school, where students demonstrate a wide range of learning behaviors across departments.

### **Metacognitive Strategies and Language Achievement**

SLA research has probed into the effect of using metacognitive strategies on various English learning aspects, especially reading and listening comprehension. It has been discovered that compared with less effective readers, more proficient readers tend to demonstrate a higher degree of metacognitive awareness which enables them to regulate reading process through the use of proper strategies (Sheorey & Mokhtari, 2001; Zhang, 2001; Zhang, Gu, & Hu, 2008). Moreover, a number of researchers have

looked into the plausibility of metacognitive reading strategy training and established that metacognitive reading strategies can be taught and once learners develop metacognitive awareness, they have a higher chance of becoming a better reader (Farrell, 2001; Zhang, 2008). Concerning listening comprehension, similar positive relation between metacognitive awareness and proficiency has also been validated. It has been found that through weeks of systematic explicit instruction on the use of metacognitive listening strategies, learners can perform better on listening comprehension test (Abdelhafez, 2006; Coşkun, 2010).

The effect of metacognitive strategies also apply to second language vocabulary learning. Gu and Johnson (1996) investigated the relationship between the use of vocabulary learning strategies by Chinese college learners of English and their English learning outcomes. Their finding suggested that metacognitive vocabulary learning strategies were predictive of language learning achievement, in the form of College English Test. In an exploration of the connection between vocabulary learning strategies and vocabulary size in Cantonese learners of English, Fan (2003) found that learners of a larger vocabulary size made use of their metacognition more often than those of a smaller vocabulary. There has also been research directly probing into the effect of metacognitive strategy training on vocabulary acquisition. Rasekh and Ranjbar's (2003) study indicated that explicit metacognitive vocabulary learning strategy instruction did significantly promote lexical development compared with the non-metacognitive strategy instruction.

These studies all support a positive connection between the use of metacognitive vocabulary learning strategies and language learning outcomes, especially vocabulary learning achievement. It is thus interesting to take a further step to uncover the relative contribution of use of metacognitive learning strategies and learning motivation to vocabulary achievement.



## **Purpose of the Present Study**

One of the goals of the present study is to fill the above-mentioned research gaps by investigating the connection of learners' SES with their English learning achievement, learning motivation, and metacognitive strategy use in a vocational high school, where students from a wide variety of family background abound. In addition, the present study aims to explore the explanatory power of socio-economic status, learning motivation, and metacognitive strategy use for English learning achievement, specifically vocabulary learning achievement. The research questions addressed in this study are as follows:

1. Do students of different SES differ significantly in English learning motivation (including motivational intensity and motivation types), use of metacognitive vocabulary learning strategies, and vocabulary learning achievement?
2. What is the explanatory power of learning motivation and the use of metacognitive vocabulary learning strategies for learners' vocabulary achievement, with SES controlled?

## **Significance of the Study**

With the rising recognition of the influence of socio-economic background on learning process and outcomes in general education, the last decade has also witnessed a start to take learners' socio milieu into consideration in the analysis of English learning achievement. However, this line of research has not been sufficient enough. In order to find out if socio-economic status weighs to a significant extent in English learning, the present study examines its relation with not only the fundamental language component – vocabulary achievement – but also two crucial learner variables – motivation (including intensity and types) and use of metacognitive learning strategies.

Furthermore, the present study intends to reveal the explanatory power of learning motivation and metacognitive strategy use for vocabulary learning, with SES controlled. Through such an examination, the present study may reveal relative importance of these two factors in second language vocabulary acquisition and can provide pedagogical implications accordingly.

### **Definition of Terms**

#### **Socio-economic Status**

Socio-economic status refers to parents' income, occupation, and educational level in a family. It has been proved to be a strong predictor of children's welfare and cognitive development (DEECD, 2006; Stipek & Ryan, 1997; Stipek, 2001) in general education. The measure of socio-economic status has been versatile. A minority of researchers expanded SES indicators to cognitively-stimulating environment, such as numbers of reading materials at home and frequency of buying a daily newspaper (Akyol et al, 2010), while most researchers have remained within the frame of both parents' occupation and educational level. The present study follows Hallinghead's (1957) two-factor index of social position, using only the rank of occupation and educational level to calculate a family's socio-economic status.

#### **Motivation**

In the present study, the investigation of motivation involves motivational intensity and motive types. Based on Gardner's (1985) theory, motivational intensity refers to the strength of one's motivation to learn a language and is defined by the effort a person makes to learn that language, the desire he or she demonstrates to be proficient in that language, and the attitude he or she holds toward the language. Concerning motive types, the present study mainly employs Noels and colleagues' (2000) self-determination theory in second language acquisition and categorizes motives into three types: intrinsic motivation, extrinsic motivation, and amotivation.

In addition, requirement motivation, which has been regarded as influential in Taiwanese students (Warden & Lin, 2000), is also included as one of the motive types to be explored. Specifically, while intrinsic motivation comes from inner satisfaction of engaging in a learning task, extrinsic motivation refers to learning out of external forces, such as the sense of guiltiness of not carrying out a task or a reward of performing a desired learning behavior. If learners are driven by requirement motivation, it means they perform a learning task only because of curriculum requirement. On the other hand, if learners don't recognize the reason of their learning, they are categorized as amotivated learners.

### **Metacognitive Vocabulary Learning Strategies**

To define metacognitive vocabulary learning strategies, the concept of metastrategy must be explained first. Metastrategy refers to learners' active and conscious regulation of their learning through the use of a variety of learning strategies. When this regulation applies to information processing, it is referred to as metacognitive strategy. The use of metacognitive vocabulary learning strategy, therefore, indicates one's ability to plan, monitor, and evaluate lexical learning process. The present study is grounded in Gu and Johnson's (1996) and Schmitt's (1997) taxonomy of vocabulary learning strategies, but with a focus only on the category of metacognitive strategies.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

The discussion in this chapter proceeds along three aspects: socio-economic status, motivation, and metacognitive strategies. Firstly, the role of socio-economic status in learning achievement, learning motivation, and metacognitive strategy use is thoroughly discussed with evidence from fields of general education and language learning. Secondly, diverse definitions of motivation in second language acquisition are synthesized, followed by a review of studies on the effect of motivation on language learning achievement. Last, the definition of metacognitive learning strategies and their applications to second language vocabulary acquisition are discussed. At the end of the section, research concerning the use of metacognitive vocabulary strategies is briefly reviewed.

#### **Socioeconomic Status**

Socioeconomic status (SES) of a family refers to parents' income, education, and occupation, which, on the one hand, can be a strong predictor of children's mental and physical health problems, and, on the other, may lead to different degrees of access to educational and social resources. As Oakes and Rossi (2003) defined, SES refers to "differential access (realized and potential) to desired resources." In educational research, SES is typically divided into three categories — low, mid, and high SES — to describe the level of socioeconomic support one may enjoy.

The importance of SES in learners' academic learning is exemplified in the following sections.

#### **SES and Learning Achievement**

In general education, a host of studies have proven that SES is a determinant of students' educational achievement across ages and ethnic groups. For instance, in

cases of African-American and native-American students, learners of higher SES performed better on a 12th-grade educational achievement test than low SES students did (Battle & Lewis, 2002). Also, among many background variables, SES was found to be the strongest predictor for math achievement in Brazilian children (Oakland, Wechsler, Benusan, & Stafford, 1994). Furthermore, it is acknowledged that low-SES students are disadvantaged when they begin schooling, which may impede their subsequent learning process if prevention is not taken. This notion was made in a longitudinal study by Walker, Greenwood, Hart, and Carta (1994) and echoed by Battle's (2002) assertion that "if our society is interested in increasing academic achievement, policies that increase students' socioeconomic status are inexplicable" (p. 442). Nevertheless, the significant impact of socioeconomic status on academic achievement seems to be indirect; rather, it is parental encouragement that directly influences how children learn. Elias and Long (1984) suggested that higher living standard may help arouse parents' awareness of their role in motivating children to learn in that attention can be spared for developing positive parenting attitudes and values. Children whose parents pay concentrated attention to their learning are likely to develop higher motivation in learning.

Such a phenomenon is also evident in children's first language acquisition. Research has found that responsiveness of family members and care-giving environment determines children's hearing ability (Kiran, 2010). Intensive verbal and emotional responses to children and maternal involvement, especially in the first two years, contribute to later linguistic and cognitive development. These characteristics are common in families with high SES. In contrast, parents under excessive mental stress generally provide environment of poorer quality for their children to develop linguistic and cognitive skills. In short, low-SES parents generally talk to, listen to, and interact with children less than high-SES parents do. This infrequent parental

interaction impedes children's linguistic development. Furthermore, families with less access to financial and social resources and supports that may stimulate and promote children's emotional, social, and cognitive development might not prepare their children for school as well as those of higher SES (Crnic & Lamberty, 1994; Ramey & Ramey, 1994). This lack of readiness for school usually leads to later disadvantaged academic achievement.

Studies on association between SES and second language acquisition, however, are limited compared with those on native languages. Take Taiwan for example. Only a few researchers have devoted to investigating the relationship between socioeconomic status and English learning outcomes (Chen, 2004; Hsu, 2009; Lee, 2009; Nieh, 2004). Unsurprisingly, their findings corroborated that the higher SES, the higher English proficiency. For instance, Lee (2009) found that higher-SES children who were sent to kindergartens of higher tuition had higher English ability than those from lower-SES families. More importantly, Nieh (2004) investigated 3,049 elementary school graduates in order to find out the predictors of their English proficiency. Independent variables involved the graduates' gender, area of residence, family's socioeconomic status, years of learning English, and hours of extracurricular English classes after school. Results revealed that the strongest predictor lay in whether students attended extra English classes after school. However, although SES didn't explain the proficiency level as much as the extracurricular English classes, students whose parents had higher SES, such as military personnel, civil servants, and teachers, were still predicted to have significantly higher level of English proficiency than lower-SES students, especially whose parents were from laborer classes. Moreover, it is reasonable to associate parents' capability to afford long-term extra education with their higher socioeconomic status and thus make SES an underlying factor of offering extra learning.

However, the aforementioned studies only concern uncovering whether there is a significant effect of SES on language achievement rather than probe into what type of relation exists between them. As suggested by a host of research (Keith & Anderson, 1997; Koutsoulis & Campbell, 2001; Stipek, 2001), the effect of SES on academic achievement is indirect. Rather, SES is directly related to a variety of educational variables, such as psychological support, attitude towards school, motivation, and learning strategy, which have a direct effect on academic achievement themselves. In other words, between SES and second language proficiency may lie other factors, which, nonetheless, have rarely been thoroughly explored.

### **SES and Learning Motivation**

Among a limited number of studies that look into the relation between SES and correlates of second language acquisition, motivation, an educational psychological variable, has been more commonly explored than other correlates. For instance, Gayton (2010) interviewed 11 high school teachers — four in Scotland, four in Germany, and three in France — in order to investigate whether there were any differences in the influence of socioeconomic status on language learning motivation between English as L1 and L2. In both contexts, participants' responses suggested that socioeconomic status made a significant contribution to language learning motivation. The finding also revealed a positive correlation between SES and learning motivation across language contexts. Similarly, as one of her thesis research goals, Kan (2004) investigated the relationship between socioeconomic status and language learning motivation of Taiwanese students from Grade 3 to 9. Students' responses to questionnaires also demonstrated that students of high SES had significantly stronger motivation than those of mid and low SES, and mid-SES students higher than low-SES ones.

Still, effort dedicated to looking into the relationship between SES and

motivation has been restricted, so has research on the effect of SES on other variables, such as learners' cognitive development and subsequent use of learning strategy.

### **SES and Use of Learning Strategy**

Although learning strategy has been assumed by many researchers (Keith & Anderson, 1997; Koutsoulis & Campbell, 2001; Stipek, 2001) to be directly related to SES, such a connection has not been widely validated in the field of second language acquisition, neither has the relation between its superordinate concept, cognition, and SES. As a matter of fact, SLA studies investigating the role of SES have mostly concerned learning achievement and learning motivation.

In social education, however, it has been reported that one's socio-economic background may influence his or her cognitive development, which constitutes a critical determinant of academic success or difficulty. For instance, positive relation between SES, particularly parents' income, and cognitive competences has been observed in longitudinal research involving children from preschool and kindergarten. Stipek and Ryan (1997) uncovered a much poorer performance in all cognitive assessments among economically disadvantaged children than advantaged ones. Likewise, SES is believed to have important impact on not only early school success but long-term academic performance (Stipek, 2001). In other words, children from low-income family usually begin schooling at an academic disadvantage and are more likely to continue to do relatively poorly at school work because they lack proper academic skills that are supposed to be constructed through early childhood experiences. Such intellectual competences and performance are by all means underscored by cognitive development.

As summarized by a group of specialists in Education and Early Childhood Development (DEECD, 2006), opportunities for intellectual development, involving cognitive skills and thinking pattern, result from early social interaction. It is through



interaction that a child comes to “learn the language, organize perceptions, and develop higher order cognitive processes.” Without sufficient opportunities to engage in early social interaction, a child is less likely to develop the ability to think independently. This disadvantage is commonly associated with low-SES family in that, as reasoned in the previous sections, it is very likely that parents with low-income are inevitably too occupied with earning a living to attend to children’s language progress, let alone intellectual development.

Important as early social interaction is, it accounts for only an aspect of early life experiences, which as a whole have a profound impact on a child’s cognitive development. According to the Equity Guideline proposed by DEECD (2006), low-SES students often suffer from the lack of various experiences provided by parents in spoken or written languages that are relevant to formal learning and accordingly support cognitive readiness for school. The knowledge and skills formed through these early life experiences may affect how students interact with their learning environment and eventually shape their ability to remember, reason, solve problems, and acquire new knowledge. On the other hand, socially and economically privileged students are usually equipped with learning strategies necessary for formal learning before schooling through their everyday learning experiences. Thus, students of disadvantaged socio-economic background often start schooling with poorer cognitive readiness, which, if not mediated by teachers, might lead to inadequate learning strategies to cope with a variety of learning tasks.

One of the evident cognitive delays lies in literacy development. Congruent with the above-mentioned argument, Wasik, Bond, and Hindman (2002) found that children from socially and economically disadvantaged families often began schooling with limited language skills and less exposure to printed materials, and consequently fell behind their privileged peers in terms of early literacy development.

Nevertheless, SES is not a strong predictor of children's literacy skills; rather, it's the social language and literacy enhancement activities associated with high-SES families that essentially contribute to the literacy advancement (White, 1982). Such literacy enhancement activities as shared reading, reading aloud, and discussing stories and vocabulary with children were contended to be not only supportive of language and reading development, but also associated with later academic learning achievement. Since children build their thinking patterns partly through language development, it is very likely that those with literacy delays would suffer from delay in cognitive development.

Another example of cognitive delays was found in the field of science research. As one of their research goals, Akyol et al. (2010) investigated the relationship between learners' family socio-economic status and their use of cognitive and metacognitive strategies. The result demonstrated that both parents' educational level, numbers of reading materials at home, and frequency of buying a daily newspaper were positively and significantly associated with use of cognitive strategies, including rehearsal strategy, elaboration strategy, organization strategy, and critical thinking strategy, as well as metacognitive self-regulation strategies, which unsurprisingly boosted their science achievement. More importantly, the strategy questionnaire in this inquiry was not specifically designated for the subject matter only, but pertained to general learning. Thus, this study again supports the positive connection between SES and cognitive abilities.

Abundant as evidence is in upholding a positive relation between SES and cognition, little of the proof has rooted in the field of second language acquisition. Except for its effect on learning outcomes and motivation, SLA researchers have seldom taken SES into consideration when analyzing possible factors associated with language learners' cognition, particularly use of learning strategies. This constitutes

one of the research gaps the present study intends to fill: to uncover the relation between learners' socio-economic background and their use of English learning strategies.

## **Motivation**

### **Definition of Motivation**

Attempts to define what motivation is in the field of second language acquisition have never suspended as new discoveries or lines of reasoning emerge. Moreover, the conceptualization of what constitutes motivation also varies depending on the domain of research interests. Take social psychology and cognitive psychology for example. Researchers situated in these two fields of education may highlight different components of motivation, with the former emphasizing such extrinsic factors as social interaction whereas the latter focusing more on the individual's inner construction of meaning.

Despite different approaches to capturing what motivation consists of, the quest has generally attempted to answer the following three questions: (1) what drives the behavior to achieve a specific goal, (2) what underlies the intensity or effort invested in that pursuit, and (3) why individuals differ in their reasons and strength of directed behaviors (MacIntyre, 2002). Motivational theories that are able to provide convincing answers to all the three questions are prone to withstand challenges over decades. One of such successful theories is Gardner's socio-educational model (1985), the leading model that not only clearly defines what a motivated learner is but also theorizes the relation between motivational variances and language achievement.

### **Gardner's socio-educational model**

Sprung from the interest to find out whether the attitude toward target language community influences an individual's learning of that language, Gardner started to investigate, as early as 1960s, a number of affective variables that were regarded as

conducive to language learning outcomes, and eventually in 1985 proposed a formal causal model that represented the functional relation among attitudes, motivation, and achievement. The model is called socio-educational model. Although been through many revisions, the model maintains its essence that, first of all, while language aptitude and motivation facilitate second language acquisition, language anxiety debilitates the process; moreover, motivation is indirectly supported by integrativeness and attitudes toward the learning situation. The second foundation lies in the dynamic nature of the model. Not only does the level of how one is motivated influence language achievement, but the level of achievement and experiences in learning a language may lead to different levels of attitudes and motivation.

With the intention to explain how affective attributes are associated with each other and function together to impact language learning outcomes, Gardner (2000) synthesized the development of three major variables – attitudes toward learning situations, integrativeness, and motivation – and conceptualized their associations in terms of integrative motivation, which promotes language learning. In other words, according to Gardner’s model, an individual who demonstrates a high level of integrative attitudes, a positive evaluation of learning situation, and an elevated level of motivation is considered to be integratively motivated to learn the language. The components of these classes of variables are elaborated in the following paragraphs.

**Integrativeness.** The concept of integrativeness is what distinguishes the socio-educational model from other educational models of motivation (Gardner, Masgoret, Tennant, & Mihic, 2004). Through this construct, Gardner made explicit that second language acquisition involves identification with the target language community and their cultures, whereas the learning of other subjects such as mathematics, science, or history requires the development of knowledge that are either rooted in students’ own culture or universal across cultural boundaries. In other

words, it is the integrativeness that augments the social relevance of this model. Gardner further contended that integrativeness comprises of three dimensions, namely, attitudes toward the language group, interest in foreign languages, and integrative orientation, “an interest in becoming closer to the group for the purpose of communication and interaction” (Gardner, 2000, p.6), all of which concern language learners’ degree of willingness to identify with the language group.

**Attitudes toward the learning situation.** Another variable that is held supportive of learners’ motivation is attitudes toward the learning situation. Theoretically, this concept could extend to all kinds of elements present in the learning environment, including learning materials, extracurricular opportunities, and so forth; nevertheless, operationally, Gardner (1985) regarded the evaluation of the language course and the instructor as most reflective of learners’ attitude toward the language. Therefore, the corresponding measure, AMTB, mainly taps these two aspects of learners’ emotional reaction to the learning context.

**Motivation.** Gardner and his colleagues maintained that intergrativeness and attitudes toward the learning situation would not exert direct impact on learners’ learning outcomes, regardless of linguistic or non-linguistic outcomes, but would ground an individual’s motivation to learn that language. Even though, as mentioned in the previous section, the quest to empirically define motivation often results in “contradictory, paradoxical, and unexpected” (MacIntyre, 2002, p.58) findings, educators have generally agreed on what Gardner considered to be three key characteristics of motivation: effort, desire, and attitudes toward learning the language. In other words, an individual can be adequately characterized as a motivated learner if he/she expends effort in class, desires to become proficient in the language, and holds positive attitudes toward the learning experience simultaneously.

Aside from integrativeness and attitudes toward the learning situation, other

variables were also found associated with motivation to learn the second language, such as instrumental orientation (Dornyei, 1990), language class anxiety (Gardner & Smythe, 1981), and language use anxiety (Clement et al., 1977). The concept that arouses the most proponents is instrumental orientation, in contrast to integrative orientation — studying a second language for practical advantages such as getting a promotion at work.

To measure these attitudinal and motivational variables in language learners, Gardner and Smythe (1981) developed a collection of tests called Attitude/Motivation Test Battery (AMTB in abbreviation) and used participants' responses to establish the relationship among these variables on the one hand, and their relation to language learning achievement on the other. Having been through many adaptations, AMTB now consists of 11 subtests (Gardner, 2000) probing into the above-mentioned variables. It is well-acknowledged that AMTB has reached a high level of internal consistency and test-retest reliability, and a considerable number of studies employing the measure have also proved the correlation between these attitudinal and motivational variables and language achievement (Gardner, 2000).

### **Expansion of Gardner's model: Dornyei's three-level framework**

On the other hand, 1990s witnessed a trend calling for alternative approaches. Researchers considered the socio-educational model too limited to incorporate all possible existing factors that influence motivation (Dornyei, 1994) and too dominant to leave rooms for other theories to be seriously considered (Crookes & Schmidt, 1991). Therefore, critics (Crookes & Schmidt, 1991; Dornyei, 1994; Oxford & Shearin, 1994; Williams & Burden, 1997) were eager to expand Gardner's socio-educational model by integrating other motivational variables proposed in the field of second language acquisition as well as general education. During such a call for "educational friendly approaches in motivation research" (Dornyei, 2001),

Dornyei seems to be the most active advocate in proposing attention be focused on practitioner-friendly variables, such as causal attributions, task presentation, and classroom goal structure, and in integrating related concepts into an expanded framework.

Dornyei's (1994) framework consists of three levels: language level, learner level, and learning situation level. The language level refers to the distinction of integrative and instrumental motivation, which was also addressed in the socio-educational model. The learner level pertains to individual differences among learners, such as need for achievement and self-confidence. These are regarded as familiar concepts in broader psychological and educational literature. The last and the most distinctive category lies in the learning situation level, which contains three components: course-specific, teacher-specific, and group-specific attitudes. Although the socio-educational model encompassed learners' attitude toward the language course and teacher, Dornyei argued that these two components were not reflective enough of learners' attitude toward the learning situation. Moreover, Gardner's (1985) lack of providing pedagogical advice to help educators motivate learners lay the ground for Dornyei's development of motivation framework. Accordingly, he proposed 30 pedagogical strategies, 20 of which were targeted at classroom language learning, for teachers to make use of. It is this aspect that most distinguishes Dornyei's three-level taxonomy from Gardner's socio-educational model.

However, according to MacIntyre's (2002) review of alternative approaches to Gardner's socio-educational model, many theoretical and empirical efforts are still needed so as to organize Dornyei's motivational concepts and further demonstrate how these constructs are related to one another and to the L2 learning as a whole. Moreover, Gardner has argued that the strategies proposed by Dornyei concern many subject matters other than language learning, and doubted if the strategies targeted at

other subjects can be applied to second language learning. Also, whether the use of these strategies would have a desirable effect in terms of promoting learners' motivation as well as language learning outcomes has not fully researched to date.

### **Self-determination theory**

In addition to Gardner's socio-psychological perspective of language learning motivation, the present study is also grounded in the viewpoint of cognitive psychology. One of the most influential cognitive-psychological construct of learning motivation since 1990s is Deci and Ryan's (1985; 2002) self-determination theory, which has later been applied to the field of second language acquisition by Noels and colleagues (Noels, 2001b; Noels et al., 2001; Noels et al., 2000). The prominent distinction between intrinsic and extrinsic motivation is attributed to this theory and has been accredited by Brown (1991) as "a more powerful conception of the motivation construct" (p.247).

According to Noels et al. (2001), intrinsic motivation comes from the sheer joy and satisfaction of engaging in the learning tasks. In other words, learners who are intrinsically motivated feel the enjoyment and satisfaction from engaging in the learning activity and would love to continue learning due to that sheer sense of contentment. On top of this definition, the researchers have classified intrinsic motivation into three types based on the source of satisfaction. If the enjoyment is obtained from carrying out the learning activity itself, the motive is named stimulation. If the satisfaction results from accomplishing tasks, the type of motivation is titled accomplishment. In the same way, learners may also feel satisfied because they feel their knowledge is enhanced through the activity, in which case the intrinsic motivation is called knowledge.

In contrast, extrinsic motivation refers to external forces rather than the activity itself. Unlike intrinsic motivation, which rests on the three different sources of inner



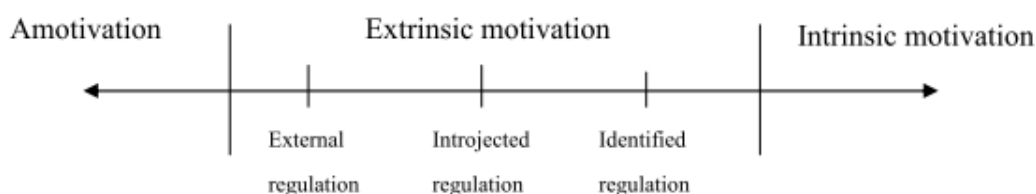
satisfaction, extrinsic motivation is defined through different sources of external drives and characterized by a continuum of self-determination. From the more self-determined form of extrinsic motivation to the less are identified regulation, introjected regulation, and external regulation. Identified regulation, the one that's most closely related to intrinsic motivation, characterizes a person who identifies with the value and significance of the activity for his/her personal reasons and is motivated to engage in the learning task accordingly. However, students who are motivated by introjected regulation are triggered by a sense of guiltiness or pressure imposed by themselves to carry out the task. For instance, students of this type might practice speaking English because they feel ashamed of not being able to speak English. Learning takes place because they feel the need to confront pressure or reduce guilt. Still, the introjected regulation is much more internalized and self-determined than the most extrinsic motivation, external regulation. External regulation determines learning behaviors through means external to a person, such as reward or punishment. Students whose learning behaviors are motivated by external regulation are prone to suspend efforts once the reward or punishment is removed.

In addition to intrinsic and extrinsic motivation, the self-determination theory also presents another concept to fully explain learners' behaviors: amotivation. Amotivated learners perceive no relation between their efforts and learning outcomes. They think they have little control over the consequence of their learning moves. Generally speaking, these learners have low self-efficacy and are likely to develop learned helplessness through their past unsuccessful learning experiences.

The aforementioned motivation types – intrinsic motivation, extrinsic motivation, and amotivation – can be spread along a continuum based on the degree of internalization. Figure 1 presents a graphical summarization of these motive types. Noels and his colleagues (2000) have developed Language Learning Orientations

Scale – Intrinsic Motivation, Extrinsic Motivation, and Amotivation Subscales (LLOS-IEA) to measure a variety of reasons behind learners' learning behaviors, which would also serve as one of the major instruments in the present study in addition to Gardner's AMTB subscale.

Figure 1 *Representation of Motive Types in Self-determination Theory*



Other than Gardner's (1985) and Noels et al.'s (2000) perspectives, the present study also takes into account the idea of requirement motivation that has been maintained significant in explaining Taiwanese learners' English learning motivation (Warden & Lin, 2000). In light of such a contention, Peng (2001) has constructed a questionnaire aiming to measure to what degree learners study the language out of curriculum requirement. This questionnaire also constitutes a part of the motivational questionnaire in the present study.

### **Empirical Studies on Motivation and Language Achievement**

A tremendous number of studies (Gardner & MacIntyre, 1991; Gardner & Masgoret, 2003; Lett & O'Mara, 1990; Peng, 2001; Tremblay & Gardner, 1995) have found a significant positive correlation between motivation and language achievement, such as listening, speaking, reading ability (Lett & O'Mara, 1990), and vocabulary learning (Gardner & MacIntyre, 1991). They have verified Gardner's theory that the higher motivation possessed, the higher achievement attained.

Aside from the connection between the intensity of motivation and achievement, L2 literature has also revealed the association between types of motive and learning

outcomes. It has been demonstrated that intrinsic motivation has a stronger impact on learners' achievement, compared with extrinsic (Gottfried, 1985; Peng, 2001) and requirement motivation (Peng, 2001).

Nevertheless, when exploring the relation of motivation, regardless of intensity or types, and English learning achievement, few researchers have broadened the scope of investigation to learner's socio-economic background. In other words, hardly have they attempted to explain if family background plays a role in learner's perception of English learning and in types of motivation possessed, which in the long run may affect the overall learning outcome. Such an underlying reason is considered crucial in assessing learning motivation in the present study.

On the other hand, the influence of motivation on learners' vocabulary achievement has rarely been compared with that of other variables, such as the use of metacognitive strategies. Acknowledging the significance of both learners' affective and cognitive differences (Gardner & MacIntyre, 1992), the present study takes a further step to compare the explanatory power of motivation and metacognitive regulation for lexical achievement.

## **Metacognitive Strategies**

### **Definition of Metacognition**

The other learner variable taken into account in the present study is learners' use of metacognitive strategies. To better understand metacognitive strategies in L2 field, its underlying concept, metacognition, must be explained first. The term metacognition was first mentioned by Flavell (1976), referring to the active and conscious monitoring, regulation, and orchestration of the information processing in order to achieve cognitive goals. Later, Flavell and Wellman (1977) and Flavell (1979) included the interpretation of ongoing thought process. In other words, metacognition concerns the thinking about thinking process and learning how to learn. Based on

these ideas, Baird (1990) succinctly summarized that “metacognition refers to the knowledge, awareness and control of one’s own learning” (p.184).

In light of these forerunners’ effort, several researchers set out to formulate the exact definition of metacognition. Nevertheless, the field has barely agreed on one. Instead, three classes of definition have aroused much attention. The first group of researchers (Flavell, 1979; Kuhn, 2000; O’ Neil & Abedi, 1996; Veenman, 1993) have contended that metacognition consists of two components, the learners’ self-awareness of knowledge and the access to strategies. The knowledge indicates the information about how, when, and where to use various kinds of strategies that direct learning. Learners must be able to access and employ those strategies to control their learning process when they need to.

The second class of definition suggests that there are three main components of metacognition: metacognitive knowledge, metacognitive monitoring, self-regulation and control (Pintrich, Wolters, & Baxter, 2000). Firstly, the metacognitive knowledge refers to the strategies used to regulate the process of knowledge acquisition, such as note taking and elaboration strategies which assist the building of links to prior knowledge. Secondly, metacognitive monitoring means metacognitive control strategies. The core strategies involve planning and monitoring of learning activities, evaluation of the learning outcomes, and the subsequent adaptation of the learning strategies to meet the task demand. The last component in Pintrich et al.’s model is associated with resource management. The management of time, environment, and other leaning conditions, for instance, is central to this group of strategies.

Also of equal importance is the model developed by Winne and Hadwin (1998). In their model, the function of metacognition involves four stages: task definition, goal setting and planning, enactment, and adaptation. Upon confronting the task, learners first generate perception of what the task is and what resource is available, set

a learning goal with constructive plans, implement strategies, and adjust strategies or plans to enhance the cognitive process based on their own learning outcomes.

Although these attempts to conceptualize metacognition diverge in details, they all imply an interaction between individual factors and situational factors. Learners actively select the knowledge and implement related strategies that meet the task demand.

It is not until the release of Oxford's (2011) book, *Teaching and Researching Language Learning Strategies*, that the general language learning strategies have been systematically charted. Integrating findings from previous research on the strategically self-regulated (S<sup>2</sup>R) learners, Oxford has theorized that there are three main dimensions of strategies – cognitive, affective, and social-interactive (SI) strategies – within each of which the metastrategies governs the use of strategies. In other words, learners actively and consciously regulate their learning through the use of a variety of learning strategies. Such regulation includes the control of information processing, emotion, beliefs, behaviors, and external environment, and is altogether referred to metastrategies, and respectively to meta-cognitive strategies, meta-affective strategies, and meta-SI strategies. The breakthrough of S<sup>2</sup>R Model dwells on the distinction of affective and social-interactive aspects from the cognitive one, as opposed to the usage in some literature, where the term metacognitive strategy is used to indicate all three kinds of management.

Metastrategies, according to Oxford (2011), are underlain by metaknowledge, the knowledge about how to learn. All the three dimensions share six types of metaknowledge: person, group or culture, task, whole-process, strategy, and conditional metaknowledge. And when they are applied to the cognitive dimension, they are collectively called metacognitive knowledge. Likewise, when it comes to the metastrategies in cognitive domain, they are termed metacognitive strategies. Oxford

has synthesized 8 categories of metacognitive strategies, including *Paying Attention to Cognition, Planning for Cognition, Obtaining and Using Resources for Cognition, Organizing for Cognition, Implementing Plans for Cognition, Orchestrating Cognitive Strategy Use, Monitoring Cognition, and Evaluating Cognition*. It is believed that when metacognitive strategies and metacognitive knowledge cooperate effectively, the function of metacognition will reach its peak, since they constitute the whole construct of metacognition (Flavell, 1979).

### **Importance of Metacognitive Strategies**

Not only are metacognitive strategies considered the most renowned type among all the metastrategies (O'Malley & Chamot, 1990; Oxford, 1990), but also the most crucial one in the development of learner autonomy (Jacobson, Maouri, Mishra, & Kolar, 1995; Rubin, 2001; White, 1995) as well as the improvement of language learning (Graham, 1997). It is also believed that “developing metacognitive awareness may also lead to the development of stronger cognitive skills” (Anderson, 2002b).

Since the enhanced ability to plan, organize, monitor, and evaluate the cognitive learning process may be conducive to learners' better use of cognitive strategies and consequently advance their learning process and products, learners' metacognitive awareness, both knowledge and strategies, should not be ignored in the language class. In fact, the past 30 years have witnessed the rise of research on the metacognitive strategies applied in various language skills (Abdelhafez, 2006; Chen, Gualberto, & Tameta, 2009; Zhang & Wu, 2009) and the effect of training of metacognitive awareness on language achievement in different language aspects (Abdelhafez, 2006; Coşkun, 2010). The field of second language vocabulary acquisition is no exception. The following sections summarize relevant theories and practices in the literature.

### **Metacognitive Strategies and Vocabulary Learning**

Many researchers engaging in the profession of second language vocabulary

acquisition have demonstrated a strong support for explicit and direct instruction on the acquisition of lexicons, advocating pedagogies that direct learners' attention to learning tactics and strategies they can make use of. Brown and Perry (1991) argued for teaching students appropriate vocabulary learning strategies, instead of letting students learning in their own way. Ellis (1995) suggested that the effort to describe vocabulary learning strategies would help enhance the understanding of ongoing mental process of vocabulary acquisition in learners' mind. Meanwhile, the description of these strategies can serve as a guideline to help learners acquire lexicons.

Furthermore, vocabulary learning strategies are upheld because of empirical advantages. Coady (1997) and other proponents of strategy-invested instruction of vocabulary teaching considered context to be the major source of vocabulary learning but expressed concern on learners' ability to acquire words in context by themselves. Therefore, they emphasized the value of teaching specific learning strategies in order to facilitate learners' vocabulary acquisition process. Also, Hulstijn (1997) claimed that the use of keyword strategy would promote vocabulary learning significantly, especially for learners of intermediate and advanced level. On the other hand, the significant role of metacognitive awareness in oral communication has been validated. Altman (1997) demonstrated that speakers' active and conscious control of lexicon in oral production made a significant difference.

In view of these contentions, the present study sets out to review taxonomies of vocabulary learning strategies (VLS), with the focus on those that integrate metacognitive strategies into the model. The selected metacognitive strategies would lay a foundation of the current investigation.

### **Taxonomies of vocabulary learning metacognitive strategies**

Although various attempts (Ahmed, 1989; Gu & Johnson, 1996; Lin, 2001;

Nation, 2001; Sanaoui, 1995; Schmitt, 1997; Stoffer, 1995) to delineate and classify vocabulary learning strategies have started in 1990s, so far only two renowned taxonomies directly highlight metacognitive strategies as one of the VLS categories: Gu and Johnson's (1996) as well as Schmitt's (1997).

Gu and Johnson (1996) investigated the vocabulary learning strategies used by 850 Chinese sophomore non-English majors. Aiming to establish these English learners' vocabulary learning strategies and their relationship to vocabulary learning outcomes and to general English proficiency, the researchers utilized a vocabulary strategy questionnaire and correlated the participants' replies to a vocabulary size test and the College English Test. Gu and Johnson's questionnaire included 7 categories of – a total of 91 – vocabulary strategies, among which, the class of metacognitive strategies was found to be a strong predictor of general English proficiency. This class of metacognitive strategies included the subcategories of Self-Initiation and Selective Attention, with the former consisting of 5 more detailed individual strategies and the latter 7. Table 1 presents the concrete description of these 12 strategies excerpted from Gu and Johnson's questionnaire.

Unlike Gu and Johnson's (1996) sophisticated analysis of metacognitive strategies, Schmitt (1997) proposed a more succinct description of learners' working metacognition in vocabulary learning. Schmitt studied as many as 800 Japanese English learners of a wide range of ages: junior high and senior high school students, university students, and adult learners. Within each age group, participants were recruited from schools of different prestige levels, namely, lower, medium, and higher levels. All the participants were given Schmitt's self-made taxonomy in the form of a questionnaire, which probed into whether they considered a particular vocabulary learning strategy useful.



Table 1

*Gu and Johnson's Vocabulary Learning Metacognitive Strategies*

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Metacognitive Regulation (12)

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Selective Attention (7)

I know when a new word or a phrase is essential for adequate comprehension of a passage.

I know which words are important for me to learn.

I have a sense of which words I can guess and which words I can't.

I look up words that I'm interested in.

When I meet a new word or phrase, I have a clear sense of whether I need to remember it.

I know what cues I should use in guessing the meaning of a particular word.

I make a note of words that seem important to me.

Self-Initiation (5)

Besides textbooks, I look for other readings that fall under my interest.

I wouldn't learn what my English teacher doesn't tell us to learn.

I only focus on things that are directly related to examinations.

I wouldn't care much about vocabulary items that my teacher doesn't explain in class.

I use various means to make clear vocabulary items that I am not quite clear of.

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Schmitt based his classification of strategies on four of Oxford's (1990) categories of learning strategies – Social, Memory, Cognitive, and Metacognitive – and added a new category termed Determination, which refers to the strategies used by an individual when discovering a new word's meaning without recourse to any person's expertise. Moreover, Schmitt systematically divided all the strategies into two functions: Discovery and Consolidation. Discovery strategies are those that are

used to encode newly encountered words while Consolidation refers to the reinforcement of the linkage between the new and old information or memorization of the word that has already been introduced. All in all, the taxonomy encompasses 58 strategies, which are further grouped into 5 categories and 2 dimensions.

As a mechanism to plan, monitor, and evaluate the vocabulary learning process, metacognitive vocabulary learning strategies, according to Schmitt (1997), involve 5 aspects: using English language media, testing oneself with word tests, using spaced word practice, skipping or passing new word, and continuing to study over time. These strategies are used to consolidate words that have been introduced and strengthen memory.

Compared with Gu and Johnson's (1996), Schmitt's (1997) description of vocabulary learning metacognitive strategies seems to provide a more feasible option for researchers in that the questionnaire is much shorter and the meaning of question stems does not overlap with one another as Gu and Johnson's appears to. Both advantages may make the questionnaire more subject-friendly and consequently increase the validity. Nevertheless, these two frameworks of metacognitive strategies are complementary rather than contradictory in that given the distinction of discovery and consolidation, Gu and Johnson (1996) and Schmitt (1997) respectively provide one of the two perspectives. In other words, while Schmitt's framework maintains the consolidation function as described by himself, Gu and Johnson's metacognitive regulation seems to serve the purpose of the discovery function, since Self-Initiation and Selective Attention stand for strategies used for/upon the encounter of a new word. Therefore, it seems that a combination of the two frameworks, categories of metacognitive strategies in particular, leads to an integral interpretation of metacognitive awareness in application to second language vocabulary acquisition. Such a fusion constitutes the major instrument of the present study.

### **Empirical studies on metacognitive strategies and vocabulary learning**

In general, there have been two research directions concerning the association between vocabulary learning strategy and language achievement. On the one hand, researchers take interest in investigating the effect of strategy instruction on learners' lexical learning outcomes. On the other hand, researchers make use of vocabulary learning strategy constructs and develop questionnaires to explore learners' frequency of using various strategies and its association with their lexical knowledge.

The first domain of research involves empirical studies that takes weeks or even months. The goal of these studies is either to validate the efficacy of explicit vocabulary strategy instruction (Chang, 2006; Jiang, 2001) or to compare effect of instruction on one set of strategies use with that of another (Lin, 1999). Moreover, there is also research (Chao, 2004; Jiang, 2001; Lu, 2002) looking into whether learners of different proficiency levels might benefit differently from the instruction. In general, results mostly reveal that explicit strategy instruction has a positive impact on learners' word knowledge improvement and increases learners' use of strategies. Also, high-proficiency learners are found to benefit more from the instruction than low-proficiency counterparts. However, in this school of research, strategies chosen to be instructed have seldom included those that concern learners' active planning, monitoring, and evaluating of the learning process, namely metacognitive strategies.

Rasekh and Ranjbar's (2003) study on the effect of explicit metacognitive strategy instruction on vocabulary growth is an exception. They randomly divided participants into an experimental and a control group. Both groups received a 10-week vocabulary learning strategy training while only the experimental group received extra metacognitive strategy instruction during the course. Unsurprisingly, the result proved the positive effect of such an extra training on lexical learning. Experimental group significantly outperformed the control group in the post

vocabulary achievement test. As Rasekh and Ranjbary indicated,

The explicit instruction and practice the experimental group received about how to plan their vocabulary learning, set specific goals within a time frame, select the most appropriate vocabulary learning strategy, monitor strategy use, use a combination of strategies, self-testing degree of mastery of the new vocabulary items after meeting the words for the first time, managing their time by devoting some time during their study hours to vocabulary practice, and finally evaluating the whole process, contributed to this improved and expanded lexical knowledge. (p.12)

On the other hand, other research concerning vocabulary learning strategy has made use of questionnaires to investigate learners' frequency and perception of using particular strategies and to associate their responses with proficiency level. Several studies have adopted this method to shed light on language learners' use of metacognitive vocabulary learning strategies. For instance, in an attempt to establish the relationship between vocabulary learning strategies used by Chinese learners of English and their general English learning outcomes, Gu and Johnson (1996) found that the two metacognitive strategies incorporated in the study – Self-Initiation and Selective Attention – emerged as a positive predictor of College English Test.

Similarly, a large scale project (Fan, 2003) aiming to explore the use of vocabulary learning strategies by Cantonese learners of English and their vocabulary size revealed 18 strategies that were employed significantly more often by the high-scoring group than both the middle- and the low-scoring groups. And such 18 items included one metacognitive strategy: planning one's own vocabulary learning. By doing so, the high-scoring group encountered new words inside and outside school significantly more often than the other two groups. Moreover, Fan's finding indicated that learners were inclined to acknowledge the importance and usefulness of certain

vocabulary learning strategies but fail to use them frequently. This phenomenon pertained to the use of metacognitive strategies as well. It was observed that there was an obvious discrepancy between learners' perceived usefulness and frequency of use regarding all the management strategies.

Despite differences in research methodology led by different research purposes, the query into learners' use of vocabulary learning strategies seems to involve an attempt to correlate the use of strategies with general English proficiency or lexical achievement. However, further investigation is needed to uncover the relative importance of the command of one's metacognition to that of motivation, so as to reveal the role of cognitive factors and affective ones in lexical achievement.

## **CHAPTER THREE**

### **METHODS**

The present study intends to investigate the effect of learners' SES on learning motivation, use of metacognitive strategies, and L2 vocabulary learning achievement. Besides, relative explanatory power of SES, learning motivation, and use of metacognitive strategies for L2 vocabulary knowledge will be examined. Thus, the research questions are as follows: (1) Do students of different SES differ significantly in English learning motivation (including motivational intensity and motivation types), use of metacognitive vocabulary learning strategies, and vocabulary learning achievement? (2) What are the explanatory power of learning motivation and metacognitive vocabulary learning strategy for learners' vocabulary achievement, with SES controlled? The following sections describe the subjects, the instruments, and the data collection as well as analysis procedures.

#### **Participants**

The participants included 224 high school students in a vocational high school in Changhua County, Taiwan, where English is learned as a foreign language (EFL context). The particular school was chosen not only because of easy access but its wide diversity of learners' English proficiency, which might contribute to a better understanding of which factor is more associated with English achievement.

As a vocational high school, this chosen school contains 10 different industrial departments aiming to develop students of different professional skills and knowledge. Nevertheless, students of different departments differ not only in major but in English proficiency, which can be traced back to performance at Basic Competence Test. Generally speaking, those who perform better at BCT are prone to have higher chances of admission to their desired departments in vocational high

school. This fact gives rise to a ranking of English achievement among departments within the same grade, despite the same instructional hour per week.

Given this attribute, the present study recruited 224 first-graders from 6 different departments, with three classes considered the most proficient in English and the others least among all the 10 departments. Such a wide dispersion of English ability could be reflected through how much time students devoted to learning English after class. As the participants' responses to background information questionnaire showed, out of a total of 224 participants, 145 students did not spend any extracurricular hour on English learning. Only one student spent less than an hour on English after class per week; 24 subjects spent one to less than two hours on English per week; 34 participants two to less than four hours; 11 students four to less than six hours; 8 subjects six to less than eight hours; and lastly, only one student devoted more than eight hours to studying English every week. It was expected that such diversity would help find out the connection between L2 vocabulary learning and learner variables such as socio-economic status, motivation, and metacognitive strategy.

## **Instruments**

### **Background Information Questionnaire**

The background information questionnaire used in the present study was adapted from Kan's thesis (2004), where the relationship between motivational intensity and socioeconomic status of learners' families was investigated. Kan developed the questionnaire based on forerunners' effort as well. For example, her use of two components – education level and occupation – to rank the status followed Hallinghead's (1957) two-factor index of social position. In terms of data analysis, education degree was divided into five levels, with the post graduate and above being the top level and allocated five points. College and university level was assigned four points, and high school level three points. Primary school or literate without any

schooling was assigned two points, while illiterate level was assigned one point. Similarly, parents' occupation was assorted into five categories, from the top five points to the lowest one point. Jobs assigned more points were more professional and skilled than those assigned fewer points. Concrete examples of each occupation category were also given in the questionnaire. (Refer to Appendix A for the details.)

As for scoring, Hallinghead (1957) suggested that SES be calculated through the summation of the higher point of both parents' education level times four and that of occupation times seven. Based on the summation, SES was further divided into three ranks: high, mid, and low. SES was ranked high if the total fell between 41 and 55, mid between 30 and 40, and low between 11 and 29.

### **Motivational Questionnaire**

The motivational questionnaire consisted of two parts: scales of motivational intensity and motive types. While the former explored learners' effort, desire, and attitudes toward learning English, the latter aimed to investigate what drove the learners to learn English (see Appendix B). Learners were asked to reply to both scales based on a 4-point Likert scale, ranging from Strongly Disagree (1 point) to Strongly Agree (4 points).

Items 1-11 concerned motivational intensity. They were adapted from Peng's (2001) and Kan's (2004) measures of students' motivational intensity, both of which were translated from Gardner's (1985) Motivational Intensity Questionnaire (MIQ) of AMTB and modified to suit Taiwanese contexts of varied learning levels. In addition, in order to facilitate data analysis and prevent confusion in respondents, all the negatively worded questions were transformed into positive ones in the current study. For example, both Peng and Kan inquired learners on how they perceive their English assignment with the statement, "When I do my English homework, I often feel distracted and just skim over it." In this study, such a statement was changed into



“When I do my homework, I concentrate in the process and do my best.”

The second part of the motivational questionnaire comprised items concerning motive types. There were 34 items in total, namely, items 12-45, categorized into four subsections: intrinsic motivation, extrinsic motivation, amotivation, and requirement motivation. The first three sections were based on the construct, Self-Determination Theory (Deci & Ryan, 1985), whereas the last section was founded in Warden and Lin’s (2000) suggestion that requirement motivation accounts for the language learning motivation of Taiwanese students to a great extent. The instruments measuring these attributes were adapted from Language Learning Orientations Scale – Intrinsic Motivation, Extrinsic Motivation, and Amotivation Subscales (LLOS-IEA) by Noel et al. (2000) and a mini-questionnaire on requirement motivation generated by Peng (2001). The purposes of this study are similar to Kan’s (2004); therefore, Kan’s translation of LLOS-IEA and her modification of Peng’s requirement motivation questionnaire were adopted. Table 2 displays the organization of the motivational questionnaire and distribution of these items. The complete motivational questionnaire is shown in Appendix B.

Table 2

*Organization of the Motivational Questionnaire and Item Distribution*

Part 1: Motivational Intensity				Part 2: Motive Types			
Content	Item number	Highest score	Lowest score	Content	Item number	Highest score	Lowest score
Motivational intensity	1-11	44	11	Intrinsic	12-22	44	11
				Extrinsic	23-37	60	15
				Amotivation	38-40	12	3
				Requirement	41-45	20	5

## **Metacognitive Strategy Questionnaire**

The third questionnaire was developed by the researcher with reference to Gu and Johnson's (1996) vocabulary learning strategy questionnaire and Schmitt's (1997) vocabulary learning taxonomy, both of which contain items tapping learners' metacognition in vocabulary learning. As mentioned in chapter two, the strategies proposed by the two studies coincidentally represent two different but complementary dimensions of vocabulary learning. Specifically, while Gu and Johnson's strategy categories of Selective Attention and Self-Initiation pertain to the encounter and discovery of new vocabulary, Schmitt's Metacognitive Strategies concern consolidation of the learned vocabulary knowledge. Therefore, the present study combines the metacognitive strategies suggested in both studies, and renames Schmitt's category as Consolidation in order to explicitly demonstrate its function in vocabulary learning as Gu and Johnson's does.

In detail, strategies in Selective Attention are employed to make judgments about whether the newly encountered word is worth attention and further learning. In other words, Selective Attention concerns with judging whether there is a need to guess, look up, or memorize the new vocabulary. Items 1-7 reflect learners' use of these strategies.

Also applied to the learning of new vocabulary are Self-Initiation strategies. This category highlights learners' active exploration of English words after school other than accomplishing required assignment. The response to this category reveals whether learners take active and autonomous control over their building of English lexicon, that is, whether they can make use of extracurricular resources to expand their word bank. Items 8-12 aim to find out the frequency of self-initiated vocabulary learning. Items on both Selective Attention and Self-Initiation were translated by the researcher herself. And some of Gu and Johnson's items were adapted to meet the

participants' learning situation and to reach higher clarity. For example, in item 8, the scope of self-initiated learning was expanded from "other readings" to "all kinds of resources" given the popularity of multimedia learning resources nowadays. Also, in item 10, the researcher replaced the obscurity of "things" with "English vocabulary" to avoid the participants' distraction from lexical learning. In addition to translation and rephrasing, all of the negatively-worded items were changed into positively-worded statements, for the same reason in adapting motivational questionnaire. For instance, in item 9, the researcher changed the original wording "I wouldn't learn what my English teacher doesn't tell us to learn" to "Besides required assignment by teachers, I would also actively learn English words that are not in the curriculum"; item 10, from "I only focus on things that are directly related to examinations" to "I don't just learn English words that are related to examinations"; item 11, from "I wouldn't care much about vocabulary items that my teacher doesn't explain in class" to "I don't just learn English words that my teacher explain in class."

Lastly, the category of Consolidation probes into how learners plan and monitor their consolidation of words that have been introduced. Items on this category were adapted from Hu's (2007) translation of Schmitt's metacognitive strategies, yet with the deletion of one of Schmitt's items that is not considered to adhere to the function of consolidation of learned word knowledge: Skip or pass new word. Also, two additive items were included in this category with reference to Hu's – items 16 and 17 – so as to make the investigation more comprehensive. Table 3 shows the item distribution in the metacognitive strategy questionnaire.

The participants were asked to rate each statement on a 4-point Likert scale, from Never Use This Strategy (1 point) to Always Use This Strategy (4 points). Therefore, given 17 items in total, students' scores may range from 17 to 68. Appendix C shows the questionnaire investigating learners' use of metacognitive vocabulary strategies.

Table 3

*Item Distribution in the Metacognitive Strategy Questionnaire*

Category	Number of items	Item number	The lowest score	The highest score
Selective Attention	7	1-7		
Self-Initiation	5	8-12	17	68
Consolidation	5	13-17		

**Vocabulary Knowledge Test**

The vocabulary tests used to assess participants' vocabulary knowledge are adapted from Nation's Vocabulary Size Test from his webpage (Nation, 2007). Nation's VST originally contained five levels — the 2<sup>nd</sup> 1000 word level, the 3<sup>rd</sup> 1000 word level, the 5<sup>th</sup> 1000 word level, the academic word level, and the 10<sup>th</sup> 1000 word level — which aimed to determine English learners' vocabulary size. Recently, the test for the 1<sup>st</sup> 1000 word level also became available.

The present study includes the first two levels test — the 1<sup>st</sup> 1000 word level and the 2<sup>nd</sup> 1000 word level — under the consideration of the participants' proficiency level. Since junior high school graduates should possess a lexicon of the most frequent 1,000 words, the 1<sup>st</sup> 1000 word level test should be appropriate to begin the assessment. On the other hand, given the fact that vocational high school graduates are expected to reach the 4,000-word level, it is also considered sufficient to have first graders to take the test of the 2<sup>nd</sup> 1000 word level.

According to Nation's design, each test contains 60 representative words of that frequency level, organized into 10 clusters based on parts of speech, six words in a cluster. Next to each cluster are three definitions of three random words out of these six words. Test takers need to choose the corresponding words out of the six options to match the three given definitions. Thus, each test consists of 30 questions in total.

Each correct answer is given one point, making 30 points at most. Learners are considered to master a particular level – know enough words of that level and may move on to learning lexis in the next level – as long as they answer at least 27 out of 30 questions correctly, which proclaims that they have acquired 90% of the words in that frequency list.

However, the present study does not intend to find out which level of vocabulary the participants have mastered. Rather, the 1<sup>st</sup> and 2<sup>nd</sup> 1,000 word tests are combined together and used as an achievement test without level boundary in the present study. In other words, the participants' performance on this combined vocabulary test does not entail their degree of mastery of vocabulary at certain frequency level, as Nation postulated. Given 60 questions in total and one point for each correct answer, the combined vocabulary test yielded scores from 0 to 60 points.

More noteworthy is the language version of the two level tests in this study. They were all bilingual, with three definitions in each cluster written in Chinese rather than English. Both tests were directly adopted from Nation's website (<http://www.victoria.ac.nz/lals/staff/paul-nation.aspx>). Although Nation contended that in the monolingual version the English used in definition are at higher frequency level than the words to be tested and is not supposed to hinder test takers' answering process, the researcher decided to employ bilingual tests, in order to make the tests more subject-friendly and to avoid any possible confounding effects caused by English, a foreign language to the participants. Appendix D shows the combined bilingual version of 1<sup>st</sup> and 2<sup>nd</sup> 1,000 word level tests in use.

## **Procedure**

### **Data Collection Procedure**

Before the formal study, a pilot study was conducted. A group of 74 students in the same vocational high school as that in the formal study were chosen based on

convenience sampling. They were asked to complete all the three questionnaires and the vocabulary test as fast as possible so that the researcher could reach an understanding of how much time students would need to complete the questionnaires and the test in the formal study. Besides, their responses to the motivation and strategy questionnaires were submitted to statistical analysis of reliability. Students were also asked to give feedback on the clarity of item wording.

To measure the internal consistency of the following sub-questionnaires — motivational intensity, intrinsic motivation, extrinsic motivation, amotivation, requirement motivation, selective attention strategy, self-initiation strategy, and consolidation strategy — Cronbach's alpha for each of these 8 subscales was calculated. Following conventional standards, those whose alpha was over .70 were considered reliable and would not be modified. If the alpha level was below .70, further modification would be made based on item analysis.

The formal study took place in December in 2011 after the school midterm examination. The researcher asked five of her colleagues to help invite their classes to join the research. The directions for implementation of the study was fully explained and the announcement to be made to student participants before distribution of the instruments was also demonstrated for the instructors. The participants were told that there was no right or wrong answers for the questionnaires and that their responses to the items would not affect any of their course scores. They were encouraged to answer forthrightly. Moreover, to lower participants' affective filter and elicit subsequent honest and unreserved responses, the time limit for completing the instruments was set based on the feedback of the participants in the pilot study.

### **Data Analysis Procedure**

The data were keyed in computer and then analyzed via SPSS. In addition to descriptive statistics, MANOVA was run to measure if students from different SES

groups differ significantly in both motivational intensity and motive types. One-way ANOVA was performed to reveal if students from different SES groups differ significantly in use of metacognitive strategies and vocabulary achievement.

More importantly, SES, motivation (both intensity and types), metacognitive strategy, and vocabulary achievement were submitted to hierarchical regression, with SES controlled in the first phase and motivation plus metacognitive strategy serving as the second-phase independent variables, so as to illuminate whether motivation and metacognitive strategy significantly predict vocabulary achievement in addition to learners' socio-economic status.

## CHAPTER FOUR

### RESULTS

#### Reliabilities of the Instruments

In the pilot study, the reliability test based on 74 valid subject data revealed that each subscale in the motivation and the metacognitive vocabulary strategy questionnaires reached internal consistency (Cronbach's alpha) over .70. Table 4 demonstrates values of Cronbach's alpha for each subscale in the questionnaires, indicating that the instruments were reliable. No modification was made on the questionnaires.

Table 4

*Reliability Results in the Pilot Study*

Subscale	Numbers of items	Cronbach's alpha
Motivational intensity	11	0.863
Intrinsic motivation	11	0.863
Extrinsic motivation	15	0.886
Amotivation	3	0.847
Requirement motivation	5	0.937
Selective attention	7	0.833
Self-initiation	5	0.885
Consolidation	5	0.736

Similarly, in the formal study, the reliability test results based on the responses of 224 participants suggested that each subscale in the motivation and the metacognitive vocabulary strategy questionnaires reached satisfactory internal consistency. All the Cronbach's alpha values were above .70, establishing a reliable ground for the



following analyses and interpretations. Table 5 shows the alpha value of each subscale in these questionnaires in the phase of formal study.

Table 5

*Reliability Results in the Formal Study*

Subscale	Numbers of items	Cronbach's alpha
Motivational intensity	11	0.882
Intrinsic motivation	11	0.935
Extrinsic motivation	15	0.905
Amotivation	3	0.780
Requirement motivation	5	0.943
Selective attention	7	0.717
Self-initiation	5	0.885
Consolidation	5	0.749

**Participants' Overall Performance on Instruments**

In the formal study, the overall English learning motivation (including intensity and types), use of metacognitive vocabulary learning strategies, and vocabulary achievement of the 224 participants were revealed through descriptive statistics (see Table 6).

Given the 4-point scale and a total of 11 items concerning motivational intensity in the motivational questionnaire, the sum threshold scores ranging from strongly disagree to strongly agree were 11, 22, 33, and 44. Since the calculated mean of all the participants' motivational intensity was 25.90, the students' strength of motivation to learn English roughly fell on the median 27.50, with a slight skew to the disagree end. With regard to motivational types, the sum threshold scores for intrinsic motivation were 11, 22, 33, and 44; for extrinsic motivation, they were 15, 30, 45, and 60; amotivation, 3, 6, 9, and 12; requirement motivation, 5, 10, 15, and 20.

Respectively, the mean of intrinsic motivation was 26.9, indicating the participants held almost neutral intrinsic motivation toward English learning. The mean of extrinsic motivation, 40.35, showed that the participants were almost strongly moved by external forces to learn English. In contrast, they were hardly driven by amotivation since the mean was 4.84, which meant that on average, this sample of students knew well why they were learning English. In terms of requirement motivation, the mean 10.76 revealed that the degree of the participants' reliance on school assignments to learn English was close to average.

Table 6

*Means on the Instruments by All the Participants*

Categories	Means
Motivational intensity	25.90
Intrinsic motivation	26.90
Extrinsic motivation	40.35
Amotivation	4.84
Requirement motivation	10.76
Metacognitive vocabulary learning strategy	43.09
Vocabulary achievement	40.27

Likewise, given the 4-point scale and a total of 17 items on metacognitive vocabulary learning strategy questionnaire, the sum threshold scores were 17, 34, 51, and 68, specifying strongly disagree, disagree, agree, and strongly agree. The mean of all the participants' strategy use, 43.09, indicated they used these metacognitive strategies at average frequency.

In terms of the participants' performance on the 60-item vocabulary test, the mean of 40.27 was higher than the passing score, 36, given the highest score of 60

and 1 point for each correct answer. This result suggests that the difficulty level of the vocabulary test might be appropriate for this sample of students.

### **Effects of SES on Motivation, Metacognitive Strategy Use, and Vocabulary**

#### **Acquisition**

In the formal study, 224 participants were drawn from 6 intact first-grade classes of different departments. They were grouped into high, mid, and low socio-economic status following Hallinghead's (1957) procedure before further statistical analysis on the effects of SES was made. There were 53 high-SES, 88 mid-SES, and 83 low-SES subjects. Respectively, they accounted for 24%, 39%, and 37% of all participants. Table 7 demonstrates the distribution of the participants by socio-economic status.

Table 7

*Distribution of Participants Based on SES*

Group	Numbers of participants	Percentage
High SES	53	24%
Mid SES	88	39%
Low SES	83	37%

The three groups' responses to each dimension in the motivational questionnaire – motivational intensity, intrinsic motivation, extrinsic motivation, amotivation, and requirement motivation – are described in Table 8. The descriptive statistics showed that there seemed to be a positive correlation between motivational intensity and SES status, with students of higher SES demonstrating higher learning motivation. Specifically, the means of low-SES, mid-SES, and high-SES groups on motivational intensity were 25.54, 26.05, and 26.21 respectively. In extrinsic motivation, the similar tendency was also found. The respective means of the three SES groups concerning extrinsic motivation were 39.33, 40.95, and 40.96.

Table 8

*Descriptive Statistics of the Motivation Questionnaire by SES*

		Number	Mean	SD	95% confidence interval for mean	
					Lowest end	Highest end
Motivational intensity	Low	80	25.54	7.388	23.89	27.18
	Mid	88	26.05	5.571	24.87	27.23
	High	53	26.21	6.582	24.39	28.02
	Sum	221	25.90	6.495	25.04	26.76
Intrinsic motivation	Low	80	25.99	8.701	24.05	27.92
	Mid	86	27.77	7.035	26.26	29.28
	High	52	26.88	6.397	25.10	28.67
	Sum	218	26.90	7.561	25.89	27.91
Extrinsic motivation	Low	82	39.33	9.702	37.20	41.46
	Mid	86	40.95	8.878	39.05	42.86
	High	53	40.96	7.547	38.88	43.04
	Sum	221	40.35	8.899	39.17	41.53
Amotivation	Low	82	5.15	2.155	4.67	5.62
	Mid	88	4.66	2.111	4.21	5.11
	High	53	4.68	1.858	4.17	5.19
	Sum	223	4.84	2.075	4.57	5.12
Requirement motivation	Low	83	11.37	4.350	10.42	12.32
	Mid	88	10.26	4.458	9.32	11.21
	High	53	10.64	4.633	9.36	11.92
	Sum	224	10.76	4.467	10.18	11.35

However, such a tendency did not seem to apply to other motivation types.

Regarding intrinsic motivation, the mean of low-SES group was 25.99, mid-SES group 27.77, and high-SES group 26.88; the means of the three SES groups on amotivation were 5.15, 4.66, and 4.68; requirement motivation: 11.37, 10.26, and 10.64. In these three dimensions, the means of the three SES groups did not demonstrate an obvious pattern as they did in motivational intensity and extrinsic motivation.

The participants' responses to the metacognitive vocabulary strategy questionnaire and their performance on the vocabulary test are demonstrated in Table 9. The descriptive statistics showed that in metacognitive vocabulary strategy, the means of low-SES, mid-SES, and high-SES groups were 42.21, 43.98, 42.96 respectively. As for vocabulary achievement, the means were 40.14, 40.50, 40.08, without a conceivable tendency.

Table 9

*Descriptive Statistics of the Metacognitive Strategy Questionnaire and the Vocabulary Test by SES*

		Number	Mean	SD	95% confidence interval for mean	
					Lowest end	Highest end
Metacognitive vocabulary strategy	Low	80	42.21	8.985	40.21	44.21
	Mid	87	43.98	8.587	42.15	45.81
	High	53	42.96	8.117	40.72	45.20
	Sum	220	43.09	8.621	41.95	44.24
Vocabulary test	Low	83	40.14	8.002	38.40	41.89
	Mid	88	40.50	7.364	38.94	42.06
	High	53	40.08	7.532	38.00	42.15
	Sum	224	40.27	7.613	39.27	41.27

To answer the first research question – whether students of different SES differ significantly in English learning motivation (including motivational intensity and motivation types), use of metacognitive vocabulary learning strategies, and vocabulary learning achievement – MANOVA and one-way ANOVA were performed. To be specific, connection between SES and motivational intensity and four motivation types was examined through MANOVA, while SES’ association with strategy and vocabulary test was respectively measured by one-way ANOVA.

The results showed that students of different socio-economic background did not possess significantly different level of motivational intensity or different types of motivation ( $F = 0.691, p = .733$ ). In other words, those from higher SES were not significantly more motivated to learn English than lower-SES peers. Neither were they characterized by different types of learning motivation toward English, compared with lower-SES counterparts. Table 10 presents the MANOVA result, showing the insignificant connection between SES and motivation with respect to both intensity and types.

Table 10

*MANOVA Results*

Effect		Value	F	Hypothesis df	Error df	<i>p</i>
SES group	Wilks' Lambda	0.967	0.691	10.000	408.000	0.733

Likewise, results from one-way ANOVA (Table 11) demonstrated that students of different SES did not use metacognitive vocabulary strategies at significantly different frequency ( $F = .88, p = .416$ ). That is, SES was not associated with the frequency students exert their metacognition in the process of English lexical learning.

Table 11

*One-way ANOVA of Metacognitive Vocabulary Strategy by SES Groups*

		SS	df	MS	<i>F</i>	<i>p</i>
Metacognitive vocabulary strategy	Between groups	130.916	2	65.458	0.88	0.416
	Within groups	16145.266	217	74.402		
	Total	16276.182	219			

Neither did SES have significant effect on learners' vocabulary achievement. Table 12 demonstrates that the three SES groups did not perform differently on the vocabulary test ( $F = .068$ ,  $p = .934$ ). Again, higher-SES students did not necessarily possess wider lexis than lower-SES students did.

Table 12

*One-way ANOVA of Vocabulary Achievement by SES Groups*

		SS	df	MS	<i>F</i>	<i>p</i>
vocabulary achievement	Between groups	7.965	2	3.983	0.068	0.934
	Within groups	12917.963	221	58.452		
	Total	12925.929	223			

In sum, the results revealed that the relation between SES and motivation (including intensity and types), metacognitive vocabulary learning strategy, and vocabulary achievement was not evident. Students of different socio-economic status did not significantly differ in learning motivation, use of metacognitive vocabulary strategy, and vocabulary achievement.

### **Explanatory Power of SES, Motivation, and Metacognitive Strategy in Vocabulary Acquisition**

Hierarchical regression was executed in order to answer the second research question: What is the explanatory power of learning motivation and metacognitive

vocabulary learning strategy for learners' vocabulary achievement, with SES controlled? The finding indicated that SES' sole accountability for vocabulary achievement was nearly null ( $R^2 = .000$ ;  $p = .989$ ), whereas the inclusion of motivation and strategy into the analysis led to a significant increase in accountability of vocabulary achievement ( $R^2 = .288$ ,  $R^2$  Change = 28.8%,  $p = .000$ ). In other words, motivation (including intensity and types) and strategy explained up to 28.8% of learners' vocabulary achievement, which was a significant change since SES itself was incapable of predicting vocabulary achievement. Table 13 reveals the change in accountability of vocabulary achievement before (Model 1) and after (Model 2) the inclusion of motivation and strategy as independent variables.

Table 13

*Model Summary of Hierarchical Regression Analysis*

Model	R	R Square	R Square Change	Change Statistics			
				F Change	df1	df2	p
1	.001	0.000	0.000	0.000	1	205	0.989
2	.536	0.288	0.288	13.396	6	199	0.000

Despite the significance of motivation and strategy together in explaining vocabulary achievement, a closer inspection of the standardized regression coefficients (Beta) unveiled that among all the predictors – motivational intensity, intrinsic motivation, extrinsic motivation, amotivation, requirement motivation, and metacognitive vocabulary learning strategy – only motivational intensity exerted a significant effect on vocabulary achievement, while the other variables did not.

To be specific, as Model 1 in the Table 14 reveals, SES was hardly associated with vocabulary achievement (Beta = -0.001,  $p = 0.989$ ), which was consistent with the results obtained for the first research question. Nevertheless, when motivation and



strategy were also taken into account in Model 2, motivational intensity outperformed the other variables and was found to be the only variable that significantly explained learners' lexical learning (Beta = .309,  $p = 0.012$ ). Moreover, the positive coefficient value indicated that when learners' SES was controlled, the higher the students' motivational intensity was, the better they performed on the vocabulary test.

Table 14

*Coefficients of Hierarchical Regression Analysis*

Model	Unstandardized Coefficient		Standardized Coefficient	t	p	Colinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1	(constant)	40.361	1.430	28.216	0.000			
	SES	-0.009	0.697	-0.001	-0.013	0.989	1	1
2	(constant)	21.958	3.938	5.576	0.000			
	SES	-0.429	0.603	-0.043	-0.711	0.478	0.981	1.020
	Intensity	0.365	0.144	0.309	2.533	0.012	0.240	4.161
	Intrinsic	-0.033	0.117	-0.033	-0.278	0.781	0.261	3.830
	Extrinsic	0.141	0.074	0.166	1.909	0.058	0.476	2.102
	Amotivation	-0.382	0.303	-0.104	-1.258	0.210	0.528	1.893
	Requirement	0.139	0.145	0.081	0.959	0.338	0.499	2.004
Strategy	0.123	0.089	0.139	1.372	0.172	0.348	2.873	

In conclusion, SES barely had any relation with vocabulary achievement. Since SES was not related to vocabulary learning, controlling SES did not make any difference in measuring the accountability of motivation and strategy for vocabulary learning. More importantly, the results from hierarchical regression revealed that with SES controlled, the sole and only variable that significantly explained vocabulary

achievement was motivational intensity. Motivational types and metacognitive strategy use did not play a significant role in explaining vocabulary acquisition.

## CHAPTER FIVE

### DISCUSSION AND CONCLUSION

The present study stems not only from the concern for the significance of family socio-economic status in learners' second language acquisition, particularly among vocational high school students, but also from the intention to reveal the relative weight of learning motivation and use of metacognitive strategies in explaining vocabulary achievement, on top of family socio-economic status. Therefore, the following discussion proceeds from explanations of the results to theory-based pedagogical suggestions for practitioners. The explanations mainly include the reasons (1) why the relationship between SES and each of the three variables – motivation, strategy use, and vocabulary learning – is insignificant in the present study as well as (2) why motivation (specifically motivation intensity) outweighs strategy use in the accountability of vocabulary achievement. Lastly, suggestions are made regarding how teachers can elevate learners' motivational intensity to learn English.

#### **The Effect of Socio-economic Status**

MANOVA and one-way ANOVA were performed to answer the first research question: Do students of different SES differ in their learning motivation (including intensity and types), use of metacognitive strategies, and vocabulary achievement? The findings were negative regarding all the three pairs of relation. The following sections provide explanations for the results.

#### **Socio-economic Status and Motivation**

MANOVA results demonstrated that students of different SES did not differ significantly in either motivational intensity or types of motivation ( $F = 0.691$ ,  $p = .733$ ). In fact, the descriptive statistics showed little difference in the means of

motivational intensity toward learning English among three SES groups (low SES = 25.54, mid SES = 26.05, high SES = 26.21), in spite of the slight propensity that the higher SES one had, the higher intensity one held. Neither did the three groups feature different types of learning motivation. Regarding intrinsic motivation, the mean of low-SES group was 25.99, mid-SES group 27.77, and high-SES group 26.88; the respective mean of the three groups concerning extrinsic motivation was 39.33, 40.95, and 40.96; amotivation: 5.15, 4.66, and 4.68; requirement motivation: 11.37, 10.26, and 10.64. The between-group differences were so scarce that SES did not make a difference in the type of motivation learners possessed toward learning English.

The finding that students of different SES did not hold significantly different degree of motivational intensity implies that SES is not related to how much learners are motivated to learn English and that it is a fallacy that students from high-SES family must have high motivation toward learning English whereas low-SES students are doomed to be less motivated. The reason underlying this fact might be that between SES and motivation intensity lies other important factors, which are not necessarily proportional to socio-economic status. According to Karaarslan and Sungur (2011) and Tocco (1971), though in the subjects of science and mathematics respectively, it is parents' attitude toward a certain subject and the cognitively stimulating environment they create accordingly that are directly connected with students' attitude toward that subject, instead of parents' educational level and annual income. Through a 150-subject quantitative study making use of questionnaires, Tocco has confirmed that students' attitude toward mathematics is directly correlated with their reports of perceived parental attitude toward that subject. Moreover, it has also been validated that parents' attitude toward the learning of mathematics is not related to their socio-economic status. In other words, SES is not necessarily predictive of parental involvement in the process of academic learning. Instead,

perceived parental attitude toward learning plays a significant role in learners' attitudes and motivation. Such parental attitudes can be perceived by children through observing whether parents carry out a pleasant conversation when the subject is discussed, whether parents express joy or satisfaction when learning their children have made progress on the subject, and whether parents have tried to help children with the subject. Obviously, these encouraging moves are not necessarily proportional to socio-economic status (Tocco, 1971).

Likewise, a student born in a low-SES family does not necessarily receive less parental involvement in his/her process of learning English, and neither does one from high-SES family receive more. It is very likely that the 224 participants in the present study received a similar amount of parental care and experience a similar parental interaction on English learning, regardless of socio-economic status. That is why the three different groups of SES yielded similar strength of English learning motivation. It is also possible that some low-SES parents might attend more to their children's learning process than their high-SES counterparts did out of compensation and dignity so as not to repeat in their children the learning helplessness they had experienced in early life. On the other hand, although expected to be fully aware of their role in affecting children's attitudes toward learning, some parents of high SES might fail to carry out parental actions consistent with what they believed due to too tight a work schedule or coddling children too much to right their errors, for instance. These speculations require further investigation in the future research in order to verify if the factor directly related to learners' intensity of learning English lies in parental involvement in learners' learning process, which has been recognized as unrelated to socio-economic status (Tocco, 1971).

On the other hand, aside from the possible mediation between SES and learning motivation through parental involvement (Tocco, 1971), a meticulous look into the

constitution of SES might also contribute to an understanding of the current finding that SES is unrelated to learners' motivational intensity toward English learning. While a host of researchers have agreed on the dichotomous measurement of socio-economic status – both parents' occupation and educational level (Hallingshead, 1957), some have revealed concern for such a simplified measure, unveiling different degrees of influence of these two factors on children's learning achievement (Karaarslan & Sungur, 2011). This might partly explain the result that SES is not related to motivation. In their examination of the relationship between socio-economic status and self-efficacy with respect to elementary students' science and technology learning, Karaarslan and Sungur (2011) found that among several indicators of socio-economic status (including parents' educational level, parents' employment status, number of siblings, number of reading materials, presence of a separate study room and a computer with internet connection, frequency of buying a daily newspaper, and income), number of reading materials at home ( $r = 0.49$ ), frequency of buying a newspaper ( $r = 0.43$ ), and income ( $r = 0.60$ ) were positively correlated with learners' self-efficacy level while the other indicators were negatively related to learners' belief in their own capability to successfully perform a certain task and focus on other people's judgment about their ability. This finding entails that for one thing, students provided with cognitively-stimulated environment are more self-efficacious in the learning of science and technology than students without. For another, parents' income is significantly more positively correlated with learners' perspective of their own learning than parents' educational level is. Such precedence is more distinct than the distance manipulated in Hallinghead's (1957) scale: occupation is 7/4 times of education. This inconsistency in operationalizing socio-economic status in research fields arouses a wonder if the result of the present study would be different once parents' educational level and occupation were

separated or assigned different weights in measuring socio-economic status.

In addition to motivational intensity, students of different SES were not found to possess different types of motivation, either. MANOVA results revealed that SES was unrelated to the reason why the students were motivated. The finding entails that whether students are raised by intellectual, skilled in profession, and wealthy parents barely has any connection with reasons driving them to approach English. Although the reason underlying the inclination of motive types remains unclear, one thing has been proved through the present study: parents' occupation and educational level has no significant effect on learners' reason to learn English.

### **Socio-economic Status and Metacognitive Vocabulary Strategy**

In the similar manner, the ANOVA result uncovered an insignificant relationship between SES and use of metacognitive vocabulary strategies ( $F = .88, p = .416$ ) and suggested that students of different SES did not use metacognitive strategies at different frequency. This disagrees with previous literature that claims socio-economic status is conducive to children's cognitive development and readiness for school through early life social interaction and cognitively-stimulated environment (Akyol et al., 2010; DEECD, 2006; Stipek, 2001; Stipek & Ryan, 1997). The finding hereby implies two points: firstly, even though the effect of SES on cognitive competence has been suggested in field of social and science education, it does not apply to second language acquisition, particularly the learning of lexis among vocational high school students; secondly, the aforementioned contention founded among young learners, mostly from preschool to elementary school students, might not be generalizable to the participants in the present study, who not only have started formal schooling for at least 9 years but have received English instruction for 7 years. They might thus have developed their own thinking patterns and learning behaviors through instruction and socialization. In other words, to these experienced learners,

the link between the ability to regulate their own learning and their parents' socio-economic status is weak.

Some inferences concerning the effect of SES on learners' use of metacognitive English vocabulary learning strategies can be drawn. As far as 1st-graders in vocational high school are concerned, the frequency at which students initiate moves to exploit resources in order to expand their English lexical knowledge (self-initiation), judge if newly-encountered words are worth looking up and being memorized (selective attention), and make use of resources to help themselves consolidate the memory of learnt words (consolidation) is unrelated to parents' educational level and occupation. Such a weak connection might be underlain by two reasons. First of all, as proposed in the preceding section, the impact of parental involvement may surpass that of socio-economic condition on learners' attitude toward their own learning. Therefore, a child with adequate parental care, which is not necessarily proportional to SES, is more likely to develop proper self-regulation awareness and exert metacognitive learning strategies more frequently in acquiring English lexis. Secondly, since the participants have been exposed to English learning for at least 7 years, chances are that they have come to be acquainted with how to plan, monitor, and evaluate their English vocabulary learning through teachers' instruction or their own past learning experiences, regardless of family background.

### **Socio-economic Status and Vocabulary Achievement**

Similarly, the one-way ANOVA result demonstrated that the between-group difference in terms of vocabulary achievement was not significant ( $F = .068, p = .934$ ), indicating students of different SES did not differ in the width of English vocabulary. Considering the previous two outcomes, where SES had no significant relation with learners' motivation, regardless of intensity or types, and use of metacognitive strategies, this finding seems reasonable and predictable. Nevertheless, it seems to



reject the positive relation between SES and English proficiency maintained in a number of Taiwanese studies (Chen, 2004; Hsu, 2009; Lee, 2009; Nieh, 2004). The following discusses possible explanations for such an insignificant connection.

To begin with, the effect of SES on academic learning outcome may have been reduced by school practices. A host of researchers have contended that the academic inequalities between high- and low-SES students, termed as socio-economic gap (SES gap), can be effectively reduced by school practices. Alexander, Entwisle, and Olson (2001) and Downey, von Hippel, and Broh (2004) have discovered that SES gap has been widened up during summer vacation throughout elementary years while the growth of such a gap has been alleviated during school year, confirming that school instruction can reduce the academic inequality caused by socio-economic factors across students. A qualitative study in Taiwan (Chen, 2009) echoes such a finding. Chen has revealed that teachers of low-SES students played an important role to mitigate their lack of social and economic resources through devoting more effort to building both a healthy and dynamic student-teacher and parent-teacher relationship that can enhance both sides' understanding of students' learning process and make it easier to provide help when necessary. Such a trusty role of teachers did greatly boost learners' self-expectation and sense of responsibility for their learning.

This line of research regards school as a compensatory role, alleviating SES' effect on learners' achievement. Based on this contention, it is plausible that after years of school instruction on how to acquire and memorize English vocabulary, the participants of the present study have gained similar amount of lexis, in spite of the diverse socio-economic status.

Another support for the current finding also lies in Chen's (2009) qualitative study, which specifically unveiled the positive relation between parental-children interaction and low-SES students' academic achievement. Common family impacts

found in these students include frequent conversation between parents and children on school affairs as well as learning process and satisfaction of children's basic survival need so as to let them concentrate on learning without distraction. Furthermore, Chen (2009) has established the significance of maternal care in these low-SES children's success, in that mothers' supportive attitude and positive encouragement were observed among all of the three subjects, including sincere social and material reinforcement perceived by children to maintain learning motivation. In addition, mothers' high expectation of moral discipline was found to enhance the subjects' self-efficacy and regulation. In other words, though born in a socially and economically disadvantaged family, students may reach academic success under the guidance of a responsible and caring mother.

The aforementioned studies offer some plausible explanations for why socio-economic status is unrelated to the participants' vocabulary achievement in the present study. Apparently, between socio-economic status and vocabulary achievement lie significant mediators, such as parental involvement (particularly mothers' support) and school intervention, especially for students of age 16, who have received formal schooling for more than 9 years.

To sum up, the insignificant relation between SES and English learning motivation, use of metacognitive strategy, and vocabulary achievement indicates that students of different SES do not differ in motivational intensity and types, use of metacognitive strategy, and vocabulary achievement. This result is supported by the line of research which has suggested that it is parental involvement that contributes more to learners' development of learning motivation and long-term academic achievement, rather than parents' socio-economic status, which is not necessarily proportional to the degree they engage in children' learning process. In addition, the influence of SES on metacognitive strategy use can hardly be detected in students

who have experienced nearly a decade of formal schooling in that the long-term exposure to instruction may have overridden the impact of family background on the use of metacognitive learning strategies. In other words, school practices might have compensated for the possible impoverished social and cognitive resource low-SES students suffer from, yielding an insignificant connection between SES and self-regulation on vocabulary learning as well as learning outcome.

### **Explanatory Factors in Vocabulary Achievement**

Hierarchical regression was performed in response to the second research question: What is the explanatory power of motivation and metacognitive learning strategies for vocabulary achievement with SES controlled? Given the fact that the relation between SES and vocabulary achievement was weak, as the previous result indicated, it is not surprising that little accountability of SES for vocabulary achievement was found in the regression (Beta = -0.001,  $p = 0.989$ ). In contrast, the addition of motivation and strategy accounts for as much as 28.8 percent of vocabulary achievement, which has been validated as a significant rise of accountability ( $R^2 = .288$ ,  $R^2$  Change = 28.8%,  $p = .000$ ). This finding is discussed in detail in the following two sections: (1) metacognitive strategies and vocabulary achievement and (2) motivation and vocabulary achievement.

### **Metacognitive Strategies and Vocabulary Achievement**

Although motivation and metacognition simultaneously explained English vocabulary achievement to a significant level, the significant contribution did not stem from the use of metacognitive strategies. In fact, learners' use of metacognitive strategies did not explain their vocabulary learning outcome to a statistically significant extent (Beta = 0.139,  $p = 0.172$ ). This result indicates that among first-grade vocational high school students, the higher frequency of using metacognitive strategies to acquire vocabulary does not necessarily bring about a

larger English vocabulary bank.

This result seems to be counter-evidence of Gu and Johnson's study (1996) reviewed in chapter two, where self-initiation and selective attention strategies were found to significantly predict general English proficiency, in the form of College English Test, among Chinese learners. However, the difference in task demands between theirs and the present study's is evidently large, making the two cases incomparable. While the present study focuses on the more direct outcome of exploiting vocabulary learning strategies – vocabulary size, Gu and Johnson made use of the overall English proficiency as a dependent variable. Because of such a difference, it is implausible to claim that the present finding rejects Gu and Johnson's suggestion. Rather, in light of the present weak explanatory power of metacognitive strategies for vocabulary achievement, further investigations with diverse vocabulary task designs are required so as to confirm the role of metacognition in second language vocabulary acquisition.

On the other hand, trivial as it appears, the explanatory power of metacognitive strategies for vocabulary achievement still exceeds that of socio-economic status. As the standardized regression coefficients demonstrated, socio-economic status rarely bore any accountability (Beta = -0.001,  $p = 0.989$ ) whereas metacognitive strategy held higher, though still insignificant, explanatory power for vocabulary size (Beta = 0.139,  $p = 0.172$ ). This finding entails that in the domain of vocabulary acquisition, the cognitive learner factor, which may be cultivated through learning experiences or instruction, weighs more than the uncontrollable inborn condition for learners, such as parents' socio-economic background. The finding is inspiring to students from disadvantaged family as well as practitioners in that it shows the possibility to enlarge students' vocabulary bank as they become familiar with and make frequent use of metacognitive strategies, which, unlike SES, is changeable.

## Motivation and Vocabulary Achievement

Even more encouraging is the finding that motivation was a significant predictor of vocabulary achievement. In fact, among all the independent variables, motivational intensity was the one and only variable that is accountable for English lexical learning (Beta = .309,  $p = 0.012$ ). In other words, the 28.8% increase in explanatory power after the addition of motivational intensity, four motivation types, and metacognitive strategies with the effect of SES removed is mainly ascribed to motivational intensity. This positive relation reaffirms the causal link proposed in Gardner's socio-educational model (Bernaus & Gardner, 2008; Gardner, 1985): the higher motivation intensity is possessed, the higher achievement will be reached.

In contrast, none of the four types of motives in inquiry – intrinsic motivation (Beta = -0.033,  $p = 0.781$ ), extrinsic motivation (Beta = 0.166,  $p = 0.058$ ), amotivation (Beta = -0.104,  $p = 0.210$ ), and requirement motivation (Beta = 0.081,  $p = 0.338$ ) – was found to significantly explain English lexical learning. Apparently, as far as this sample of vocational high school students are concerned, reasons driving them to learn English cannot explain their different width of English vocabulary knowledge. This result surprisingly differed from Peng's (2001) study, where the researcher looked into senior high school students' English learning motive types and correlated them with achievement. Peng's result suggested a strong positive relationship between intrinsic motivation and achievement and a negative one between requirement motivation and achievement.

Despite the statistically insignificant explanatory power of these motive types, their regression coefficients appeared to suggest, for one thing, a slight positive effect of extrinsic (Beta = 0.166) and requirement motivation (Beta = 0.081) on vocabulary achievement, and for another, a slight negative impact of intrinsic motivation (Beta = -0.033) and amotivation (Beta = -0.104) on lexical learning outcome. Such an

intriguing relationship disagrees with findings in much of previous research (e.g., Mitchell, 1992; Peng, 2001) and implies that when SES' effect is controlled, the more students are driven by external forces to learn English, involving imposition from school teachers, the larger a vocabulary bank they may learn. On the other hand, students seeing no reason to learn English at all are likely to gain little word knowledge. Nevertheless, it is astonishing to find out that students who learn English out of sheer joy and satisfaction are prone to perform poorly on the vocabulary test. Fortunately, this perplexing finding means little in the statistical sense (Beta = -0.033,  $p = 0.781$ ).

Undoubtedly, the primary value of this regression analysis falls on the disclosed significant explanatory power of motivational intensity for vocabulary achievement, making the discussion of the construct of motivational intensity and the related pedagogical applications the major concern at present. As reviewed in chapter two, Gardner's (1985) motivational intensity is composed of three elements: efforts, desire, and attitudes toward learning the language. Only when one possesses all of the three components can he/she be called a motivated learner. In other words, if a learner does expend efforts in class, desire to become proficient in the language, and hold positive attitudes toward learning of English simultaneously, he/she is believed to be a motivated learner of English. Exemplified in the motivational questionnaire of the present study, effort corresponds to items like "I'm concentrated during English class and do my best" and "I read teachers' feedback on my assignment carefully and correct every error." Desire is reflected through items like "I'll continue learning English elsewhere if school no longer offers English class" and "I would like to expand my exposure to English, such as joining an English club." Last but not least, attitude toward English learning is assessed through such items as "I enjoy speaking English with families, classmates, or friends, and make use of what have been learnt"

and “I don’t only expect myself to pass English exams but to reach as high achievement as possible.” Since the regression result indicates a significantly positive relation between motivational intensity and vocabulary achievement, it becomes crucial for English teachers to promote students’ active effort devoted to learning English, to stimulate their desire for improvement in English, and to cultivate their positive attitudes toward learning English.

To enhance students’ effort, desire, and attitude toward English learning, teachers must familiarize themselves with factors that may lead to students’ motivation first and employ strategies correspondent with these causes. According to Gardner’s socio-educational model (1985), motivation is influenced by attitudes toward learning situation as well as intergrativeness. The former involves learners’ evaluation of language course and instructor, while the latter concerns learners’ willingness to identify with the target language community and their cultures.

### **Pedagogical Implications**

One of the important findings in the present study is that socio-economic status is not related to students’ learning motivation, regardless of intensity or types, use of metacognitive vocabulary learning strategies, and lexical achievement. Based on this result, English teachers should be aware that students of higher socio-economic status do not necessarily possess stronger learning motivational intensity or different types of motivation; nor do they necessarily use metacognitive vocabulary learning strategies at higher frequency or have higher lexical achievement than their low-SES peers do. When it comes to instruction, teachers are encouraged to elicit learners’ positive attitudes toward learning English and guide learners to use proper learning strategies with patience and faith no matter what socio-economic status learners are from.

On the other hand, the present finding also enlightens language teachers on the

fact that it is motivational intensity that predicts learners' vocabulary bank. Thus, it is worthwhile to dig into causes that lead to motivational intensity. In view of Gardner's (1985) socio-educational model, motivational intensity is influenced by, firstly, attitudes toward language course and language teacher, and secondly, learners' identification with target language community and culture. Therefore, it becomes pivotal for English teachers to create a language lesson that enhance learners' positive perception toward these aspects.

To generate an English lesson that can arouse learners' interest, materials and presentation are both decisive. Materials that can introduce students to the culture of English-speaking community and that are close to teenage concerns at the same time are suggested, such as those that involve humor, teenage issues, and theme-based everyday-life interaction. Sources may include articles on a variety of interesting topics, short novels or comic books on classic literature, jokes, songs, and video-aids, such as TV series and movies. Through regular exposure to these materials, students might come to sense not only fun but usefulness of learning English because the increasing understanding of these materials may open them a window to diverse cultures and deeper thoughts. It is only when students start to perceive their own growth in and through English can their interest in English lessons sustains.

As for presentation of a lesson, teachers may beware of overwhelming students with difficult tasks at one time. Teaching techniques that require students to not only absorb new materials but also apply learnt ones are highly recommended because through producing their interlanguage to achieve a certain goal in an encouraging learning community, students might come to see the need of using English and grow a sense of achievement. However, this is only possible when challenging tasks are carefully presented one step after another with guidance. Vocational high school students are generally impatient with English. It is, therefore, important to present



learning activities from easy to difficult so as to develop their confidence in learning English and a positive evaluation of a considerate English teacher. In the long run, such a technique may help enhance students' motivational intensity.

Nonetheless, research has shown that there is often disagreement between teaching strategies teachers employ and those students perceive (Bernaus & Gardner, 2008). More noteworthy is that it is not teachers' report of frequency of teaching strategies that are significantly correlated with students' learning motivation, but students' perception of the frequency of these strategies. Given the finding that motivational intensity is a positive predictor of achievement, the possible gap between students' and teachers' perspective of teaching activities should not be ignored. Therefore, constant assessment of students' awareness of teaching strategies as well as their feedback on activities are demanded in order to optimize the effectiveness of every teaching method.

### **Suggestions for Future Research**

The present study has revealed two important findings: firstly, the role of socio-economic status seems insignificant in English learning motivation (both intensity and types), use of metacognitive learning strategies, and vocabulary achievement, making vocational high school students of different SES statistically similar in these three attributes; secondly, when the effect of SES is removed, motivation (particularly intensity) surpasses metacognitive strategies in explaining vocabulary learning outcome and becomes the only significant correlate with vocabulary achievement. Indeed, these results have shed light on the role of socio-economic status in affecting affective and cognitive learner factors and on how these factors explain vocabulary achievement. Nevertheless, it is worthwhile to look further into this line of research through realizing the following suggestions.

To begin with, since SES has been proved to be unrelated to motivation,

metacognitive strategies, and vocabulary achievement, the question of what family factor is actually related with them remains. As suggested by the aforementioned studies (Chen, 2009; Karaarslan & Sungur, 2011; Tocco, 1971), parental involvement and cognitively-stimulated environment surrounding students are possible factors leading to affective and cognitive individual differences. It thus requires further research on this direction, quantitatively and qualitatively, to enlighten both parents and English teachers on important family factors. Also, this would be a good chance to carry out a cross-disciplinary research, integrating the fields of SLA and sociology and expanding the scope of SLA research.

Secondly, the present study has looked into the effect of SES only on vocabulary achievement, which is believed to be necessary for English proficiency but far from sufficient. It is hoped that future investigation would involve other language skills, such as reading, listening, or overall language competence as dependent variables. Thus, the role of SES on language learning outcome would be further unveiled.

Furthermore, given the scarce number of studies on the relationship between metacognitive strategies and lexical learning, further investigation in this direction is strongly recommended. It is hoped that studies capitalizing on a diversity of vocabulary tasks might help reveal whether or how the relation exist between the two factors.

Last but not least, the present study has shown that the explanatory power of motivational intensity exceeds that of metacognitive strategies on vocabulary learning outcome. Nonetheless, whether this preponderant accountability applies to other language skills is unknown. Researchers are encouraged to replicate the present research procedure to examine the relative importance of affective and cognitive variables in explaining other aspects of second language acquisition.

## **Limitations**

There are two main limitations in the present study. Firstly, since the participants are all vocational high school students from a single school, the results cannot be generalized to contexts other than vocational high schools due to the sharp distinction between most senior and vocational high school students in terms of prior learning experience, prospect of future career plan, and the consequent general learning attitudes.

Secondly, the chosen vocabulary task at the present study – a vocabulary levels test asking participants to choose corresponding Chinese equivalents – might not assess vocabulary knowledge that demands use of metacognitive vocabulary learning strategies to achieve. This might constitute one of the reasons why students' use of metacognitive learning strategies did not significantly explain their lexical knowledge. However, to date, techniques that are suitable to gauge the role of metacognition in second language vocabulary acquisition have been rarely researched in the field. Further exploration of this kind is thus required.

## **Conclusion**

The present study intends to investigate, for one thing, the role of socio-economic status in motivation (both intensity and types), use of metacognitive learning strategies, and vocabulary achievement among vocational high school students, and for another, the explanatory power of motivation and metacognitive strategies for vocabulary achievement with the effect of SES controlled. A total of 224 first-graders participated in the study and completed three questionnaires – the background information questionnaire that includes questions on parents' SES, the motivation questionnaire, and the metacognitive strategy questionnaire – and a vocabulary test. Data were analyzed through MANOVA, one-way ANOVA, and hierarchical regression test.

The findings revealed that students of different SES did not differ in motivation (both intensity and types), use of metacognitive learning strategies, and vocabulary achievement, indicating that SES is not a significant role in these three attributes. As for the accountability, it was found that motivational intensity was the only predictor of lexical achievement whereas SES, four types of motivation, and metacognitive strategies failed in explanation.

These results imply that socio-economic status is not directly related to learning outcome and learner attributes. Instead, there might be other family factors more influential in learners' attitudes toward English learning and achievement, such as parental involvement and cognitively-stimulated environment surrounding students, which are not necessarily proportional to SES. The finding is encouraging for English teachers in that it becomes obvious that students' motivation and learning outcome are not determined from their birth. Rather, it can be changed probably through parental care and school instruction.

The finding that motivation surpasses metacognitive strategies in explaining vocabulary achievement suggests the preponderant position of affective factors over cognitive ones in vocabulary acquisition. This result gives rise to the highlight of how to motivate students to learn English. Based on Gardner's theory (1985), the present study has provided several pedagogical implications for English teachers. It is hoped that through appropriate culture-based interactive instruction, learners can develop positive attitudes toward the learning of English and English community, and enhance their motivational intensity accordingly.

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## APPENDICES

### Appendix A: Background Information Questionnaire

◎ 作答說明：請依照你的實際情況，填寫符合的答案。

1. 年級：高職 \_\_\_\_\_ 年級 \_\_\_\_\_ 科
2. 年齡：\_\_\_\_\_ 歲
3. 性別：男 / 女
4. 每個星期在學校約上幾堂英文課呢？  
 1~2 堂       3~4 堂       5~6 堂
5. 除了在學校學英文之外，有沒有在其他地方學英文？（如：補習班、安親班、課輔班、請家教...等。）  
 沒有  
 有。→ 那麼每個星期學習的時間大概多久呢？  
 未滿 1 小時                       1 小時以上~未滿 2 小時  
 2 小時以上~未滿 4 小時       4 小時以上~未滿 6 小時  
 6 小時以上~未滿 8 小時       8 小時以上
6. 在家裡有沒有人和你練習英文或是說英文呢？  
 沒有  
 有。→ 哪些人呢？\_\_\_\_\_

\* 第 7 和第 8 題請由下表中選出爸爸和媽媽的教育程度，將數字填入空格內。

1	2	3	4	5
* 不識字	* 小學 * 識字但未上學	* 高中或高職 * 國中	* 大專 * 專科學校	* 研究所以上

7. 爸爸的教育程度為 \_\_\_\_\_。

8. 媽媽的教育程度為 \_\_\_\_\_。

\* 第 9 和第 10 題請填入爸爸媽媽的職業。(請由下面的職業參考表中選出爸媽的職業，並填入數字即可。如果表中找不到父母的職業，請自行填寫。)

9. 爸爸的職業為 \_\_\_\_\_。

10. 媽媽的職業為 \_\_\_\_\_。

父母親的職業參考表				
1	2	3	4	5
* 家庭主婦 * 建築物看管人員 如：門房、守衛 * 服務生 * 工廠工人 * 學徒 * 小販 * 漁夫 * 佃農 * 工友 * 雜工 * 清潔工 * 臨時工 * 傭工 * 女傭 * 無業	* 郵差 * 司機 * 裁縫 * 廚師 * 美容師 * 理髮師 * 技工 * 水電匠 * 自耕農 * 零售員 * 推銷員 * 店員 * 小店主 * 領班 * 監工 * 打字員 * 士官兵	* 批發商 * 代理商、包商 * 代書 * 秘書 * 技術員、技佐 * 縣市議員 * 鄉鎮民代表 * 演員 * 服裝設計師 * 委任級公務人員： 科員、行員 * 出納員 * 消防隊員 * 尉級軍官 * 警察 * 船員 * 小型企業負責人	* 中小學校長 中小學教師 * 法官、律師 * 會計師 * 工程師、建築師 * 院轄市議員 * 記者 * 作家、畫家 * 音樂家 * 薦任級公務人員： 科長 * 銀行或公司之 經理、襄理、 協理、副理 * 校級軍官 * 警官 * 船長 * 中型企業負責人	* 大專校長 大專教師 * 大法官 * 醫生 * 科學家 * 立法委員 監察委員 考試委員 國大代表 * 特任或簡任級 公務人員：部 長、政務官 * 董事長 * 總經理 * 將軍級軍官

## Appendix B: Questionnaire on Motivation

- ◎ 作答說明：以下有許多句子，請你仔細閱讀，讀完每個句子後，依照你的實際狀況和直覺，從後面四個數字中圈選一個最能代表你的數字。答案沒有對錯之分，不用考慮太多。

	非 常 不 符 合	有 點 不 符 合	有 點 符 合	非 常 符 合
1. 上英文課的時候我都很專心。	1	2	3	4
2. 除了在學校上英文課以外，我還會找其他的方式來學英文，像收聽廣播、收看英語電視節目或電影、讀英語故事書、報章雜誌...等。	1	2	3	4
3. 英文作業或考卷發回來之後，我會主動訂正每一個錯誤。	1	2	3	4
4. 如果學校不教英文了，我自己會想要到別的地方繼續學英文。	1	2	3	4
5. 做英文作業時，我都很認真投入，不分心不馬虎。	1	2	3	4
6. 我在日常生活中盡可能地找各種機會練習英文。	1	2	3	4
7. 如果老師要找人做額外的英文作業，我會自願去做。	1	2	3	4
8. 我會額外花時間增進自己的英文能力，例如若是學校裡有英文社團，我都會想參加。	1	2	3	4
9. 我喜歡和同學、朋友、家人用學過的英文對話。	1	2	3	4
10. 對於英文學習，我不只要求及格，我會在下課後盡全力練習或複習英文。	1	2	3	4
11. 我希望能繼續學英文，最好能夠一直學下去。	1	2	3	4
12. 聽到英文的時候，我會覺得很興奮，所以我要學英文。	1	2	3	4
13. 說英文會讓我覺得很興奮，所以我要學英文。	1	2	3	4
14. 聽到外國人在說英文時，我覺得很有趣好玩，所以我要學英文。	1	2	3	4
15. 學英文給我成就感。	1	2	3	4
16. 學英文會讓我覺得自己越來越棒，所以我想學英文。	1	2	3	4
17. 在解決困難的英文習題過程中，我覺得很快樂，所以我學英文。	1	2	3	4
18. 在嘗試搞清楚某個困難的觀念時，我覺得很愉快，所以我學英文。	1	2	3	4
19. 我學英文是因為它是一項我很樂意面對的挑戰。	1	2	3	4
20. 我喜歡認識不同的文化，學英語可以讓我認識英美國家的文化，所以我學英文。	1	2	3	4
21. 學英文讓我更了解外國人（像美國或英國人）和他們的生活方式，這使我很快樂，所以我學英文。	1	2	3	4

	非 常 不 符 合	有 點 不 符 合	有 點 符 合	非 常 符 合
22. 學英文的時候，可以認識許多新事物、增加新知識，我很喜歡這種感覺，所以我學英文。	1	2	3	4
23. 我學英文是因為英文可以幫助我個人在各方面的成長。	1	2	3	4
24. 我覺得會說英文非常重要，所以要學英文。	1	2	3	4
25. 我學英文是因為我希望自己能夠說兩種以上的語言。	1	2	3	4
26. 我想成為一個會說英文的人，所以我學英文。	1	2	3	4
27. 我覺得英文說得好的人比較受歡迎，所以我學英文。	1	2	3	4
28. 好國民應該要會說英文，我想當個好國民所以我要學英文。	1	2	3	4
29. 現在大家都會英文，我不能不懂，所以要學英文。	1	2	3	4
30. 生活中常有許多地方用到英文，如果自己看不懂很丟臉，所以我得學英文。	1	2	3	4
31. 如果遇到外國朋友，我卻不會用英文跟他們溝通，我覺得很丟臉，所以我 要學英文。	1	2	3	4
32. 英文是國際語言，不會說英文很糟糕，所以要學英文。	1	2	3	4
33. 我覺得現代人如果不會說英文，是件丟臉的事，所以我學英文。	1	2	3	4
34. 因為大家都說我應該學英文，所以我才學英文。	1	2	3	4
35. 學好英文可以得到師長的肯定和讚美，所以我要學英文。	1	2	3	4
36. 我學英文是為了以後能從事比較受人尊敬的職業。	1	2	3	4
37. 如果我懂英文的話，以後能有比較高的薪水，所以我要學英文。	1	2	3	4
38. 我不知道我為什麼要學英文。	1	2	3	4
39. 我覺得學英文根本就是在浪費時間。	1	2	3	4
40. 我一點都不在乎學不學英文。	1	2	3	4
41. 因為學校有規定作業，我才讀英文。	1	2	3	4
42. 因為學校要考英文，我才會去念英文。	1	2	3	4
43. 因為學校的課程中有英文課，我才學英文的。	1	2	3	4
44. 因為家人叫我學英文，我才學。	1	2	3	4
45. 因為老師有要求，我才念英文的。	1	2	3	4

## Appendix C: Questionnaire on Metacognitive Vocabulary Learning Strategies

- ◎ 作答說明：以下有許多句子，請你仔細閱讀，讀完每個句子後，**依照你平常學習英文單字的實際狀況**，從後面四個數字中圈選一個最能代表你的習慣的數字。答案**沒有對錯之分**，不用考慮太多。

	從 未 使 用	很 少 使 用	常 常 使 用	總 是 使 用
1 我會判斷一個生字是否會影響我對英文文章的理解程度。	1	2	3	4
2 我會判斷哪些英文生字很重要，是一定要學的。	1	2	3	4
3 我會判斷哪些英文生字我能猜出意思，而哪些我無法猜出意思。	1	2	3	4
4 遇到我感興趣的英文生字時，我會查字典。	1	2	3	4
5 遇到英文生字或新片語時，我會判斷我是否需要記住它。	1	2	3	4
6 我知道該用什麼線索來猜測英文生字在文章中的意思。	1	2	3	4
7 我會做單字筆記(如：單字卡)來記錄對我而言重要的英文生字。	1	2	3	4
8 除了課本以外，我會尋找其他我感興趣的英文單字資源來學習新單字。	1	2	3	4
9 除了英文老師指定的作業之外，我也會自己主動學習非指定課程的英文生字。	1	2	3	4
10 我不只侷限於學習和考試有關的英文生字而已。	1	2	3	4
11 我不只侷限於學習老師上課所教授的英文生字。	1	2	3	4
12 我會盡力利用各種方法來釐清我所不清楚的英文生字意思。	1	2	3	4
13 我會運用媒體(如：聽英文廣播、新聞、歌曲，或看電影、雜誌等)來幫助記憶學過的英文單字。	1	2	3	4
14 我會用字彙測驗來自我測試是否已記住學過的英文單字。	1	2	3	4
15 我會持續不斷地複習已習得的英文單字。	1	2	3	4
16 我會安排英文單字複習計畫，如：每天複習 10 個單字。	1	2	3	4
17 我會省視自己的英文單字複習策略是否能有效地幫助自己記憶單字。	1	2	3	4

## Appendix D: Vocabulary Knowledge Test

- ◎ 作答說明：以下這份單字測驗共有 20 個題組，每一題組中的左邊是 6 個英文單字，右邊有 3 個中文解釋，請依照你對單字的理解，由左列 6 個單字中選出符合這 3 個中文意思的單字，並填入號碼即可。這份測驗不會影響到你在校的英文成績，請放心作答。

1 could		1 kill	
2 during		2 reply	
3 this	_____ 可以	3 advance	_____ 前進
4 piece	_____ 在...期間	4 appoint	_____ 回答
5 of	_____ 為了	5 divide	_____ 殺死
6 in order to		6 receive	
1 indeed		1 moment	
2 what		2 separate	
3 along	_____ 我的	3 worse	_____ 自由的
4 my	_____ 的確	4 free	_____ 時刻
5 some	_____ 一些	5 heavy	_____ 黃色
6 away		6 yellow	
1 church		1 spring	
2 scene		2 danger	
3 hour	_____ 汽車	3 stone	_____ 姐妹
4 trouble	_____ 麻煩	4 product	_____ 危險
5 fact	_____ 事實	5 sister	_____ 石頭
6 car		6 subject	

1 meet  
2 leave  
3 put \_\_\_\_\_ 放  
4 give \_\_\_\_\_ 給  
5 use \_\_\_\_\_ 用  
6 begin

1 example  
2 breadth  
3 fear \_\_\_\_\_ 寬度  
4 desert \_\_\_\_\_ 恐懼  
5 bit \_\_\_\_\_ 禮堂  
6 hall

1 wind  
2 room  
3 line \_\_\_\_\_ 男人  
4 enemy \_\_\_\_\_ 線  
5 night \_\_\_\_\_ 夜晚  
6 man

1 surround  
2 shoot  
3 paint \_\_\_\_\_ 合適  
4 fit \_\_\_\_\_ 警告  
5 command \_\_\_\_\_ 射擊  
6 warn

1 coffee  
2 disease  
3 justice \_\_\_\_\_ 工資  
4 skirt \_\_\_\_\_ 裙子  
5 stage \_\_\_\_\_ 正義  
6 wage

1 adopt  
2 climb  
3 examine \_\_\_\_\_ 爬  
4 pour \_\_\_\_\_ 檢查  
5 satisfy \_\_\_\_\_ 包圍  
6 surround

1 choice  
2 crop  
3 flesh \_\_\_\_\_ 溫度  
4 salary \_\_\_\_\_ 肉  
5 secret \_\_\_\_\_ 薪水  
6 temperature

1 bake  
2 connect  
3 inquire \_\_\_\_\_ 連接  
4 limit \_\_\_\_\_ 徘徊  
5 recognize \_\_\_\_\_ 限制  
6 wander

1 cap  
2 education  
3 journey \_\_\_\_\_ 教育  
4 parent \_\_\_\_\_ 尺度  
5 scale \_\_\_\_\_ 旅行  
6 trick

1 burst  
2 concern  
3 deliver \_\_\_\_\_ 破裂  
4 fold \_\_\_\_\_ 改善  
5 improve \_\_\_\_\_ 遞送  
6 urge

1 attack  
2 charm  
3 lack \_\_\_\_\_ 寶物  
4 pen \_\_\_\_\_ 魅力  
5 shadow \_\_\_\_\_ 缺乏  
6 treasure

1 original  
2 private  
3 royal \_\_\_\_\_ 最初的  
4 slow \_\_\_\_\_ 私人的  
5 sorry \_\_\_\_\_ 總的  
6 total

1 cream  
2 factory  
3 nail \_\_\_\_\_ 奶油  
4 pupil \_\_\_\_\_ 財富  
5 sacrifice \_\_\_\_\_ 學生  
6 wealth

1 ancient  
2 curious  
3 difficult \_\_\_\_\_ 困難的  
4 entire \_\_\_\_\_ 古代的  
5 holy \_\_\_\_\_ 神聖的  
6 social