Writing Strategies and Strategy-Based Instruction in Singapore Primary Schools

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By

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PREFACE

I am pleased to share this work with you. The study is based on my doctoral research. It provides a theoretical and practical understanding of the writing strategies used by Singapore primary school pupils and the strategy-based writing instruction provided in Singapore primary schools.

Research on language learning strategies (LLS) has been an area of inquiry for more than thirty years now. The majority of LLS studies are descriptive studies, many of which have found significant correlations between strategy use and language proficiency. However, the intervention studies, limited in quantity, have yielded inconsistent findings. To further complicate the issue, many of the LLS studies were conducted from a singular theoretical perspective of cognitive psychology. Therefore, these studies have not employed diverse theoretical lenses to fully capture the complexity and plurality involved in language learning.

The present study addresses this gap in research through investigating the relationship between Singapore primary school pupils' use of writing strategies and their writing competence in English. In addition, the study generates empirical evidence about the effectiveness of strategy-based instruction (SBI). Specifically, this two-phase study aims to answer the these questions: what writing strategies Singapore primary school pupils use in order to develop their writing competence in English; what the differences between academically successful primary school pupils and their less successful counterparts are in their use of writing strategies; How the differences in strategy use are related to language competence; and whether strategy-based writing instruction helps pupils improve their writing competence in English and the use of the target writing strategies.

The study was carried out within an overriding theoretical framework built on Kucer's multi-dimensional view of literacy, which incorporates different dimensions, i.e., cognitive, linguistic, socio-cultural, and development dimensions. Such a theoretical framework allows for examination of LLS across different dimensions, thus addressing the multi-dimensional nature of LLS. Consequently, an effective intervention can be designed.

During Phase 1, planning strategies, text-generating strategies, feedback handling strategies, and revising strategies were found to have a significant positive relationship with English language learning outcomes. The analyses of Phase 2 data show that the SBI had a significant treatment effect on both the participants' writing competence and their strategy use, namely, text-generating, feedback handling, and revising. The qualitative analyses also show that the experimental pupils orchestrated their strategy use significantly better than before.

Taken together, the findings of the study suggest that there are indeed strategic differences between successful pupils and their less successful counterparts in Singapore primary schools, which in turn has led to different English language learning outcomes. Strategy-based writing instruction has produced solid evidence that SBI is an effective method in teaching writing to primary school pupils in Singapore. In light of these findings, both theoretical and pedagogical implications are discussed in the final chapter. Part of the findings in this book has appeared in published journal articles. Some findings of Phase 1 are published in Bai, Hu, and Gu (2014), and some findings of Phase 2 Bai (2015).

CHAPTER ONE

INTRODUCTION

Language learning strategies (LLS) are defined as specific actions, behaviors, steps or techniques that learners use to improve their language learning (Oxford, 1999). In particular, writing strategies are the techniques, either mental or behavioral, that writers employ to enhance their writing. The findings of this study may deepen our understanding of the writing strategies employed by Singapore primary school pupils, the relationship between writing strategies and language proficiency, and the effects of strategy-based writing instruction in the Singapore context. In light of the findings, I have also proposed a new conceptual framework to look at strategy-based instruction (SBI), after discussing different dimensions of literacy in relation to writing strategies training.

What makes a learner successful in language learning? How do certain learning strategies help learners promote the learning of language? What are these strategies? What is the relationship between LLS and language learning achievements? In other words, we need to know the required information on developing language learners' learning expertise, such as LLS and successful LLS training (Johnson, 2005). LLS researchers, among researchers from other fields in second language acquisition, are interested to find out whether learning strategies make a difference between more successful learners and less successful ones. More importantly, further investigations on how LLS can be taught effectively to language learners are needed (Griffiths, 2015).

In this introductory chapter, I firstly examine the "expertise" research to contextualize LLS research, which stems from the expertise research historically. Next, I discuss the development of second language (L2) writing competence, followed by a multi-dimensional view on literacy as well as SBI. Then, I state the research problem and research questions, present the objectives and significance of the study. Finally, I conclude the chapter with an outline of the book.

1.1 Expertise studies and the origin of LLS research

The development of expertise research mainly stems from the need to create machines, such as computers, that can think or process like human beings and develop human skills. During the last few decades, expertise research has attempted to identify what accounts as expertise in a number of non-linguistic domains, such as chess playing, problem-solving, mathematics, and even car driving mechanics (e.g., Akin, 1980; De Groot, 1978; Gentner, 1988; Glaser & Chi, 1988; McLaughlin, 1979; Solso & Dallop, 1995, cited in Johnson, 2005). The common characteristics identified across the above domains include, but are not limited to, the following:

a) Experts excel mainly in their own domains;
b) Experts perceive large meaningful patterns in their domain;
c) Experts are fast; they are faster than novices at performing the skills of their domain, and they quickly solve problems with little error;
d) Experts have superior short- and long-term memories;
e) Experts see and represent a problem in their domain at a deeper (more principled) level than novices; novices tend to represent a problem at a superficial level;
f) Experts spend a great deal of time analyzing a problem qualitatively; and experts have strong self-monitoring skills (Johnson, 2005, p. 19-20).

There is one assumption that may hold true with regard to the above expertise studies. There may be general learning theories that can be applied to all these various domains, including learning an L2. Indeed, Anderson's (1982) cognitive theory suggests that learners share common cognitive processes for learning, irrespective of domains. In this view, language learners are perceived as organizers of information, using their information processing capacity to transact with the outside world. Therefore, language learning research can draw on the theories underlying the expertise research. The characteristics of language learning experts and the teaching of these characteristics will benefit other learners. Influenced by the expertise studies, the field of second language acquisition has seen a flourish of studies of the "good language learner" since the 1970s (e.g., Rubin, 1975; Stern 1975). At the outset, Rubin proposed a model that characterized the "good language leaner" with respect to the strategies used by successful L2 learners. The idea was embraced by Stern (1975),

who identified a series of strategies associated with good language learners. These studies have revealed that good language learners, similar to the experts in other domains mentioned previously, share common characteristics. They are active in learning, monitor their language production, make use of their prior language knowledge, employ memorization techniques, and clarify when there is a problem (Chamot, 2001). These characteristics of language experts share striking similarities with those identified in the expertise research mentioned above.

The earliest concerns and research work with the "good language learner" spearheaded the field of LLS. The main focus of the early work was to describe which strategies successful language learners used that poor learners did not so that poor learners could learn from the successful ones. The majority of LLS studies have been devoted to identifying LLS used by language learners. Research has shown that effective language learners use strategies more appropriately than those less effective ones, and that learning strategies can be taught to less effective learners (e.g., Carrier, 2003; Chamot & El-Dinary, 1999; Gu, Hu, & Zhang, 2005; Kuba, 2002; Lan & Oxford, 2003; Magogwe & Oliver, 2007; Nong-Nam & Leavell, 2006; O'Malley & Chamot, 1990; Vandergrift 2003a).

Two general strands of LLS studies coexist in the literature: descriptive studies and intervention studies (McDonough, 1995). Most descriptive studies have been devoted to identifying the strategies used by successful language learners, investigating the relationship between learners' LLS use and their language learning achievements, and examining learners' strategic performance in different language skill areas. Though the LLS literature presents a rather complex relationship between LLS and language learning achievements, a large repertoire of LLS that are associated with good language results has been identified. In addition, the majority of LLS studies have shown that good language learners are good at matching their use of strategies to the tasks at hands, whereas their weak counterparts lack the metacognitive knowledge about the task requirements for choosing appropriate strategies.

On the other hand, a number of LLS researchers have also undertaken studies aimed at training learners to employ LLS. The intervention studies include those that attempt to teach strategies for overcoming problems encountered in different aspects of language learning, and the ones that aim to teach particular strategies, e.g., reading strategies, writing strategies, vocabulary learning strategies, listening strategies, and speaking strategies.

These intervention studies are generally termed as strategy-based instruction (SBI). Motivated by this line of research, I am keen to know more on how to help language learners improve their language proficiency. Why do some language learners seem to learn a language very successfully, but some are not successful? I am very interested to investigate what the LLS are that positively correlate with learners' language achievements and how the training of strategy use can be successful. This study is connected with both strands of LLS studies.

1.2 English as an L2 in the Singapore context

Due to the multi-racial composition of the Singaporean population, English serves as a lingua franca among the major ethnic groups (i.e., Chinese, Malay, Tamil, and Eurasian). English plays an essential role in business, technology, administration, and the medium of instruction in school. In Singapore, primary school students study at least two languages, namely, English and their mother tongue. While most Singaporean children are bilingual, with English-cum-Mother Tongue combination, many children speak and interact with their family members and friends in their mother tongue at home. As shown in the Singapore 2010 population census, only 32.29% of Singapore families used English for communication among their family members (Singapore Department of Statistics, 2011). However, English, the medium of instruction for education, is used predominantly in Singapore schools. Given this situation, English is generally perceived as an L2 in the Singapore context by many researchers and teachers.

1.3 Approaches to teaching writing in an L2

It is also useful to look at the development of writing instruction in an L2 since the present study is concerned with writing strategies and strategy-based writing instruction. Product, current-traditional rhetoric, and process approaches are the three well-established traditions for teaching writing. There are no absolutely distinguishable boundaries that make the three approaches completely distinct from each other in the classroom. These approaches may be used by the same teacher at different times for writing instruction. Product-based approaches focus primarily on formal accuracy and correctness of students' writing. Instructions following these approaches prefer grammar study, error analysis, sentence combination, and focus on the text itself (Silva 1990). On the other hand, the current-traditional rhetoric approaches (also known as genre-based in some

contexts) to teaching writing aim to orient the writers with the characteristically patterned ways of writing. The focus is to construct and arrange the discourse forms logically (Silva, 1990). In a typical situation, student writers are instructed to pay attention to topic sentences, support sentences, concluding sentences, and transitions. In addition, they have to arrange sentences and paragraphs into prescribed patterns, e.g., narration, exposition, and arguments. This approach has been criticized due to its prescriptivism. In the Singapore context, these patterns are known as text types and have gained popularity in the writing class.

Process-based approaches reflect the trend that attention has shifted from texts to writers. Research evidence suggests that product-based approaches to writing, e.g., grammar instruction, did not directly improve students' writing ability, which gave rise to researchers' exploration of writing processes. Writing is not only about recording down thoughts, ideas and sentences, but also about thinking processes, and generating new thoughts and ideas. Moffett (1968, cited in Kern, 2000) notes that learning to write is learning to think about increasingly abstract topics and to think about the communicative needs of increasingly broad audiences. Also different from current-traditional rhetoric approaches by which learners learn how to write according to the model texts, process-based approaches view writers' processes as essential for learners to learn. Typically, process-based writing rests on procedures for solving problems, exploring ideas, expressing these ideas in writing, and multiple revisions of text, independent of the socio-cultural contexts (Ferris & Hedgcock, 2005). While the current-traditional rhetoric approaches represent a theoretical view of writing as a linear process, process-based approaches perceive writing as a series of recursive processes. Many studies have investigated the writing processes of L2 writers (e.g., Baker, 2004; Chamot & El-Dinary, 1999; Leki, 1992; Raimes, 1985; Victori, 1999; Zamel, 1983). The research of writing strategies represents part of the process writing movement (Manchón, 2001). This line of research has generated rich insights into what the writing strategies are that lead to successful writing. Despite the importance accorded to writing, many primary school pupils still do not do well to meet their grade-level demands and need substantial help in writing (see Graham, MacArthur, & Fitzgerald, 2007). Graham and Perin (2007) attributed this fact to the lack of effective instructional practices for teaching of writing to students. Students who do not learn to write well are at a disadvantage both in school and at the workplace in the future as writing is an extremely important skill for both academic and professional development. In the Singapore context, many young writers

are also faced with a similar problem (Goh, Zhang, Ng, & Koh, 2005). A research study on what writing strategies can help Singapore primary school pupils write more effectively will help inform writing teachers with regard to their classroom instructions.

1.4 A multi-dimensional theoretical framework for literacy and LLS

As mentioned previously, the LLS research in general and writing strategies research in particular represent a strong cognitive orientation. However, the teaching and learning of writing do not only involve the teaching and learning of a set of cognitive processes, such as inscribing and decoding words or patterned ways of thinking (Kern, 2000). Socio-cultural advocates (e.g., Gee, 1996; Vygotsky, 1986) have argued that writing is also a socially rooted process. In their view, learners do not only engage in abstract processes but also interact with others. It is the social interactions that help them develop their writing abilities in particular and literacy in general. The most recent writing strategies research has also seen many studies that have taken a socio-cultural perspective (e.g., Coyle, 2007; Donato & McCormick, 1994; Guerrero & Villamil, 2000; Hu, 2005; Min, 2006).

The two aforementioned theoretical perspectives (cognitive & socio-cultural) suggest that various disciplines tend to theorize learning in a unitary manner. For example, cognitive psychologists (e.g., Anderson, 1982) stress the importance of mental processes students go through during learning. Socio-culturists (e.g., Gee, 1996, Vygotsky, 1986) emphasize the impacts of social interactions on learners. However, Kucer (2005, 2009) argues each discipline only offers a partial view on literacy. Accordingly, the pedagogical implications as a result of such a narrow view will only lead to ineffective instruction, e.g., exclusive focus on the teaching of writing processes (cognitive). Therefore, Kucer (2005, 2009) has proposed a theoretical perspective that incorporates different dimensions: cognitive, linguistic, socio-cultural, and developmental. For literacy learning, the learner must learn to effectively, efficiently, and simultaneously gain control over the different dimensions of the written language. A learner takes on multiple roles: the role of code breaker/maker (linguistic dimension), the role of meaning making (cognitive dimension), the role of text user and critic (socio-cultural dimension), and the role of scientist and construction worker (developmental dimension). Writing instruction, theoretically grounded in a multi-dimensional framework, may

offer a better potential for teaching writing in the classroom effectively as this framework looks at the writer in a comprehensive manner. In this view, the development of the writer's competence is examined cognitively, linguistically, socio-culturally and developmentally. In a similar vein, the research of writing strategies should also be explored multi-dimensionally, given the importance of writing in the development of young pupils' literacy.

1.5 The research problem and research questions

The previous thirty years of research on LLS has seen a plethora of empirical studies (Cohen & Macaro, 2007). The majority of LLS studies fall into the category of descriptive studies, many of which have found significant correlations between strategy use and language proficiency. However, the intervention studies, limited in quantity, have yielded inconsistent findings. To further complicate the issue, many LLS studies were conducted based on a singular theoretical perspective, i.e., cognitive psychology, failing to address the multi-dimensional nature of LLS theoretically. Therefore, Gu (2007) notes in his Foreword to Cohen and Macaro (2007) that the research need to demonstrate "more rigorous designs and practices, and tangible and useful applications for learners and teachers" is still compelling.

Despite the abundant LLS research studies conducted worldwide, surprisingly very few studies (e.g., Goh, 2002; Lee, 2009; Loh, 2007; Wharton, 2000; Zhang, 2008) on language learning strategies employed by Singaporean students have been undertaken. In addition, most of these LLS studies were concerned with LLS used by older learners, e.g., pre-university or university students. Therefore, there is a need to investigate the LLS used by younger learners, i.e., primary school pupils. What are the LLS used by effective language learners in Singapore primary schools? What is the relationship between their strategy use and language learning achievements? What makes the training of strategy use effective in the Singapore context? In general, pupils who struggle with writing are found to lack knowledge of writing strategies, have difficulties in generating ideas, do little or no pre-writing planning, use few writing strategies, and revise little (Harris, Graham, Mason, & Friedlander, 2008). The problems that hinder them from developing their writing competence should be identified and solved as early as possible. All the above-mentioned questions can be formulated into specific research questions for the present study as stated below.

1. What writing strategies do upper primary school pupils use?
2. How are the differences in strategy use related to language competence?
3. In what ways does strategy-based writing instruction help pupils improve their writing competence in English?
4. In what ways does such instruction help improve pupils' use of the target writing strategies?

1.6 Objectives and significance of the study

There are two phases in this study, with each phase covering one general objective. The first phase is to map out the relationship between writing strategies and language proficiency. In the second phase, the effectiveness of writing strategy intervention with primary school pupils will be examined.

As far as the research significance is concerned, the study can offer insights in the following three aspects. First, the study will shed light on what writing strategies primary school students use in the Singapore context so that teachers can conduct suitable training programs for their students to enhance their writing competence. Primary school teachers can also adjust their teaching of writing in accordance with the findings from this study. Second, policy makers and curriculum designers can use the findings as guidelines for designing the writing curriculum. Such a study can provide empirical data for policy makers and curriculum designers to better shape the teaching of writing in Singapore primary schools. Third, the research findings are expected to contribute particularly to LLS research in Singapore and similar educational settings worldwide.

1.7 An outline of the book

This book comprises seven chapters. This chapter has briefly introduced the research field of LLS in relation to expertise research, development of language learning strategies research, and a multi-dimensional view on literacy as well as LLS, thus providing a broad context for the present study. In chapter 2, I will examine the development of LLS research by reviewing the LLS literature. Such themes as definitions and classifications of LLS, descriptive studies, and intervention studies will be reviewed. Chapter 3 will discuss the theoretical framework on which the present study is based. Both cognitive and socio-cultural theories will be drawn upon to inform the present study theoretically. In addition, a multi-

dimensional view on LLS and SBI will also be reviewed to gain a better theoretical understanding of both LLS and SBI. Chapter 4 will be devoted to presenting the research methods of the study. As mentioned previously, the study consists of two phases. The research methods associated with each phase will be presented separately. In chapter 5, I will present the research results and discussion concerning Phase 1. Chapter 6 will present and discuss the research findings of Phase 2. Finally, chapter 7 will summarize the major findings of the two phases briefly. A discussion of both theoretical and pedagogical implications in accordance with the research findings will be provided. In addition, limitations and suggestions for future research will also be discussed.

CHAPTER TWO

LITERATURE REVIEW OF RESEARCH ON LANGUAGE LEARNING STRATEGIES

This chapter opens with a detailed review of the frequently cited definitions and classifications in the literature for the purpose of defining and classifying LLS for the present study. Then, it continues to examine descriptive studies of LLS. A review of this body of research will show the commonly found relationships between strategy use and language learning outcomes. I will also critique some of the issues with respect to descriptive studies. Finally, the chapter concludes with a review of empirical studies that involved LLS training. The empirical findings of these studies can inform the present study on the intervention design that is most likely to be effective.

2.1 Definitions and categorizations of LLS

Despite the substantial LLS research thus far, LLS researchers not only tend to define learning strategies differently, but also categorize them differently, which brings about confusion to the research field. In section 2.1.1, I will focus on reviewing the definitions in the literature. In section 2.1.2, I will look at the issues on LLS classifications.

2.1.1 Definitions

It is important to note that learning strategies must not be confused with communication strategies although there is some overlap. Whereas learning strategies are used to facilitate learning, communication strategies are employed in order to overcome communicative problems. This line of research will not be covered in this review. Although LLS research has been underway for more than three decades, disagreement exists among researchers with respect to the definition of LLS. It seems that the majority of LLS research has been interested in more practical goals, i.e., to explore ways of empowering language learners to be more effective in learning,

rather than "pushing the theoretical understanding of language learning strategies forward" (Tseng, Dörnyei, & Schmitt, 2006, p. 78), thus calling for more research into the theoretical understanding of LLS.

In the LLS literature, there exist varying definitions (see Table 2.1 for some of them). Among them, Oxford's (1989, 1999) and O'Malley & Chamot's (1990) definitions have been widely used by LLS researchers with some adaptation to conceptualize their own studies. To these researchers, language learning strategies are special techniques, ways, approaches, or behaviors to facilitate information processing so that language learning can be enhanced.

Table 2.1. ***LLS Definitions***

Source	Definition
Stern (1983, p. 405)	"In our view strategy is best reserved for general tendencies or overall characteristics of the approach employed by the language learner, leaving the techniques as the term to refer to particular forms of observable learning behavior."
Weinstein & Mayer (1986, p. 315)	"Learning strategies are the behaviors and thoughts that a learner engages in during learning that are intended to influence the learner' encoding process."
Chamot (1987, p. 71)	"Learning strategies are techniques, approaches or deliberate actions that students take in order to facilitate the learning, recall of both linguistic and content area information."
Rubin (1987, p. 23)	"Learning strategies are strategies which contribute to the development of the language system which the learner constructs and affect learning directly."
Wenden 1987a (1987a, p. 6)	"…the term learner strategies refers to language learning behaviors learners actually engage in to learn and regulate the learning of a second language."
Oxford (1989, p. 235)	"Language learning strategies are behaviors or actions which learners use to make language learning more successful, self-directed and enjoyable."
Oxford (1990, p. 1)	"Language learning strategies are steps taken by students to enhance their own learning."
O'Malley & Chamot (1990, p. 1)	"Special thoughts or behaviors that individuals use to help them comprehend, learn, or retain new information."

Cohen (1998, p.5)	"Language learning strategies include strategies for identifying the material that needs to be learned, distinguishing it from other material if need be, grouping it for easier learning (e.g., grouping vocabulary by category into nouns, verbs, adjectives, adverbs, and so forth), having repeated contact with the material (e.g., through classroom tasks or the completion of homework assignments), and formally committing the material to memory when it does not seem to be acquired naturally (whether through rote memory techniques such as repetition, the use of mnemonics, or some other memory technique)."
Oxford (1999, p. 518)	"Specific actions, behaviors, steps, or techniques that students use to improve their own progress in developing skills in a second or foreign language. These strategies can facilitate the internalization, storage, retrieval, or use of the new language."
Weinstein, Husman, & Dierking (2000, p. 727)	"Learning strategies include any thoughts, behaviors, beliefs, or emotions that facilitate the acquisition, understanding, or later transfer of new knowledge and skills."

As shown in the definitions above, LLS researchers (e.g., Chamot, 1987; Oxford, 1989; Rubin, 1987; Wenden, 1987a; Weinstein, Husman, & Dierking, 2000; Weinstein & Mayer, 1986) could not agree on what counts as a strategy. According to Oxford (1989, p. 235), "Language learning strategies are behaviors or actions which learners use to make language learning more successful, self-directed and enjoyable." By this definition, learning strategies are essentially behavioral and can be observed. Weinstein and Mayer (1986), Chamot (1987), and O'Malley and Chamot (1990), however, regard LLS as both behavioral and mental. Their definitions indicate that some strategies cannot be observed directly since they are mental. For example, translation (i.e., using the learner's first language to understand or produce the second language) is such a strategy. The disagreement on whether strategies are observable seems to be resolved by Oxford's (1990) definition of strategies as "steps taken by the learner" rather than "behaviors or actions which learners use." "Steps" can be mental processes as well as behavioral ones. Improving on her previous attempts in defining a strategy, Oxford (1999) offers a more inclusive definition. According to this definition, strategies are "specific actions, behaviors, steps, or techniques." Compared to the definitions above, which

are somewhat abstract, Cohen (1998) provides concrete examples in his definition (see Table 2.1 for the examples). However, whether strategies are mental or behavioral are still debatable. The disagreement seems to have been resolved by Chamot (2004), who notes that "Learning strategies are for the most part unobservable, though some may be associated with an observable behavior" (p.15).

As a military term, "strategy" has been used to refer to procedures for implementing the plan of a large-scale military operation. This term, when used in other contexts, refers to procedures for accomplishing something, e.g., language learning (Schmeck, 1988). However, confusion about the difference among "strategies", "techniques", "actions", "steps", and other possible terms exits among LLS researchers. Ellis (2008) attributes the confusion to the uncertain nature of the behaviors that are considered as learning strategies. Stern (1983) draws a distinction between the two terms, i.e., strategies and techniques. Strategies are seen as general or overall approaches used by the language learner (e.g., an active task approach), whereas techniques refer to particular forms of actions that can be observed (e.g., using a dictionary when necessary). However, other researchers do not make such a distinction. They generally treat Stern's "techniques" as strategies too, for example, as can be seen in Rubin's (1987) definition. Cohen (1998), after a thorough review of the terms (e.g., strategy, macro-strategy, micro-strategy, technique, tactic, and move) used in the literature to refer to various cognitive or metacognitive processes, proposes a solution to this problem. He proposes to refer to all of the existing terms as "strategy".

Among LLS researchers, whether learning strategies are deployed consciously and intentionally or subconsciously by the language learner is also a debatable issue. Chamot (1987) perceives learning strategies as conscious and intentional, by referring to them as "deliberate actions". Cohen (1998) views consciousness as a crucial factor which distinguishes strategies from those processes that are not strategic. The same view is echoed by Anderson (2005) as well. However, other researchers (e.g., O'Malley & Chamot, 1990; Oxford, 1989) leave this factor out in their definitions. Dörnyei and Skehan (2003), in an attempt to differentiate strategies from skills, offer their view towards the consciousness argument on strategies. They mention that "strategies and tactics involve the conscious decisions …" (p. 611). Consciousness is surely an issue in question in defining strategies. In attempting to resolve this disagreement, Gu (2012) puts forward a new perspective, a prototypical view, on the

nature of learning strategies. In his view, some strategies are more strategy-like than others, varying in degree. Strategy is not a static concept but a dynamic process in nature. Therefore, some strategies might involve more consciousness, and some less. He explains:

> Prototypes are the ideal forms, so to speak, of target concepts. Particular instances are evaluated by means of comparing them to the prototypical exemplars to see how much common variance they share. Finding strategy prototypes and matching various strategic properties against them offers a much more illuminating perspective in the definition and description of strategies than simple categorizations based upon the presence or absence of, for instance, generality, or of other strategic attributes. Hence, the definition of learning strategies, according to prototype theory, would mean the delimitation of attributes that anchor the central core of a strategy, while at the same time spelling out possible dimensions of variance in much the same way as, though far more complicated than, Labov's (1973) demonstration of the concept of a cup. (p. 336)

Similar to Gu (2012), Afflerbach, Pearson, and Paris (2008) seem to have resolved the issue by proposing that learner's deliberate control, goal directedness, and awareness characterize learning strategies. However, learning skills are used without learners' deliberate control or consciousness and they are normally used out of habit and automatically. The key difference between skill and strategy lies in their intentionality and automaticity. When a strategy, which initially requires learners' deliberate attention, is used with no effort and automatically by learners, it has become a skill.

Conflicting views also exist as to whether the effect of learning strategies on language learning is direct or indirect in the definitions. Rubin's (1987) definition asserts that learning strategies produce a direct effect on language learning. By her definition, learning strategies contribute to the development of the evolving language system directly. But other researchers hold that the effect is more indirect. For example, Weinstein, Husman, and Dierking (2000) emphasize that strategies are to facilitate the learning process, similar to Oxford's (1999) definition.

LLS researchers also have different perceptions on the motivation for using learning strategies. Oxford, in her 1989 definition, considers that making learning an L2 "enjoyable" constitutes the motivation for strategy use as well. However, other researchers (e.g., O'Malley & Chamot, 1990; Rubin, 1987; Weinstein et al., 2000) believe that learning something about the L2 motivates the learner to use language learning strategies, excluding

the "enjoyment" element in their definitions. It is important to point out that enjoyment is only a minor motivation. By definition, the major motivation is to solve a language learning problem or to improve language learning.

2.1.2 Classifications

As it is with definitions of strategy, classifications of learning strategies also vary due to researchers' different understandings of learning strategies. Early researchers (e.g., Naiman, Fröhlich, Stern, & Todesco, 1978; Rubin, 1975, 1981; Stern, 1975; Wong-Fillmore, 1976) focused on compiling inventories of LLS that the learners were observed to use or reported using. These pioneer studies made no attempt to classify them into specific categories. Subsequent research, for example, by O'Malley, Chamot, Stewner-Manzanares, Küpper, and Russo (1985a, 1985b), O'Malley and Chamot (1990), Wenden (1991) and Oxford (1990), built on those early studies to develop their individual classification schemes. In this section, I will first review the inventories that the pioneer researchers compiled and then examine the classifications developed in subsequent research.

Rubin (1975) listed a series of characteristics that good language learners possess. According to Rubin, good language learners are willing to guess and can guess accurately, have a strong drive to communicate, are often uninhibited, focus on communication and attend to form, practice and monitor their own speech and the speech of others, and attend to meaning. Rubin (1981) conducted a longitudinal study eliciting and classifying language learning strategies of young adult learners. She used directed diary-reporting, focusing on particular types of cognitive strategies, instead of the whole range of strategies. Two types of strategies were identified: strategies which may contribute directly to learning, and those that contribute indirectly (see Table 2.2).

As Rubin used basic psychological processes (e.g., monitoring, memorization, and guessing) to describe learning strategies found in the learners, both of the two categories she put forward bear a cognitive orientation. Rubin's (1981) inventory contained mainly cognitive strategies. Metacognitive and social/affective strategies were not included.

Table 2.2. ***Characteristics of Good Language Learners***

Direct strategies	Indirect strategies
1. clarification/verification 2. monitoring 3. memorization 4. guessing/inductive inferencing 5. deductive reasoning 6. practice	1. creation of opportunities for practice 2. production tricks (e.g., using formulaic interaction, circumlocution, synonyms or cognates)

In a similar vein, Stern (1975) proposed a list of good language learners' learning behaviors and styles based on his survey of the research literature and his experience as a language teacher and learner. The 10 items were not categorized into any groups. It appears that Stern's inventory just simply listed the general good learning behaviors and styles exhibited by the learners. For example, the first item in the list is actually a "personal learning style" (p. 316).

Wong-Fillmore (1976, 1979) identified three social and five cognitive strategies (see Table 2.3) in her study on five children's language learning strategies over a nine-month period. Wong-Fillmore's interpretation is that the three social strategies were more important than the five cognitive strategies as the children were more concerned with establishing social relationships with each other when learning language. English was the tool used to set up relationships between the five Mexican children and their American peers, so they had to learn it.

Table 2.3. ***Learning Strategies by Young Learners***

Social strategies	Cognitive strategies
1. Join a group 2. Give the impression you can speak the language 3. Count on your friends	1. Assume relevance of what is being said 2. Get some expressions 3. Look for recurring parts in formulae 4. Make the most of what you've got 5. Work on the big things first

According to her account, the first two social strategies were well linked to the first two cognitive strategies, respectively. The children had to employ the first social strategy as an entry token to group membership. After successful entry, they used the first cognitive strategy of assuming they were in the relevant context. Then, they had to justify their membership by using the second social strategy, i.e., "give the impression, with a few well-chosen words, that you speak the language" (Wong-Fillmore, 1979, p. 209). The accompanying cognitive strategy was to "get some expressions you understand, and start talking". As shown in the above review, Wong-Fillmore's inventory grounded LLS mainly in the domain of communication, participants' interactions while learning English. Therefore the three social strategies are mainly communication-orientated in nature. Only two categories of strategies, i.e., cognitive and social strategies, were included in this inventory. Metacognitive strategies, a very important category, were left out. However, the study is still of significance to the present study of LLS because Wong-Fillmore pointed out the importance of orchestration of strategies. For example, she noted that the first two social and cognitive strategies were orchestrated by the children in learning English.

Inspired by Stern, Naiman et al. (1978) conducted a "good language learner" study which involved 34 successful adult language learners and a group of secondary school French-as-L2 learners. By means of interviews and observations, the researchers identified five broad groups of strategies. They discovered that good language learners take an active approach to their language learning, are able to develop an awareness of language both as a system of rules and as a means of communication, know they need to manage affective demands of language learning, and monitor their L2 production. These five broad groups each contain a group of secondary strategies. For example, awareness of language both as a system of rules and as a means of communication comprises emphasizing fluency over accuracy and seeking communication situations with L2 speakers. These strategies were elicited from adult learners and included more strategies as compared with Wong-Fillmore's (1979) and Stern's (1975) inventories.

The above-mentioned early studies were mainly exploratory in nature. The researchers conducted their research in different settings and with different methodological approaches. Wong-Fillmore observed children's interactions while learning English, so her inventory of LLS exhibited a communicative nature. Rubin's (1981) inventory is cognitive-orientated as she was only concerned with the psychological processes of the learners.

Stern (1975), on the basis of a literature review and personal teaching experience, described broad learning behaviors and styles of effective language learners. It is not plausible to make generalizations based on the data collected from the above-mentioned case studies. Therefore, more research is yet to be conducted to refine LLS inventories through various methodological approaches. Skehan (1989) identified three commonalities among those early inventories of learning strategies, which are "the learner's capacity to impose himself on the learning situation"; "his technical predispositions"; and "his capacity to evaluate" (p. 81). These early studies of LLS were mainly focused on identifying the LLS used by the language learners, whereas later studies which will be reviewed below not only examined the language learners' strategy use, but also investigated how strategies could be classified with more refined research methods. Consequently, these inventories have been more wide-ranging and systematic.

O'Malley et al. (1985a) study set out to 1) identify the range, type and frequency of learning strategies that beginning and intermediate level ESL students employed, and 2) determine the types of language tasks that the learning strategies were associated with. They used interviews and observations to collect data on the different learning strategies used for various types of language learning activities by the ESL learners in a secondary school setting, and classified the twenty-six strategies they found into three categories: metacognitive strategies, cognitive strategies, and social mediation.

On the basis of the above scheme, O'Malley and Chamot (1990) proposed a slightly different taxonomy. It is composed of three categories: metacognitive strategies, cognitive strategies, and social/affective strategies (see Table 2.4). Metacognitive strategies are "higher order executive skills that may entail planning for, monitoring or evaluating the success of a learning activity" (O'Malley & Chamot, 1990, p. 44). Strategies, such as directed attention and self-evaluation, are subsumed in this category, and they have an executive function as they involve thinking about learning processes. Learners without metacognitive strategies are learners without directions. Therefore, importance is given to metacognitive strategies. Cognitive strategies "operate directly on incoming information, manipulating it in ways that enhance learning" (O'Malley & Chamot, 1990, p. 44). Examples of cognitive strategies are inferencing, or guessing from the context, and elaboration, or relating new information to other concepts in memory. Hence, cognitive strategies have an operative or cognitive-