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A Study of Chinese Junior Secondary School Students’ Self-regulated Learning, Motivation, and English Reading Achievement

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BA in Linguistics, Renmin University of China, China
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A thesis submitted in fulfillment of the requirements for the Degree of Doctor of Philosophy (Ph.D.) in Education (Applied Linguistics & TESOL)
The University of Auckland, Auckland, New Zealand

2018
ABSTRACT

A large number of studies on self-regulated learning (SRL) have been conducted. Results have generally suggested a positive relationship between learners’ SRL and their academic achievement. However, a number of issues remain under-researched, including the cultural influence on learners’ SRL (McInerney, 2008), learners’ SRL in a specific school subject, such as English-as-a-foreign-language (EFL) (Teng & Zhang, 2016, 2018), gender differences in SRL (Zimmerman & Martinez-Pons, 1990), and differences in SRL between higher and lower achievers (DiFrancesca, Nietfeld & Cao, 2016). The present study addresses these research gaps while investigating junior secondary school students’ SRL in the context of China.

A mixed-method pre-post quasi-experimental study was conducted in a junior secondary school in China. A total of 163 Year 8 students from three intact classes participated in the pre-intervention tests assessing learners’ perceptions of SRL, their reading motivation and English reading achievement. Two intact classes from the three, with 106 students, were involved in the intervention: One was the contrast group and the other was the experimental group. Students from the experimental group were provided with 16 weeks of SRL training, whereas those from contrast group had the usual English classes. Students from both the contrast and the experimental groups participated in a post-intervention test to re-measure their SRL, reading motivation and English reading achievement. Additionally, eight students from the experimental group participated in a case study by writing weekly diaries during the intervention. The mixed-method pre-post quasi-experimental design derives data
from questionnaires, tests, and diaries, and provides a comprehensive understanding of Chinese students’ SRL, motivation, and offers insights into SRL.

Results show that Chinese EFL learners were low to medium level SRL learners who emphasized the role of effort making and learning for following classroom disciplines. Their reading motivation was at a medium level and they were likely to be motivated by achieving higher grades. Significant correlations were found between learners’ perceived SRL and their academic achievement, as well as between their reading motivation and achievement. The results of the effect of the intervention indicated that the experimental group showed a large increase in their English reading achievement from pre- to post-tests.

Regarding their employment of SRL strategies, the results showed that the most used strategies were *Seeking Information* and *Reviewing Examination Exercises*, and the least used strategy was *Organizing and Transforming*. The most effective strategies reported by students were *Seeking Information, Seeking Peers’ Help*, and *Reviewing Examination Exercises*, and the most ineffective ones were *Seeking Peers’ Help* and *Reviewing Examination Exercises*.

Male and female students did not show significant differences in their SRL, reading motivation and English reading achievement. Considerable differences were found between higher and lower achievers in terms of learning goals, their perceptions and employment of SRL strategies, and the time they spent on learning.
DEDICATION

To my family
ACKNOWLEDGMENTS

I would like to express my sincere gratitude to my main supervisor, Professor Lawrence Jun Zhang, and my co-supervisor, Dr Margret Kitchen, for their continuous support of my Ph.D. study, for their patience, motivation, enthusiasm, and immense knowledge. Their guidance helped me all the time in my conducting of this research and writing of this thesis.

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1 INTRODUCTION

1.1 INTRODUCTION TO THE STUDY

The present study explores Chinese English-as-a-foreign-language (EFL) learners’ perceptions of self-regulated learning (SRL) and motivation, examining the relationships among SRL, reading motivation and academic achievement, and evaluating the effectiveness of an SRL intervention. My experience of being a self-regulated learner has driven this research. My study experience provided evidence that being a self-regulated learner and using SRL strategies were beneficial to academic achievement. In my case, a question regarding SRL was raised: How do learners’ perceptions of SRL influence their motivation and academic achievement? The question is particularly important in the context of China, where the teacher-centred environment with large class sizes may require students to become more independent and self-disciplined.

This study investigated Chinese EFL learners’ perceptions of SRL and their motivation, and examined the effectiveness of SRL intervention through a mixed-method pre–post quasi-experimental research design. In the pre- and post-tests, self-reported questionnaires were used to assess learners’ perceptions of SRL and their reading motivation, and tests were employed to measure learners’ English reading achievement. All questionnaires used in the current study had been validated with Chinese junior secondary school students. During the intervention programme, two intact classes were involved: one was the contrast group and the other was the experimental group. Students in the experimental group were provided with 16 weeks of SRL training, whereas those in the contrast group had the usual English classes. Weekly diaries were employed with eight students in the experimental group to
trace their SRL development. Data derived from the questionnaires, tests and diaries were analysed and interpreted to provide a comprehensive understanding of the Chinese students’ perceptions of SRL and motivation, and to gain further insights into SRL.

1.2 BACKGROUND OF SELF-REGULATED LEARNING STUDIES

SRL has been a popular area of research for over three decades. The major reasons for the great focus placed on SRL are: 1) the necessity of, and interest in, determining how students master their learning processes; 2) the positive relationship between SRL and academic achievement that has been identified in a large number of studies; 3) the widespread recognition that SRL is teachable and students can learn to be SRL learners; 4) the applicability of SRL to learners at any age and in any discipline; and 5) the growing recognition that a major goal of education is to create self-regulated learners who are metacognitively, motivationally and behaviourally active participants in their learning (Paris & Paris, 2001; Teng, 2016; Tsang, 2017; Zimmerman, 2008). Thus, with the promising effects of SRL and its applicability, studies on SRL have continuously received considerable attention.

In light of the advantages of SRL mentioned above, a considerable amount of literature has been published on SRL. Researchers have investigated the relationship between SRL and academic achievement across a wide range of school subjects, including mathematics (e.g., Rao, Moely, & Sachs, 2000; Wolters & Pintrich, 1998), first language (L1) learning (e.g., Harrison & Prain, 2009; Law, Chan, & Sachs, 2008; Nota, Soresi, & Zimmerman, 2004; Ocak & Yamaç, 2013), foreign/second language (L2) learning (e.g., Farsani, Beikmohammadi, & Mohebbi, 2014; Lee, Lee, & Bong, 2014; Yusri & Rahimi, 2008),
physic (Neber, He, Liu, & Schofield, 2008) and engineering (Lawanto, Santoso, Lawanto, & Goodridge, 2014).

Extending the correlational study, researchers have investigated the design and implementation of SRL interventions to determine whether they can help students improve their perceptions of SRL, their SRL motivational beliefs or their uses of SRL strategies (e.g., Butler, 1998; Cleary, Platten, & Nelson, 2008; Cleary & Zimmerman, 2004; Graham & Harris, 1993, 2005; Graham, Harris, & Troia, 1998). In addition, researchers have employed various measurements of SRL, such as the traditionally used self-report instrument (e.g., Farsani et al., 2014; Metallidou & Vlachou, 2007; Pintrich & de Groot, 1990; Rao & Sachs, 1999) and interviews (e.g., Pintrich, 2004; Zimmerman, 2008), and innovative methods, such as observations, think-aloud protocols, diaries and trace logs (e.g., Azevedo, Winters, & Moos, 2004; Perry, 1998; Schmitz, Klug, & Schmidt, 2011; Winne & Perry, 2000).

Previous extensive studies have produced mixed results. Regarding the relationship between academic achievement and SRL, some studies have found a positive relationship (e.g., Pintrich, 2004), whereas others have not found any relationship or found a negative relationship (e.g., Rao & Sachs, 1999). Regarding the interventions, researchers have found that learners reported different changes in different aspects of SRL. Several possible reasons for the differences have been offered, including disciplinary differences, context differences, and the design and implementation of the intervention. Furthermore, what we know about learners’ perceptions of SRL is largely derived from self-reported data with college students, but comparatively few studies have explored younger learners’ perceptions of SRL with a mix of traditional and innovative SRL measurements. Thus, the evidence for learners’ perceptions of SRL, their SRL motivational beliefs, and their uses of SRL strategies in in
the contemporary Chinese context has been mixed, and it remains unclear how Chinese culture influences learners’ SRL and whether Chinese students’ SRL differs from those of students in other contexts.

To date, there is still uncertainty about SRL, including in relation to the impact of SRL on learners’ academic achievement and the cultural influences on learners’ perceptions of SRL, particularly, Chinese cultural influences on SRL.

1.3 RESEARCH CONTEXT

For a better understanding of the context of the current study, a brief introduction to the Chinese context is provided with respect to the following four aspects: Chinese culture, Chinese culture of learning, Chinese education system and English education within Chinese education. The information provides background knowledge of the cultural and educational context in China, helps to locate the current study in Mainland Chinese society and the Chinese junior secondary school context, and helps to identify possible influential factors in Chinese students’ perceptions of SRL and academic performance.

1.3.1 The Context of China

1.3.1.1 Chinese culture

1.3.1.1.1 Traditional collectivism and Confucianism

The role of culture in studies on educational contexts is receiving increased attention these days, and studies on SRL are no exception. One of the oldest definitions of culture, given by Edward Tylor, is that “culture is that complex whole which includes knowledge, belief, art, morals, law, custom and other capabilities and habits acquired by man as a member of
society” (as cited in Rai & Panna, 2010, p. 3). Culture has always been an important concept in the study of humanity and social science, as it is not just a matter of overt behaviour, but includes the (social) rules, beliefs, attitudes and values that govern how people act and define themselves (Kennedy, 2002). In educational settings, the underlying values and beliefs of culture influence learners’ academic engagement and performance (McInerney, 2008). Culture shapes and is shaped by the learning and teaching that happen during the practical conducting of daily life in all the educational settings we encounter (Erickson, 1997).

Confucianism and collectivism are two key concepts that are usually explored when Chinese culture is studied. Confucianism is the most influential Chinese traditional culture among various schools of thoughts (Fan, 2000). It provides rules and principles for the social behaviour of individuals (e.g., humanity, righteousness, propriety, wisdom and faithfulness) and for different kinds of relationships (e.g., father and son, husband and wife, elder and younger). These rules and principles influence all aspects of Chinese people’s lives, including their studying. For instance, “deference to authority”, a core value of Confucianism, has been used to explain why Chinese students do not question their teachers or textbooks (Zhang, 2008). “Hard-working”, a virtue within Confucianism, has been used to explain students’ effort making and their belief that being “hard-working” is positively related to their academic achievement and an important feature of a good student (Fan, 2000; Shi, 2006).

Collectivism is another cultural pattern that is often used to describe and analyse the Chinese context. Collectivism has been identified as the opposite of individualism of one dimension of culture, and the core difference is the basic value that gives priority to either personal
goals or goals of the in-group (Cao, 2009; Schwartz, 1990). Individualism is more prevalent in Western societies, and collectivism is more prevalent in Eastern societies (Oyserman, Coon, & Kemmelmeier, 2002). Chinese culture is regarded as representative of collectivism, whereby individual goals must conform to the values of in-groups, and individuals can realise them/themselves by achieving the goals of the in-group (Yu & Yang, 1994). The appliance of collectivism in the educational context is that Chinese learners study to fulfil the expectations of family or society, and to honour the clan and glorify the ancestor.

However, recent developments in cultural studies have demonstrated a transition in Chinese culture from collectivism to individualism (for a detailed discussion, see, e.g., Cao, 2009; Fong, 2004; Kim, Brown, & Fong, 2017).

1.3.1.1.2 From collectivism and Confucianism to Individualism

Chinese society has undergone great changes during the past five decades. Economic development has changed from being based on heavy industry to a system dominated by services and manufacturing; economic reforms have “changed China’s status hierarchy to one based on income, job status, and educational attainment” (Kim et al., 2017, p. 342), and the one-child policy has created more opportunities for the upward mobility of the younger generations (Fong, 2007). Along with these changes, the Chinese government has promoted “quality education” and expanded university enrolment with the aim of providing high-quality education to develop students in a rounded way, offering more opportunities for upward mobility, changing exam-oriented schooling and reducing the pressure on learners through more freedom and flexibility.
These political and economic changes have been accompanied by a transition in culture (Kim et al., 2017). Fong and her colleagues conducted a series of studies investigating Chinese culture through the aspect of child-rearing (Fong, 2004; Kim et al., 2017). These studies provide support to the notion that changes in Chinese culture have been taking place, from a society dominated by collectivist values to one comprising complex forms of individualist values.

A complex and hybrid form of individualism is also present in education in contemporary China. Students are cultivated to have less pressure, more autonomy and more freedom to pursue their own interests, and their health and happiness have priority over their academic and career achievements. However, students are still expected to be ambitious and have good education attainment, and they actually lack freedom and narrowly focus on their studies through hard work (Kim et al., 2017). Such inconsistent values are likely to result in an influence on students’ education and even their different perceptions of SRL.

1.3.1.2 Chinese cultures of learning

The concept “cultures of learning” was developed by Cortazzi and Jin (1996a) with the intention of summarising some cultural aspects that may impede or facilitate developments in teaching methodology and intercultural communication. This term is used to describe taken-for-granted frameworks of expectations, attitudes, values and beliefs about how to teach or learn successfully and about how to use talk in interaction, among other aspects of learning (Jin & Cortazzi, 2006). One aspect of Chinese cultures of learning is reflected in the relationship between teacher and student. In China, the teacher represents authority. Traditionally, students should obey and show respect to their teachers. When students are
filled with knowledge poured into them by their teachers, they should not question the knowledge they are taught (Jin & Cortazzi, 2006; Zhang, 2008; Zhang & Ben Said, 2014). Another aspect of Chinese cultures of learning can be seen in regard to examinations. Achieving success as well as wealth and status through public examinations has been traditional for Chinese students since the 13th century, and the idea still exists today (Kennedy, 2002). Learning for examinations relies heavily on memorisation, which prevents students from using creative or original thinking (Kennedy, 2002). Other aspects of Chinese cultures of learning include book-based teaching methods and the Chinese concept of “face”—having status in front of others. All these Chinese cultures of learning underlie teachers’ and students’ beliefs, values, expectations and ideas, and direct their teaching and learning subconsciously.

1.3.2 Education in China

Education in China is different from that of other countries in terms of schooling system, course syllabus, pedagogy and curriculum. This section discusses Chinese education from two main perspectives: an overview of the Chinese education system and a specific focus on English language education in China. The Chinese education system is examined in relation to its components and structure, including the examinations and issues surrounding classroom size. English language education is discussed in relation to the changes in language policy, curriculum targets, teaching methods, and the production and adaptation of English textbooks.

1.3.2.1 Chinese education system

(1) Components and Structures of the Chinese Education System
The education system in China has four components: basic education, secondary vocational education, regular higher education and adult education. Mainstream education for Chinese students is basic education and regular higher education. Basic education in China includes preschool education (ages 2–6), regular primary school education (ages 6–12) and regular secondary school education (ages 12–15 for junior secondary school and ages 15–18 for senior secondary school). Regular higher education includes undergraduate, postgraduate and other forms of higher education (see Figure 1.1 and Figure 1.2). According to the Ministry of Education (MOE) of the People’s Republic of China, China initially established an education system with multiple layers, multiple forms and multiple disciplines.

From the 1980s, the Chinese government has focused on the promotion of a nine-year compulsory education system. Compulsory education comprises six-year primary school education (some schools adopt five-year primary school education) and three-year junior secondary school education (a few schools adopt four-year junior secondary school education). All children aged six or over should enter the primary school nearest to their homes, and those who graduate from a primary school should enter the junior secondary school nearest to their homes.
In primary and junior secondary school education in China, each academic year contains two semesters. The first semester usually runs from the end of August or the beginning of September to January, and the second semester usually runs from the end of February or the beginning of March to June. Every year, primary school students are required to attend courses for 38 weeks, and junior secondary school students for 39 weeks. The courses for primary and junior secondary school students are designed by the local governments according to general instructions from the national government. For primary school students, the main courses are (Chinese) language and literature, mathematics, foreign language, physical education, music, fine arts, science, virtue education and practical activities (e.g., information techniques and skills). The courses for junior secondary school students are quite similar to those in primary schools, but more are added, including physics, chemistry, biology, history and society, and politics.
(2) Examinations

Examinations play a significant role in the Chinese education system as well as in students’ everyday study. The examinations system in China can be traced back a thousand years, and it is regarded as the only possible way for commoners to achieve wealth and social status. This thought remains a constant influence on Chinese people today; it is accepted that gaining high scores in the senior secondary school entrance examination (zhongkao) and in the National College Entrance Examination (gaokao) are important ways for students to achieve better lives. After students finish their nine-year compulsory education, they have
to take the senior secondary school entrance examination organised by the local government to continue their study in senior secondary school. Students with higher scores in the exams have the opportunity to enter better senior secondary schools, which usually have teachers with higher qualifications and more advanced, high-tech equipment to assist students’ studies. Thus, students are more likely to work towards achieving higher scores in the National College Entrance Examination, in order to enter a better university, and then obtain a good job after graduation. In China, examinations are the only tools to measure or quantify students’ academic performance, so students’ learning is aimed at achieving success in the examinations, which leads to certain learning styles, such as rote memorisation and reliance on textbooks.

(3) Large classes

Another marked characteristic in the Chinese education system is the large class sizes. Classes in China are much larger than those of Western countries. It is not unusual for a class to have more than 60 students, and the class size of a primary school might reach 71.8 and a middle school 66.7 in some areas of China (Jin & Cortazzi, 1998). Although the MOE of China has made regulations regarding class sizes, it is not practical to reduce them in the near future. Large classes are not considered a major problem by most Chinese teachers but rather a given factor with which they must work (Jin & Cortazzi, 1998). Class size places some constraints and limitations on teaching and learning, such as a low level of interaction between teachers and students, making it difficult to conduct effective group discussions, and to take care of individual differences and promote individualised learning (Jin & Cortazzi, 1998).
This section has examined the Chinese education system through its components and structure, examinations and class sizes, and the next section focuses on English language education and discusses changes in language policy, curriculum targets, teaching methods and textbooks.

1.3.2.2 English education in the Chinese education system

Language education development in China has followed the changes of the Chinese government in terms of social, political, financial and technical benefits (Adamson, 2002; Wang & Gao, 2008). Six phases of development have occurred since the founding of the People’s Republic of China in 1949:

1. the intrusion of Russian (early 1950s),
2. the back-to-English movement (1957–65),
3. repudiation of foreign learning (1966–70),
4. English for renewing ties with the West (1971–76),
5. English for modernisation (1977–90), and

An unprecedented development in English education in China, especially in the primary and secondary schools, started in 1977—the beginning of the fifth phase mentioned above. With the announcement of Deng Xiaoping’s policy of four modernisations, the promotion of the reform and opening-up policy, and the reinstatement of admission to higher education, English was announced as the main foreign language in secondary education. In the first international conference on English language teaching, held in Guangzhou, the Full-Time Primary and Secondary School English Syllabus (Experimental draft) was issued (Han &
Liu, 2008; A. Lam, 2002). English language education became even more significant and urgent after China’s successful accession to the World Trade Organization and Beijing won the bid to host the Olympic Games in 2001. With the trend of internationalisation and globalisation, the Chinese government implemented new English Curriculum Standards (ECS), which established English as a compulsory subject in primary schools from Year 3 (age 8) upwards, and designed or revised English syllabuses and materials from primary school to adult education (Cheng, 2011; Han & Liu, 2008; Jin & Cortazzi, 2002; Lam, 2002). Primary school students in China in Year 3 to 6 are now required to take from 63 to 84 English classes every academic year, and junior secondary school students take from 72 to 96. However, some primary schools in Shanghai, Beijing and Guangzhou offer English education from as early as Year 1. It is interesting that junior secondary schools in China are allowed to choose one foreign language for the students from English, Japanese and Russian, and more than 90% of them choose English as the foreign language.

With the changes in the foreign language education policy, the curriculum targets, teaching methods and language textbooks have also changed. The curriculum targets have changed from having a focus on language knowledge and skills and introduced comprehensive improvements in the areas of language skills, language knowledge, affect and attitudes, learning strategies, and cross-cultural awareness (Cheng, 2011; Han, 2010; Zhu & Sun, 2010). More specifically, detailed curriculum targets are given by the MOE for each year in terms of listening, speaking, reading, writing and playing. For instance, primary school students in Year 3 and 4 are required to learn 15 to 20 simple English songs or poems.

Another noticeable change is in the teaching methods. The communicative approach and task-based language teaching have been strongly recommended to English teachers in China
(Cheng, 2011; Zhang, 2010). Students are encouraged to experience the language and learn the language by self-discovery, while teachers are advocated to instruct students’ learning by having them complete assigned tasks with that language (Cheng, 2011).

The production and adoption of English textbooks have also been adjusted. In the late 1980s, textbooks for English education in China were produced only by the People’s Education Press—a subordinate of the MOE. Because of this, all regions in China had to adopt the same textbooks regardless of their local economies, English education development and culture, which led to both teaching and learning problems. Local governments are now allowed to generate their own textbooks based on the MOE’s instructions with consideration of the local conditions (Hu, 2005). In addition, textbooks adopted in China used to be published by Chinese publishers only; however, nowadays Chinese publishers are able to cooperate with foreign publishers to create textbooks that best suit students’ needs (Cheng, 2011). Moreover, textbooks used today are not only students’ books with teachers’ books, but also sets of materials with the students’ books, workbooks, teachers’ books, CD-ROMs and evaluation books, which provide students with a more innovative and learner-centred environment for their English learning (Cheng, 2011; Hu, 2005).

Although the development of English education policy, curriculum targets, teaching methods and language textbooks used has created a better English learning environment for students, because of the limitations and shortages in English education in China, further improvements are required. According to Zhou (2010), English teachers in junior secondary school pay the most attention to teaching language knowledge in the classrooms and seldom provide instruction in language skills, affect and attitudes, learning strategies or cross-cultural awareness, which are required by the new ECS. In addition, Zhou’s observation of
14 junior secondary schools in China revealed that the classrooms were more teacher-oriented than learner-centred, and students were not interactive in the classes. Moreover, the English teachers fully relied either on the textbooks or on their own understandings of the textbooks, which resulted in boring classes or interesting classes without useful information. Finally, although teachers intended to adopt task-based language teaching methods in the classrooms, the adoptions were less effective. The tasks were not carefully designed according to the students’ language knowledge or life experience; thus, students were either not interested in the tasks or lacked the language knowledge required for the tasks. Hence, Zhou (2010) indicated that there was a gap between the real results and the expectations of the applications of the policies, and further improvements are required to fulfil the English language education policy in China.

This section has provided the context and background information for the proposed study. The distinctive cultural and educational contexts in Mainland China and the differences between the People’s Republic of China and Western society are likely to act as important factors to consider when investigating and explaining Chinese students’ SRL ability and performance. As the current study includes the culture and educational context as a significant influential feature in SRL, the above information on Chinese culture and education helps to situate the proposed research topic in this context.

1.4 **Research Objectives and Research Questions**

A mixed-method approach was employed in the current study. SRL and motivation questionnaires, English reading tests and semi-structured weekly diaries were used for collecting the data. In general, the study had three research objectives.
Firstly, this study intended to address the research gap regarding Chinese secondary school students’ SRL in English reading. To reach this objective, participants’ SRL, motivation and academic achievement in English reading were assessed in the context of China, and the correlations among them were examined and analysed.

Secondly, to further investigate Chinese learners’ perceptions of SRL, the study employed an intervention to facilitate learners’ SRL. The effects of the intervention on SRL, motivation and academic achievement were addressed. Particularly, the study intended to determine how changes in learners’ SRL related to or contributed to changes in their academic achievement. The participants were assigned to experimental or control groups, and only the experimental group students were provided with SRL intervention training sessions.

The third objective of the current study was to identify the differences between higher and lower achieving students, and between female and male students. Regarding this objective, the top and bottom 10% achievers were selected and studied separately for comparison. The performances of the female and male students were also examined and compared.

In accordance with the three research objectives, this dissertation examined seven main research questions:

1) What perceived SRL do Chinese junior secondary school students report having before the intervention?
2) What is the level of reading motivation Chinese EFL students report having before the intervention?
3) What are the relationships among learners’ SRL, reading motivation, and their English reading achievement?

4) Do EFL learners’ perceived SRL and reading motivation change over time because of the intervention programme?

5) In what ways do male and female learners differ in their perceived SRL and motivation towards reading comprehension?

6) In what ways do higher and lower achieving EFL learners differ in their perceived SRL and motivation towards reading comprehension?

7) Do learners’ perceptions of SRL and their English reading proficiency help to improve their English reading following the intervention programme?

1.5 Definition of Key Terms

To facilitate understanding in the present study, it is necessary here to clarify the definitions of key terms as they are used in the thesis. This section introduces the terms “self-regulated learning (SRL)”, “self-regulated learning strategies (SRL strategies)”, and “self-regulated learning motivational beliefs (SRL motivational beliefs)”.

While a variety of definitions of the term “self-regulated learning” have been suggested, this study uses the definition suggested by Zimmerman (2000), who saw it as an interaction of personal, behavioural and environmental triadic process where learners participate in learning processes metacognitively, motivationally and behaviourally (Zimmerman & Martinez-Pons, 1986). From social cognitive points of view, SRL processes include three determinants – learners’ personal processes, their behaviours, and the environment. According to the triadic formulation, learners’ SRL varies according to the “academic
context, personal efforts to self-regulate, and outcomes of behavioural performance” (Zimmerman & Martinez-Pons, 1990, p. 51). In the current study, when investigating learners’ perceptions of SRL, SRL refers to their understanding of the SRL determinants and processes.

“Self-regulated learning strategies” in the current study refers to “actions directed at acquiring information or skill that involve agency, purpose (goals) and instrumentality self-perceptions by a learner” (Zimmerman & Martinez-Pons, 1986, p.615). The strategies mainly include goal-setting, environmental structuring, self-consequence, self-evaluation, organizing and transforming, seeking information, rehearsal and memorizing, seeking help, reviewing record.

The term “self-regulated learning motivational beliefs” refers to the motivational components that are related to learners’ SRL processes and their uses of SRL strategies. The motivational beliefs main components are: self-efficacy, goal orientation, test anxiety, task value, and control of learning beliefs. Detailed reviews of these key terms are provided in the Literature Review chapter (see 2.1 and 2.2).

1.6 SIGNIFICANCE OF THE STUDY

There are several important areas to which this study makes a contribution. Theoretically, the study fills a gap in the literature by studying Chinese junior secondary learners’ SRL in English reading, provides an in-depth understanding of the cultural influences on learners’ perceptions of SRL, and enhances our understanding of the relationships among SRL, motivation and academic achievement, which also helps to enrich SRL theory.
Specifically, as discussed above, previous studies in SRL have given more attention to subjects such as mathematics and English as learners’ L1, whereas studies with English as a second or foreign language are scant. In addition, fewer SRL studies have been conducted with junior secondary school students than with older learners, such as senior secondary school or university students (e.g., Schober et al., 2015). Thus, the current study helps to fill these gaps in the literature. Further, previous development of SRL theory has been based mainly on Western societies, and studies conducted in non-Western countries have indicated some contrasting results (e.g., McInerney, 2008). Therefore, through investigations into the influence of culture, the present study sheds new light on the discussions of SRL as a one-size-fits-all theory. Moreover, existing literature on SRL places more emphasis on SRL strategies, and examines learners’ use of cognitive or metacognitive strategies (e.g., Weinstein, Husman, & Dierking, 2000). Although recent studies have shown an increasing interest in investigating learners’ motivation and its relationship with SRL and academic achievement (e.g., Teng, 2016), the present study expands the existing literature by offering an in-depth examination of learners’ motivations and how motivation relates to learners’ perceptions of SRL and achievement.

In addition to these significant contributions, this study provides pedagogical values for teaching and learning. The employed intervention promoted an effective approach in facilitating students’ perceptions of SRL, which further fostered their academic performance. This study identifies students’ low levels of perceptions of SRL that should be further developed and require more support from teachers and/or parents. In addition, the intervention programme provides a practical solution for how to promote an effective
teaching and learning approach in facilitating learners’ perceptions of SRL and motivation, as well as academic achievement.

Further, this study investigated students’ perceptions of SRL using a mixed-method approach, including self-report questionnaires, tests and semi-structured diaries. By employing a mix of traditional and innovative methods the study, the study is able to offer a novel mixed-method study on SRL.

Last but not least, the current study explores SRL in the context of China and takes the cultural factors into consideration. As learners’ perceptions of SRL, their SRL motivational beliefs and uses of SRL strategies are impacted by cultural context (McInerney, 2008), and the context of China is experiencing a transition from collectivism and Confucianism to individualism, the present study offers a fresh examination of Chinese learners’ SRL in the current context.

1.7 LIMITATIONS OF THE STUDY

Although this study offers insight into SRL, some limitations need to be acknowledged with regard to the research method and data analysis. One limitation of the study is that convenient and purposive samplings were used to ensure intact classes were included, so that the interventions could be conducted with the whole class of students. Since the students in the present study were from a top secondary school in Anhui, two intact classes participated in the experiment were relatively high achieving learners, and the teachers, who voluntarily participated in the intervention, were keen to learn SRL, the findings of the current study may have limitations for its generalisation and the results may not be applicable to other cultural and educational contexts.
Another weakness of this study was the paucity of qualitative data to triangulate the quantitative data. Although the students’ written texts in weekly diaries were collected, content analysis was employed to count the goal settings and strategies of the texts as fewer texts were available for thematic analysis. Thus, in general, the students’ motivational beliefs and their uses of SRL strategies were obtained with a more quantitative description in this study. In consequence, the descriptions of the students’ perceptions of SRL were more quantitative, and the more subtle changes may not have been observed in order to present a holistic picture of the learners’ SRL.

Additionally, some factors in research design may have had an impact on the the results of the experimental study. One possible factor was the length of two questionnaires. A total of 90 items in two modified questionnaires were assigned to participants, 57 items in the MSLQ questionnaire and 33 items in the MRQ questionnaire. Although the Cronbach’ alpha for two questionnaires were at satisfactory level (see section 5.3), and participants were required to complete these two questionnaires at different times so they had some rest in between, it was possible that the length of the questionnaires were long for junior secondary school students which might impact on the results of the questionnaires. Similarly in the case study, in order to track learners’ changes in SRL during the intervention programme, eight case study students were required to keep semi-structured weekly diaries. As the intervention lasted for 16 weeks, a whole semester for junior secondary school students, the quality of the diaries might not be consistent. For instance, learners might provided more detailed diaries at the beginning of the intervention as they were interested in it and would like to explore it, but during the mid-term period or holiday weeks, learners might spend
less time or fewer efforts on keeping their diaries. This might also influence on some analysis of the results.

Another important factor that should be considered was the teacher’s role in the intervention programmes. The intervention was designed as a teacher-led intervention as the teacher was more familiar with his/her students and was able to implement SRL to pedagogy. As the teacher played the leading role in the intervention, how did the teacher implement the intervention might influence on the results. Particularly in the Chinese culture of learning, teacher has the authority and is responsible to delivery the knowledge to students, the relationship between teacher and students might also influence the results.

Regarding the data analyses, EFA was used to validate the MSLQ in the Chinese context and the results indicated that the underlying structure of the questionnaire did not fit Chinese students. However, to better understand the implementation of the MSLQ in the context of China, a further CFA should be conducted. Moreover, regarding the statistical tests used to examine the relationships among variables, although a conventional mediation analysis with regression was employed to examine the role of SRL as a mediator, and multiple regressions were conducted to examine the predictive relationships, other statistical tests such as SEM may be more powerful in identifying the relationships among variables, especially the mediation effects (Teng, 2016).

1.8 Organisation of the Study

This section outlines the organisation of the thesis. A thorough examination of key and relevant literature on SRL and motivation is presented in Chapter 2, followed by an explanation of the theoretical frameworks used in the current study in Chapter 3. In Chapter
4, the methodology, including research design, methods and detailed information about the intervention are provided. Validations of the two questionnaires used in the study are reported in Chapter 5. In Chapters 6 and 7, analyses of the quantitative data and case study data are presented respectively, and critical and in-depth discussions of those results are reported in Chapter 8. The final chapter, Chapter 9, comprises a conclusion of key findings, the implications of the current study, and further recommendations.
2 LITERATURE REVIEW

2.1 INTRODUCTION

This chapter focuses on key empirical studies in SRL that are relevant to the present study. Empirical studies are reviewed with respect to six main aspects: definitions of SRL, influential factors on SRL, SRL and academic achievement, SRL and reading motivation, SRL intervention programmes and SRL measurements.

2.2 DIFFERENT PERSPECTIVES OF SELF-REGULATED LEARNING

Self-regulated learning has been studied by researchers from different theoretical perspectives. This section first provides brief introductions to main theories towards SRL, then the similarities and differences among theories are discussed.

2.2.1 Main Theories of Self-Regulated Learning

There are different understandings of SRL from different theories, in particular I will discuss Operant theory, Phenomenological theory, Information processing theory, Social-cognitive theory, Vygotskian, and Cognitive constructivist theory.

Operant views of SRL are highly related with self-reinforcement and self-recording, and emphasize the effect of external factors in self-regulation (Zimmerman, 2001). Operant researchers believe that individuals behaviour become self-regulated when they arrange the environment to alter the probabilities of their behaviour producing reinforcing or punishing stimuli (Mace, Belfiore, & Hutchinson, 2001).
Different from an Operant perspective that pays little attention to internal development of SRL, Phenomenologists view SRL as dependent on the development of an underlying self-system process and a process of self-awareness, self-monitoring, self-reflection, and self-evaluation (McCombs, 2001; Zimmerman, 2001).

Similarly, Information processing theory understands SRL on the basis of two fundamental qualities of how learners think—memory stores and information processing (Winne, 2001).

Another theory that has been extensively used when studying SRL is Social cognitive theory that views SRL on the triadic relationships among personal, behavioural and environmental influences. According to Schunk (2001), learners’ SRL behaviours are determined by personal processes, as well as behavioral and environmental events.


2.2.2 Similarities among Theories towards Self-Regulated Learning

Although different theories view SRL using different lenses perspectives, there are two commonalities among their definitions of SRL and the content of SRL. In terms of the definition of SRL, most theories agree that SRL is a self-regulated feedback loop (Zimmerman, 1989; Zimmerman & Schunk, 2001). This loop consists of different numbers of main processes where learners adjust or change their thinking and/or behaviours according to their monitoring and evaluation of the learning strategies they adopt. One most
representative and widely employed loop is from social-cognitive theory. The loop starts from self-observation to self-judgment, and then to self-reactions (Schunk, 1989). Another typical theory about the feedback loop is from information processing theory. Different from social-cognitive views, information processing theory uses the ‘Test, Operate, Test, Exit’ (TOTE) sequence to describe SRL as it enables learners to adjust or change input conditions according to “negative” feedback (Zimmerman & Schunk, 2001; Winne, 2001). Winne and Hadwin further generated COPES (i.e. Conditions-Operations-Products-Evaluations-Standards) models of SRL, which also describes SRL as a recursive loop in that the products of earlier stages are assumed to update the conditions on which operations work during the next stage (Puustinen & Pulkkinen, 2001; Winne, 2001; Winne & Hadwin, 1998).

The other common feature among different theoretical perspectives is that self-regulation describes how and why students choose certain processes, strategies, or responses although the detailed explanations vary from one to another (Zimmerman & Schunk, 2001). For instance, phenomenological theorists regard self-perception as having a significant role in explaining SRL processes which lead to different identity or self-concepts and which might influence learners’ learning and achievement behaviours (McCombs, 1989). Those examining SRL through a Vygotskian lens believe that self-regulation can be described in terms of internalization of self-directing language (Schunk, 2009; Zimmerman, 1989). The abovementioned theories believe that learners should be proactively engaged in their learning instead of passively involved in learning (Zimmerman, 2001).
2.2.3 Differences among Theories about Self-Regulated Learning

Two main differences have been identified among different theories regarding SRL, they are: views towards motivation, and opinions on the social or physical environment in SRL.

The views towards the role of motivation in SRL can be split into two groups. One pays little attention to the motivational roles in SRL, whereas the other puts emphasis on motivation in various degrees. Information processing theory is the one that does not pay any attention to motivation because the theory uses the metaphor of human beings’ minds as computers, which do not require motivation to process (Winne, 2001; Zimmerman & Schunk, 2001). However, with the development of information processing theory, the role of motivation in SRL gradually attracted researchers’ attention and four motivational features were added to the explanation of SRL: outcome expectations, judgments about efficacy, attributions, and incentives (Winne, 2001; Zimmerman & Schunk, 2001). Neither did a Vygotsky perspective provide explicit or formal descriptions about motivation. Vygotskian scholars only mentioned children’s motivation in learning activities which were embedded in a social system (Schunk & Zimmerman, 1997). However, current Vygotskian theorists, such as McCaslin and Murdock (1991), conducted research on students’ co-regulation and adaptive learning, and provided demonstrations that SRL was inherently motivational and affective (McCaslin & Hickey, 2001).

The other group of theories regards motivation as an important feature in SRL. They differ from each other in terms of the source, the components and other factors of motivation. Among all theories, social cognitive theory pays most attention to the motivational dimension in SRL. Cleary and Zimmerman (2012) emphasize the importance of motivation and indicated that learners’ strategies might diminish without motivation. Bandura (1991)
believed that outcome expectations lead to learners’ motivation, and then he furthered this study and argued that self-efficacy was the second expectancy for motivation (Schunk, 1989). Operant theorists believe the motivation for SRL comes from external reinforcing stimuli, such as rewards or punishments. In contrast, phenomenologists assume that a learner’s internal self-concept is the ultimate source of motivation (Mace, Belfiore & Hutchinson, 1989; McCombs, 1989; Zimmerman & Schunk, 2001). Volitional theorists also make effort on the motivational features in SRL. Unlike social cognitive researchers, their top task and one of the most difficult tasks is to distinguish motivation from volition. Kuhl (1984) and Corno (1989) provided different explanations on the differences between these two similar but separate and independent terms. On the basis of work by previous volitional theorists who assumed that motivation generates, while volition controls, intentions and impulses of actions, Kuhl (1984) demonstrated that learners’ motivation to self-regulate is determined by their value and expectancy for achieving a particular goal. Then Corno (1989) demonstrated that motivational aspects of learning and performance shape intentions and establish commitments, whereas volitional aspects of SRL help learners give priority to commitments, and function to steer involvement along.

Another difference between these theories is how they perceive the social or physical environment in learners’ self-regulated learning. Among those theories, one that rarely highlights environmental features is information processing theory. Theorists from this perspective do not believe that the social or physical environment influences learners’ SRL processes (Zimmerman & Schunk, 2001). Social context is explained as part of the task conditions in Winne’s model which might affect information processing, and it will be useful only if the social context could be transformed into information that could be
processed (Winne, 2001; Zimmerman & Schunk, 2001). Phenomenological theorists also pay little attention to the social or physical environment as they consider learners’ self-system, like subjective self-concept and self-identity, to play the central role in SRL (McCombs, 1989). In a similar way to phenomenological researchers, volitional theorists pay less attention to the social or physical context compared with their attention on cognitive features (Corno, 1989; Zimmerman & Schunk, 2001). Corno (1989) indicates that learners could arrange environmental contingencies to help themselves complete difficult tasks, and the changes in environment could help learners to gain control of the task outcome. All of the rest of the theories—operant, social cognitive, Vygotskian, and constructive—admit the influence of the environment on SRL, but in quite different ways. Operant theorists’ emphasize the link between learners’ overt behaviours and the environment (Mace, Belfiore, & Hutchinson, 1989; Zimmerman & Schunk, 2001). In other words, operant theory devotes more attention to the external environmental influences on SRL, and the functional relationship between learners’ behaviour and environment is actually their focus (Zimmerman, 1989a). The environmental influences are also very important to SRL in Vygotskian theory. Vygotsky assumed that as children are developed only in social and physical contexts, that social environment would be a preeminent influence on a child’s development (Zimmerman, 1989; Zimmerman & Schunk, 2001). Social cognitive theory is the one that emphasizes environmental features most among all these theories. Bandura (1986) proposed the triadic model of the interplay between personal, behavioural, and environmental influences, and Schunk (1989) assumes that SRL processes are influenced by environmental and behavioural events in reciprocal fashion. Constructivist researchers also believe that social and historical contexts may shape the content and processes of learning and thinking (Paris, Byrnes, & Paris, 2001). Paris and colleagues underline the
impact of individuals’ unique situations on SRL and believe that any interpretation of learners’ self-regulatory process must be address to the specific environmental circumstances and individual histories of the learners.

Apart from the differences in the importance and role of motivational and environmental features, researchers from different theoretical perspectives also hold different opinions towards some other issues in SRL, such as whether young children are able to self-regulate their learning, why learners do not self-regulate when studying, and why students fail to regulate their learning.

2.3 SELF-REGULATED LEARNING AND INFLUENTIAL FACTORS

During the past 20 years, a considerable amount of literature has been published on SRL. However, this line of research has not always presented findings that are generalisable. Some have been large-scale and others have been small-scale studies. Since recent evidence suggests that there is no one-size-fits-all template of self-regulation, more recent attention has focused on possible factors that influence students’ SRL, such as culture, discipline, gender and students’ original academic performance (e.g., DiFrancesca, Nietfeld, & Cao, 2016; McInerney, 2008; Meece & Painter, 2008; Purdie & Hattie, 1996; Tsuda & Nakata, 2013). This section examines the relevant empirical studies in relation to these aspects and explores how they influence learners’ SRL.

2.3.1 Cultural Influences on Self-Regulated Learning

SRL is a Western-based theory, because preliminary work on SRL was mainly undertaken in Western societies and SRL-relevant theories were developed in Westernised developed
countries. Over the past three decades, a large body of literature has investigated SRL in Western contexts. However, the generalisability of much published research on this issue is problematic because the key elements or core values of SRL are subject to change in new cultural settings (Hong, Im, & Li, 2016; McInerney, 2008; Wang & Lu, 2016). Therefore, much of the current literature on SRL pays particular attention to the role of culture. In this section, the possible cultural influences on SRL are first examined. Then the key elements of SRL and relevant empirical studies conducted in Western and Chinese cultural settings are discussed.

2.3.1.1 Universal or context-based self-regulated learning

With the development of SRL studies, a number of studies have attempted to identify and explain the effects of cultural settings on learners’ SRL, their SRL motivational beliefs and their uses of SRL strategies, and whether SRL is a universal or context-based theory has attracted researchers’ attention. Some of the reasons for this development are briefly presented below.

Firstly, culture plays an important role in the development of students’ SRL processes because it influences individuals’ knowledge construction, personal learning activities and collaborative experience (Miller, 2016). According to McInerney (2011), students’ self-regulatory skills are acquired through social modelling, social guidance and feedback, and social collaboration; thus, it is assumed that culture plays an important role in the nature and development of self-regulated learning.

It has also been demonstrated that culture influences the key features of SRL: cognition, behaviour and motivation. Regarding cognition, for instance, collectivism encourages
behaviours in accordance with other people’s expectations and social norms, students seek to be passive and remain silent in order not to be evaluated by other people negatively, and they hold less positive views about themselves than their individualist counterparts. In contrast, those from individualist cultures act in accordance with their own internal system of self-assessment, usually obtain better feelings about themselves than their collectivist counterparts, and hold the view that everyone has his or her own particular talent or ability and is capable of contributing to society (Hoffman, 2015; Kitayama, Duffy, & Uchida, 2007; Leung, 2010; Markus & Kitayama, 1991).

Regarding behaviours, students in collectivist societies are more likely to conform to the norms of the in-group, and to focus on playing their role in society, whereas those in individualist societies are more likely to behave in ways that will lead to personal success and uniqueness (Oettingen, Sevincer, & Gollwitzer, 2008).

Regarding motivation, collectivism places high value on filial piety and family cohesion, which strongly motivates Chinese in their work and study. Additionally, individuals from collectivist cultures usually experience more stress and anxiety than their individualistic counterparts because they are more likely to adapt their performance goals and aim to compete with and outperform their peers (King & McInerney, 2014; Salili, Chiu, & Hong, 2001).

Secondly, empirical studies on SRL conducted in different cultural settings have indicated different or even conflicting results (e.g., Rao et al., 2000). This has raised the questions of whether the Western-established concept fits well in other cultural settings and whether SRL is a universal issue that contains identical features across different cultures.
2.3.1.2 Cross-cultural studies on self-regulated learning

Based on these questions, some researchers have conducted cross-cultural studies in two different cultural settings using the same measurements and similar participants, and compared students’ perceived SRL in the different cultural contexts (e.g., Purdie & Hattie, 1996; Turingan & Yang, 2009). Other researchers have studied cultural influences on SRL by replicating a study conducted in Western society in a different cultural setting and comparing the results (e.g., Neber et al., 2008; Rao et al., 2000; H. Zhao, Chen, & Panda, 2014). These studies intend to minimise other possible influences in their explorations of the cultural influences on SRL.

An important analysis and discussion on the subject was presented by Purdie and Hattie (1996). Japanese and Australian students’ use of SRL strategies was investigated and compared to identify the differences between students in different cultural settings. In total, 248 Australian high school students and 215 Japanese high school students participated in this study. All participants were classified into one of three groups: Australian students, Japanese students or Japanese students studying in Australia. Participants were required to complete a student learning survey about their use of learning strategies, which stemmed from Zimmerman and Martinez-Pons’s (1986) Self-Regulated Learning Interview Schedule (SRLIS). The results indicated that culture influenced the students’ SRL strategy employment. All three groups of students had some similarities in their high rate of use of self-checking and environmental structuring, and least use of self-testing, highlighting and underlining, and organising notes and files. However, the Australian students believed that goal setting and planning were important strategies, the Japanese students thought memorising strategy was more important, and the Japanese students in Australia considered
reviewing notes was more important. Moreover, the Australian high-achieving students were in favour of using other checking strategies, whereas the reverse was found among the Japanese students. The Australian higher achievers obtained higher strategy scores, while the Japanese students from all three levels of academic achievement had similar strategy scores. Even though the research was limited in that the sample of Japanese students studying in Australia was much smaller than the other two groups, it placed emphasis on cultural influences on SRL, and had implications for educational practices in different cultural groups.

Another key cross-cultural study was that of Olaussen and Bråten (2006), in which students’ SRL strategy employment was examined by comparing that of Norwegian students with that of American students. Two groups of Norwegian students participated in this study, with 173 and 176 students respectively. The Norwegian version of the Learning and Study Strategies Inventory, a measurement originally established in the United States (US), was adopted to examine students’ strategy use. The collected profiles were compared with those of the American students. Although the cultural setting in Norway differed from that of the US, the results showed that the strategy use in the two groups was comparable, and the similarity between the Norwegian and American students’ use of SRL strategies may have been greater than that between Norwegian and other European students.

In a similar way, Turingan and Yang’s (2009) comparative study investigated the differences in perceived SRL between Korean and Filipino college students. A total of 185 Korean and 209 Filipino undergraduate students participated in the study, and the MSLQ was employed for measuring their perceptions of SRL. The results showed significant differences between the students from the two countries. The Filipino students obtained
higher scores than the Korean students on all categories of SRL strategies. Turingan and Yang (2009) suggested that cultural factors and educational backgrounds were the main reasons for the differences in their SRL strategy employment. Specifically, the Korean and Filipino students differed in their social expectations, values and beliefs about education, respect for authority, college entrance processes, and other cultural and educational features. One limitation of the research was that the participants from the two countries differed in their years and ages, and these dissimilarities are possible reasons for the result differences.

With the intention to compare Chinese students’ SRL with those in Western societies as well as to further examine the role of culture in SRL, Zhang and Li (2004) carried out a comparative study with Chinese and European students studying in England. Questionnaires, classroom observations and interviews were used to measure the students’ SRL. In contrast to the above-mentioned studies, the results did not show significant differences in the SRL of the Chinese and European students, except that those from China were less likely to seek teachers’ help or try new learning methods than their counterparts from Europe. Another recent comparative study, conducted by Hong et al. (2016), examined the differences in SRL ability between Chinese and Korean students. Researchers found that Chinese students showed higher levels of SRL than Korean students and the researchers attributed the differences to cultural factors.

The studies presented thus far provide mixed evidence, but overall suggest that there are cultural effects on students’ SRL, particularly their uses of SRL strategies. The next section focuses on empirical studies of Chinese students’ perceptions of SRL and examines Chinese students’ perceptions of SRL, and whether they are similar to, or differ from, those of students in other cultural settings.
2.3.1.3 Self-regulated learning in the Chinese context

The literature on SRL in the context of China is reviewed in relation to the following two aspects: (1) the validation of SRL measurements in the Chinese context and (2) students’ SRL, their motivational beliefs, and their uses of SRL strategies.

2.3.1.3.1 Validation and development of self-regulated learning measurements in the context of China

To date, several studies have been conducted to validate the predominant SRL measurements (the MSLQ) in the Chinese context. The findings have shown that the original Western-based measurements do not well fit in the Chinese context, and further adaptations and adjustments are needed. One key study investigating the application of the original MSLQ in the Chinese context is that of Rao and Sachs (1999). By analysing data collected from 477 secondary school students in Hong Kong, the researchers found that the motivational factors in the Chinese version of the MSLQ were consistent with those of Pintrich and de Groot (1994). However, the cognitive strategy factor and the self-regulation factor were suggested to be combined into one single factor. Moreover, the researchers found that some strategies that fell under the cognitive strategy factor on the original MSLQ were highly related with metacognitive factors in the Chinese version of the MSLQ. Rao and Sachs (1999) attributed the differences to the Confucian-heritage and Asian culture. This modified version generally supported the conceptual model underlying the MSLQ, although the specific factor structure was different.

The results of Rao and Sachs (1999) are supported by W. Liu, Wang, Chua, and Lim (2012), who examined the psychometric properties of the MSLQ with 780 Singapore secondary
school students. By conducting exploratory and confirmatory factor analyses, they showed that the model of the original version of the MSLQ measurement did not fit the Asian context. More specifically, the results indicated that the junior secondary school students were not able to differentiate the items measuring cognitive and metacognitive strategies, and the items measuring “Lack of Self-Regulation” were identified.

Teng and Zhang (2016) conducted a questionnaire-based study validating the model of SRL strategies. Confirmatory factor analysis (CFA) was conducted using questionnaires completed by 790 university students about their EFL writing. The study identified nine writing strategies that were conceptually interpreted with four core paradigms of SRL: Cognition, metacognition, social behaviour and motivational regulation. Strategies such as planning, goal-oriented monitoring and evaluation were significant predictors of learners’ writing performance; however, course memory did not significantly predict their achievement.

2.3.1.3.2 Empirical studies of Chinese students’ self-regulated learning

In addition to studies that have focused on validation and development of SRL measurements, a number of studies have attempted to evaluate the influence of the Chinese context on students’ SRL. They have presented a mixed result regarding Chinese students’ perceptions of SRL.

A study by Neber et al. (2008) investigated Chinese high school students’ SRL. The participants in the research, 74 Year 8 and 58 Year 10 students, completed questionnaires on SRL strategies for studying physics. The data revealed some prominent characteristics of Chinese self-regulated learners. Firstly, the results indicated that the Chinese students
were self-regulated learners who preferred to adopt active strategies in their learning rather than passively repeating non-practical knowledge from textbooks. In other words, the Chinese learners were not rote learners, but intrinsically oriented and interested in physics learning. Secondly, it was shown that the Chinese high school students’ SRL in physics could be explained by Pintrich’s SRL model (2004), echoing the Western students, and the causal role of motivational factors in using SRL strategies in Chinese self-regulated learners was strongly suggested.

Another work on Chinese students’ SRL was undertaken by Rao et al. (2000), replicating Pintrich and de Groot’s (1990) study with Western students. The results of the two studies were compared to identify the possible cultural influences on students’ SRL ability. The results of Rao et al. were consistent with those of Pintrich and de Groot regarding the relationship between motivational and cognitive aspects of SRL, but not in the relationship between either cognitive or motivational aspects of SRL and academic achievements. In the study by Rao et al., no relationship was identified between SRL and academic achievement, whereas in the studies conducted with US students, a positive relationship was found between the above factors. The conflicting results were explained in terms of the measurement of participants’ academic performance and the influence of social context. Pintrich and de Groot employed several different instruments to measure the students’ academic achievement, whereas Rao and his colleagues used the scores of the year-end examination only. Similarly to Neber et al. (2008), Rao and his colleagues also believed that Chinese cultural beliefs and values, and the role of examinations affected students’ SRL in both cognitive and motivational aspects. Thus, both Neber et al. (2008) and Rao et al. (2000)
compared their study results with other research conducted in other cultures, and indicated the impact of cultural factors on students’ SRL.

Zhao et al. (2014) came up with similar conclusions that Chinese culture influences students’ SRL by studying Chinese distance learners. A total of 2,738 learners from the Open Distance Education Center of Beijing Normal University participated in the study. A scale that had been pre-validated with 957 Chinese distance learners by factor analysis and structural validity was employed. The results showed that the Chinese students had medium levels of SRL but with especially low levels of self-evaluation ability. Researchers ascribed this result to the Chinese senior high school students’ lack of confidence in learning, reliance on teachers or parents, and poor self-control ability. Additionally, the male learners reported significantly higher SRL abilities than the female learners, which was explained by the influence and characteristics of the Chinese patriarchal society. Traditionally, in China, females were expected to be family oriented and they were educated to be moral, obedient and disciplined. In contrast, males were independent and responsible for earning money for the family. These features in Chinese culture were proposed as a cultural explanation for the research results.

In her innovative work, Jiang (2015) used an autoethnographical approach to justify her perceptions of SRL and her SRL experience in the Chinese context. By analysing her earlier learning experience as a junior secondary school student, she showed that she motivated herself through internalised external expectations, and her hybrid values of Confucianism and Taoism struck a balance between success and failure. For instance, Jiang mentioned that she internalised external stimuli and expectations, and actively adjusted her learning strategies accordingly. Moreover, her perceptions of SRL were influenced not only by
Confucianism but also by Taoism, another important philosophical underpinning of Chinese culture. Because Taoism values seek a suitable way to excel and adapt to social settings, they balance with Confucianism, which emphasises hard work and doing everything perfectly. These worked together in shaping Jiang’s SRL. Jiang’s work provided an insight into how Chinese students regulate their learning, and suggested that Chinese students’ SRL is influenced by multiple traditional Chinese cultures.

A large-scale study by Lau (2012) investigated 1,121 Hong Kong students’ SRL in the reading domain. A self-reported questionnaire and interviews were used to measure the students’ SRL. Similarly to the study of Zhao et al. (2014), the results indicated that the Chinese students’ SRL was around the medium level and they relied on teachers’ guidance rather than regulating their learning independently. In other words, the Chinese students were passive and teacher-reliant learners. Lau suggested that Chinese cultural and educational settings, such as teacher-centred instruction, prevented the students from developing SRL or being self-regulated learners.

A recent study by Teng (2016) examined Chinese college students’ SRL strategies and motivational beliefs in EFL writing. The Chinese students exhibited low levels of using SRL strategies, and the students’ year level as well as their language proficiency were significant factors affecting their use of SRL strategies. Teng attributed the results to the context-oriented and teacher-centred pedagogical contexts in China as well as the Chinese students’ limited previous understanding of strategies.

Taken together, two important aspects of SRL in the Chinese context have been emphasised in this section, one regarding the underlying structure of SRL measurement when applied
to Chinese students, and the other one regarding Chinese students’ perceptions of SRL and their SRL abilities. It is worth noting that those studies indicate the role of cultural settings in learners’ SRL with mixed evidence. Researchers indicated different results on the levels of Chinese learners’ perceptions of SRL, their motivational beliefs and uses of SRL strategies, and obtained contradictory findings on the relationship between learners’ SRL and their academic achievement. Moreover, few of the previous studies devote attention to how the dynamic changes in the cultural context in China influence learners’ understanding of SRL. Therefore, further examinations are required.
Table 2.1 SRL Studies in the Chinese context

<table>
<thead>
<tr>
<th>Source</th>
<th>Location</th>
<th>Participants</th>
<th>Main Findings</th>
<th>Possible Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neber, He, Liu, &amp; Schofield (2008)</td>
<td>China</td>
<td>74 Yr 8 and 58 Yr 10 students</td>
<td>a) Chinese students were self-regulated learners; Chinese high school students’ SRL in physics can be explained by Pintrich’s SRL model; b) the causal role of motivational factor for using of SRL strategies.</td>
<td></td>
</tr>
<tr>
<td>Rao, Moely, &amp; Sachs (2000)</td>
<td>China (Hong Kong)</td>
<td>94 Yr 10 &amp; 11 students</td>
<td>a) no relationship between SRL and academic achievement; b) no relationship between either motivational or cognitive scale and academic performance.</td>
<td>a) the measurement of participants’ academic performance; b) social contextual influences.</td>
</tr>
<tr>
<td>H. Zhao, Chen, &amp; Panda (2014)</td>
<td>China</td>
<td>2,738 distance learners</td>
<td>a) significant gender differences, males more SRL than females; b) no age differences in SRL; c) entrance level of distance education related with SRL.</td>
<td>a) Chinese traditional culture, and its impact on female education.</td>
</tr>
<tr>
<td>Jiang (2015)</td>
<td>China</td>
<td>1, the researcher herself</td>
<td>a) motivated by internalised external expectations; b) influenced by a hybrid of Confucianism and Taoism.</td>
<td>a) traditional Chinese culture includes different philosophy; b) students were influenced by cultural settings as well as personal experience.</td>
</tr>
<tr>
<td>Lau (2012)</td>
<td>China (Hong Kong)</td>
<td>1,121 Yr 10 students</td>
<td>a) low/moderate level of SRL; b) teacher-reliance learning; c) SRL significantly related with reading performance.</td>
<td>a) cultural settings; b) educational settings.</td>
</tr>
<tr>
<td>Teng (2016)</td>
<td>China</td>
<td>781 college students</td>
<td>a) low levels of using SRL strategies; b) SRL strategies were significantly related with most motivational beliefs; c) SRL strategies were predictors for writing performance.</td>
<td>a) influence of context-oriented and teacher-centred pedagogical contexts; b) previous limited understanding of SRL.</td>
</tr>
</tbody>
</table>
2.3.2 Self-Regulated Learning across Disciplines

Another factor that may have an influence on learners’ SRL is school subjects. Since SRL has been found to be positively related with learners’ academic achievement, it has been widely applied in different disciplines and subjects. This section first focuses on SRL studies in different disciplines, and then pays particular attention to the EFL/English as a second language (ESL) domain.

2.3.2.1 Self-regulated learning in different disciplines

SRL has been studied in a variety of academic areas, including mathematics, engineering, physics, L1 learning, L2 learning, physical education and music education (e.g., Lau, 2012; Mega, Ronconi, & De Beni, 2014; Neber et al., 2008; Rao et al., 2000). Among these, mathematics and L1 learning are two of the most studied subjects (e.g., Kaya & Kablan, 2013; Metallidou & Vlachou, 2010; Ocak & Yamaç, 2013; Rao et al., 2000; Zimmerman & Martinez-Pons, 1986, 1988).

Zimmerman and Martinez-Pons (1986, 1988) conducted a series of studies to investigate US high school students’ SRL in their English and mathematics learning. In the earlier study (1986), academic achievement was found to be positively related with the learners’ SRL strategy employment. The results showed that the students with higher academic achievement displayed significantly greater use of almost all SRL strategies. In the follow-up study, Zimmerman and Martinez-Pons (1988) further investigated the relationship between the employment of SRL strategies and academic achievement. It was found that the students’ use of SRL strategies increased the prediction of standardised achievement test scores when the influences of gender and socioeconomic status were eliminated.
Nota et al. (2004) performed a similar study examining Italian high school students’ SRL in Italian language, mathematics and technical disciplines. Consistent with those of Zimmerman and Martinez-Pons (1986, 1988), the findings indicated that the students’ academic achievement in these three subjects was significantly predicted by their employment of SRL strategies.

Regarding SRL studies in mathematics, Kaya and Kablan (2013) found that primary school students’ use of SRL strategies contributed to their mathematics and science achievement. Specifically, seven out of nine SRL strategies studied in the research were found to be significantly related with academic achievement. This view is also supported by a study by Ocak and Yamaç (2013), who investigated 204 Year 5 primary school students’ SRL. The results indicated that the students’ self-efficacy and test anxiety were predictors of their mathematics achievement. Moreover, the students’ task value, self-efficacy and intrinsic goal orientation were predictors of their perceptions and employment of SRL strategies.

Some researchers have paid particular attention to learners’ L1 learning in the aspects of text comprehension, reading achievement and writing competence (e.g., Harrison & Prain, 2009; Lau, 2012; Law et al., 2008; Lee et al., 2014). Law et al. (2008) investigated 417 Year 5 and 420 Year 6 primary school students’ SRL in Chinese text comprehension in Hong Kong. The findings showed that the high-achieving learners outperformed the low-achieving learners in their perceptions and employment of SRL strategies.

Supporting this view, Harrison and Prain (2009) investigated junior secondary school students’ SRL in their English learning. They examined 11 Year 8 Australian students’ SRL strategy uses, and the results indicated that nine out of 11 learners used and valued
SRL strategies in English lessons and out-of-class English tasks. Furthermore, a positive relationship between SRL and English achievement was identified in the study.

In addition to mathematics and L1 learning, SRL studies have been carried out on other subjects, and taken together, these studies provide a comprehensive view of learners’ SRL. For instance, Lawanto et al. (2014) researched 57 undergraduates’ SRL in their engineering studies in the US. The participants’ use of SRL strategies and their engineering project performances were examined. The findings were in alignment with previous published studies, in that the higher achievers significantly outperformed the lower achievers in their perceptions of SRL strategies. However, in contrast to previous studies, Lawanto et al. found that the low-achieving students reported higher levels of task strategies than the high-achieving students. SRL studies have also been undertaken in chemistry. Tunde (2014) investigated 200 senior secondary school students’ SRL in chemistry. Similarly to the results of SRL studies in other subjects, the results indicated that the students’ SRL strategy employment significantly predicted their academic performance in their chemistry studies.

2.3.2.2 Self-regulated learning in English as a foreign or second language learning

Following the examination of SRL studies across different subjects, this section now focuses on examining SRL studies in the domains of EFL/ESL learning.

Before discussing the SRL studies in EFL/ESL learning, it is important to differentiate them from studies on language learning strategies. Although the studies in these two areas may have some similarities or some overlap regarding strategies in language learning, SRL in the current study is studied from the perspective of Zimmerman’s social cognitive model and Pintrich’s conceptual framework, rather than that of language learning. Therefore, studies on language learning strategies in relation to aspects other
than SRL are not examined in the current study. The empirical studies discussed below are those examining EFL/ESL learning in relation to the aspect of SRL.

Tsuda and Nakata (2013) explored Japanese high school EFL learners’ SRL in their English language learning. A total of 1,076 students participated in the mixed-method study. Using data from questionnaires and follow-up interviews, the researchers identified four types of Japanese EFL learners on the basis of five SRL factors: metacognition, cognitive strategies, self-efficacy, self-motivation and willingness to communicate, and intrinsic value. The researchers also emphasised the importance of both the internal and the external factors that affected the students’ learning. Furthermore, the researchers indicated the importance of the teacher’s role in students’ SRL and EFL learning, and demonstrated that teachers should attempt to provide guidance to students and help them become self-regulated learners. However, one disadvantage of this research was that it was a cross-sectional study conducted in three different years of high school simultaneously. Thus, the identified changes may have been a result of other factors than those investigated above. Even with the limitations in sampling, the research by Tsuda and Nakata (2013) provides an insight into Japanese high school EFL learners’ SRL in their EFL learning. Moreover, the combination of qualitative and quantitative methods has implications for the future studies in this field.

A study by Farsani et al. (2014) examined Iranian undergraduate students’ SRL in EFL learning. In studying 48 Iranian EFL students using questionnaires and an English writing test, researchers found a significant relationship between the EFL learners’ SRL and their writing performance. This result was in line with previous studies on SRL and academic achievement. However, in contrast to other studies, Farsani et al. found no significant relationship between goal-oriented learning and writing achievement, and identified a negative relationship between the students’ use of cognitive and
metacognitive strategies and their writing performance. Farsani et al. ascribed these differences to the cultural and social settings. The Iranians’ individualistic and self-learned endeavours led to the different nature of their academic work, and finally to the results mentioned above. The findings not only supported the previously discussed cultural and social influences on SRL, but indicated the disciplinary differences in learners’ perceived SRL.

This section has provided a brief summary of the literature relating to studies of SRL in different subjects. It can be seen from the above-examined studies that SRL is domain-specific and students’ perceptions of SRL vary greatly in different school subjects. Previous studies in SRL mainly concentrated on mathematical and first language learning. Although recently more investigations have been conducted in EFL/ESL areas, a large amount of them has been published on English writing, and the number of empirical studies on English reading is limited. Apart from that, studies of SRL with EFL/ESL mainly investigate college students, and younger learners’ SRL has still not been extensively examined. Thus, in the present study, junior secondary school students’ perceptions of SRL in English reading area were addressed.
Table 2.2 SRL Studies across Disciplines

<table>
<thead>
<tr>
<th>Source</th>
<th>Disciplines</th>
<th>Participants</th>
<th>Main Findings</th>
</tr>
</thead>
</table>
| Zimmerman & Martinez-Pons (1986, 1988)      | English and mathematics            | 80 Yr 10 high school students in the US | a) students with higher academic achievement displayed significantly greater use of almost all SRL strategies;  
b) students’ use of SRL strategies correlates with standardised achievement test scores. |
| Nota, Soresi, & Zimmerman (2004)           | Italian, mathematics and technical subjects | 81 high school students in Italy | a) standardised test scores in Italian, mathematics and technical subjects were significantly predicted by students’ SRL strategies of organising, transforming and self-consequences. |
| Kaya & Kablan (2013)                        | Mathematics, and science           | 574 Yr 4 primary school students in Turkey | a) seven out of nine SRL strategies studied were significantly related with academic achievement. |
| Oacak & Yamaç (2013)                        | Mathematics                        | 204 Yr 5 primary school students in Turkey | a) learners’ self-efficacy and test anxiety predicted their mathematic achievement;  
b) task value, self-efficacy and intrinsic goal orientation predicted SRL strategies. |
| Law, Chan, & Sachs (2008)                  | Chinese text comprehension         | 417 Yr 5 & 420 Yr 6 primary school students in China (Hong Kong) | a) higher achievers in text comprehension test outperformed lower achievers on their strategy scores. |
| Harrison & Prain (2009)                     | English                            | 11 Yr 8 secondary school students in Australia | a) positive relationship between SRL and academic achievement. |
| Lawanto, Santoso, Lawanto, & Goodridge (2014)| Engineering                      | 57 undergraduate students in the US | a) higher achievers outperformed lower achievers significantly on SRL strategy use. |
| Tsuda & Nakata (2013)                       | English                            | 1,076 senior high school students in Japan | a) identified four types of Japanese EFL learners;  
both external and internal factors affected students’ learning;  
b) the importance of teachers’ role in students’ SRL and language learning. |
| Farsani, Beikmohammadi, & Mohebbi (2014)    | English writing                    | 48 undergraduate students in Iran | a) a significant relationship between SRL and academic achievement;  
b) no significant relationship between goal-oriented learning and writing achievement;  
c) a negative relationship between students’ use of cognitive and metacognitive strategies and their wiring performance. |
2.3.3 Gender Differences in SRL

Previous studies into SRL that attempted to evaluate the impact of gender have shown mixed results. Some authors have suggested that gender differences exist between female and male students’ SRL. A significant analysis and discussion on this subject was presented by Zimmerman and Martinez-Pons (1990). Zimmerman and Martinez-Pons focused on studying student differences in SRL related to gender in self-efficacy and strategy use. The findings suggested that girls surpassed boys in using most of the SRL strategies but were lower than boys in self-efficacy. In the same vein, H. Zhang and Whitebread (2017) pinpointed the gender differences in students’ SRL strategic behaviours. Female learners outperformed their male counterparts in cognitive strategies, metacognitive strategies and motivational strategies. Abdullah’s (2016) study also identified gender differences in learners’ SRL. Similarly to the findings of the previous two studies, the findings suggested that female students showed higher levels of SRL than their male counterparts.

However, a different result was reported in Hong et al.’s comparative study (2016). Hong et al. indicated that gender played an important role in learners’ SRL. In their comparative study between Chinese and Korean students, the results indicated that the Chinese male learners outperformed the female learners in their SRL abilities, whereas it was the opposite in Korea. Similarly, Zhao et al. (2014) also found that Chinese male learners performed better in SRL than Chinese female learners.

Furthermore, a study by Wolters and Pintrich (1998) offered a more comprehensive analysis of gender differences in SRL. The influence of gender differences on SRL was highlighted. Male learners’ self-efficacy and test anxiety remained at similar levels across all subjects. However, female learners reported higher levels of self-efficacy and
lower levels of test anxiety in English than in mathematics. Moreover, girls reported higher levels of using cognitive strategies than males in all three subjects.

Others researchers did not identify any gender differences in their SRL. A study by Mofrad and Pourghaz (2015) examined students’ use of SRL strategies. The results showed that there was no significant difference between male and female students in their SRL strategies, and boys and girls performed the same in using SRL strategies.

In the majority of the studies reviewed here, gender was recognised as an important factor that has an influence on students’ SRL. However, those studies provide mixed evidence. Additionally, studies show that contextual and cultural settings as well as subjects may serve as important determining factors to the gender differences in learners’ perceptions of SRL. Hence, it is necessary to take further investigations in the differences in SRL between female and male learners.

2.4  SELF-REGULATED LEARNING AND ACADEMIC ACHIEVEMENT

Much of the previous research on SRL has focused on identifying and evaluating the relationship between learners’ SRL and their academic achievement. Up to now, a large number of studies have revealed a positive correlation between them. This section first reviews empirical studies regarding the relationship, then the differences between academic high- and low-achieving students in SRL are examined.

2.4.1  Relationship between Self-Regulated Learning and Academic Achievement

Zimmerman and Martinez-Pons (1986, 1988) were among the first to examine the relationship between SRL and academic achievement. In investigations into SRL, the researchers identified that learners’ use of SRL strategies was positively related with their academic achievement in mathematics and English. In addition, their use of SRL
strategies significantly predicted their achievement test scores, especially the strategy of rehearsing and memorising, which was the best predictor.

To further examine the role of SRL in learners’ academic achievement, Nota et al. (2004) carried out a longitudinal study with Italian senior high school students. The findings indicated that the students’ use of an organising and transforming strategy was a significant predictor of their grade scores in Italian, mathematics and technical subjects in high school as well as their subsequent course grades at the university. Moreover, the students’ use of a self-consequences strategy was a significant predictor of their high school diploma grades and their intention to continue their education after high school.

One of the most cited studies is that of Pintrich and de Groot (1990), who carried out a correlation study examining the relationship between students’ SRL and classroom academic performance. In contrast to Zimmerman’s studies, which placed more emphasis on SRL strategies, Pintrich and de Groot focused more on motivational components. The results indicated that self-regulation, self-efficacy and test anxiety were the best predictors of the students’ academic performance in the classroom.

Although most of the current literature on the relationship between SRL and academic achievement has revealed a positive relationship (e.g., Bellhäuser, Lösch, Winter, & Schmitz, 2016; Bembenutty, 2016; Pardo, Han, & Ellis, 2017), some researchers have failed to find a positive relationship. For instance, Rao et al. (2000) did not find any relationship between either learners’ use of SRL strategies or their SRL motivational beliefs and their academic achievement. Similarly, in a study by Mahmoodi, Kalantari and Ghaslani (2014), no significant relationship was found between Iranian EFL learners’ SRL and their L2 achievement.
2.4.2 Differences between Higher and Lower Achievers in Self-Regulated Learning

Based upon the positive relationship between learners’ academic achievement and their SRL abilities, a growing number of publications have focused on the differences between higher and lower achievers in their perceptions of SRL and SRL abilities.

A significant investigation and discussion on this subject was presented by Zimmerman and Martinez-Pons (1986). In a comparison of students from high- and low-achievement groups, the results showed that the high-achieving students displayed significantly greater use of all SRL strategies except for self-evaluation. Additionally, the higher achievers relied more on social sources of assistance than their lower achieving counterparts.

To further examine the differences between high- and low-achieving learners, Zimmerman and his colleagues carried out a series of experiments investigating the differences during athletic practice by experts, non-experts and novices. In Cleary and Zimmerman’s (2001) study, basketball experts outperformed non-experts and novices in their goal setting, employment of strategies and levels of self-efficacy. Similarly, Kitsantas and Zimmerman (2002) found that expert volleyball players displayed better goals, planning, strategy use, self-monitoring, self-evaluation and adaptation than non-expert and novice players. Moreover, experts indicated higher self-efficacy, perceived instrumentality, intrinsic interest and self-satisfaction than the other two groups of players.

In a recent study comparing higher and lower achievers by DiFrancesca et al. (2016), two groups of students were found to differ in their metacognitive monitoring, use of low-level study strategies and self-efficacy. Specifically, the high-achieving students set
more specific goals, adjusted their strategies according to their prior performance and set more effective strategies. However, the low-achieving students considered all strategies useful, and they relied on and used more low-level strategies.

To better understand the differences between higher and lower achievers, Ablard and Lipschultz (1998) focused on high-achieving students and investigated their perceptions of SRL and use of SRL strategies. The findings supported those of previous studies in that the high-achieving students reported frequent use of SRL strategies. However, as those high achievers indicated a wide range of use of SRL strategies, from using only a single SRL strategy to using almost all strategies, the researchers believed that the learners achieved high academic levels without necessarily using SRL strategies. It was supposed that the high-achieving students’ awareness rather than their use of SRL strategies resulted in their frequent reported use.

Consistent with previous studies, a study by Park, Cha and Lee (2016) indicated that higher achievers used more strategies than lower achievers, and a study by Somaye and Shahla (2016) showed that high-achieving learners were likely to use a high level of SRL strategies whereas low-achieving learners were likely to use a low level of SRL strategies.

Collectively, these studies clearly indicate that higher achievers differ from lower achievers in terms of their SRL motivational beliefs, their use of SRL strategies and how they regulate their studies. The evidence presented in this section further supports the positive relationship between learners’ SRL and academic achievement.

To sum up, the evidence presented in this section mainly supports a positive relationship between learners’ SRL and academic achievement, and higher achieving learners outperforming lower achieving learners in various aspects, such as use of SRL strategies
and perceptions of SRL. But there some studies demonstrated opposite findings. Based on the mixed results, the current study was conducted to examine the relationship between learners’ perceptions of SRL and their achievement. Comparisons between higher and lower achieving learners were also made regarding different aspects of SRL.

2.5 **Reading Motivation**

As an important determinant of learners’ academic achievement, motivation has been studied extensively in educational settings (Ng, Liu, & Wang, 2016). This section discusses motivation in regard to two aspects. Firstly, motivation is examined as an important and manipulable-by-instruction component of SRL that motivates learners to self-initiate their efforts to use strategies during the learning process (e.g., Ardasheva, Wang, Adesope, & Valentine, 2017). This motivation component is referred to as “SRL motivational beliefs” in this study. Then, motivation is discussed as an independent factor that works together with SRL on learners’ academic achievement.

2.5.1 **Motivational Beliefs in Self-Regulated Learning**

A large number of published studies have investigated motivational beliefs as a critical factor of SRL (e.g., Teng, 2016). Learners’ SRL motivational beliefs motivate them to use strategies as well as regulate cognition and efforts (Pintrich & de Groot, 1990). It has been noted that a good understanding of SRL strategies is no guarantee of good academic achievement as strategies are tools used in the service of goals, and effective strategy use is accompanied by motivational beliefs that support the pursuit of goals (Ping, Baranovich, Manueli, & Siraj, 2015; Pintrich & de Groot, 1990; Weinstein et al., 2000). Thus, motivational beliefs are hypothesised to initiate, facilitate and sustain learners’ engagement in SRL (Ahmed, 2017; Pintrich, 1999).
Pintrich and his colleagues carried out a series of studies examining the role of motivational variables in SRL (e.g., Pintrich & de Groot, 1990; Pintrich, Roeser, & de Groot, 1994; Pintrich & Zusho, 2002). One well-known study that is often cited in research on SRL motivational beliefs is that of Pintrich and de Groot (1990), which found that motivational components were linked in important ways to learners’ strategy use as well as academic performance. Specifically, self-efficacy and intrinsic goal orientation were positively related with cognitive strategy uses and academic performance.

To better understand the role of motivational beliefs in SRL and its effects, Pintrich et al. (1994) investigated 100 middle school students using the MSLQ. The results were in agreement with their previous study (Pintrich & de Groot, 1990): intrinsic goal orientation and self-efficacy were positively related with the students’ cognitive strategy use as well as their self-regulation. Moreover, the results suggested a reciprocal and interactive relationship between motivational beliefs and SRL.

Another detailed study of SRL motivational beliefs, conducted by Pintrich (1999), reported similar results to the earlier ones. Self-efficacy and task value beliefs were found to be positively related with SRL. Learners with intrinsic goal orientation rather than extrinsic goal orientation were more likely to engage in cognitive or metacognitive activities and SRL.

A good summary of motivational beliefs in SRL was provided in the work of Pintrich and Zusho (2002). In summarising previous experimental studies, three stable positive relationships were identified. The first was the relationships between self-efficacy and SRL and between self-efficacy and actual performance. The second was a positive relationship between learners’ interest and belief values and their SRL, especially their
use of SRL strategies. The third was a positive relationship between intrinsic motivation and the use of SRL strategies.

Building on the work of Pintrich and his colleagues, it was concluded that there were links between learners’ motivational beliefs, strategy use, self-regulation and academic performance. Schunk (2005) drew on Pintrich’s work and suggested that this linkage was significant for both theoretical reasons and classroom practice as it suggested a complex interaction between motivational and cognitive factors that lead to learning.

### 2.5.2 Guthrie and Wigfield’s Reading Motivation Theory

The above section examined motivational beliefs in SRL regarding its relationship with SRL strategy uses and academic achievement. This section focuses on motivation in the domain of reading specifically. Reading motivation and its influences on learners’ reading performance and achievement are discussed.

#### 2.5.2.1 Definition of Reading Motivation

A considerable amount of literature has been published on reading motivation in the past three decades because it has been proved to have a critical role in students’ reading performance. Wigfield and his colleagues conducted a series of experimental studies and investigations, and provided a domain-specific approach to reading motivation that focused on specific reading motives.

According to Guthrie and Wigfield (2000), reading motivation refers to “individuals’ personal goals, values and beliefs with regard to the topics, processes, and outcomes of reading” (p. 574). The researchers further explained learners’ reading motivation in three main constructs: (1) Competence and Reading Efficacy, (2) Achievement Values and Goals, and (3) Social Aspects of Reading (Wigfield, 1997). Each construct is further
divided into subcategories, which eventually lead to an 11-dimension reading motivation framework (see Table 3.2).

**Table 2.3 Components of Guthrie and Wigfield’s Reading Motivation Model**

<table>
<thead>
<tr>
<th>Mains Constructs</th>
<th>Subcategories</th>
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</thead>
<tbody>
<tr>
<td>Competence &amp; Efficacy</td>
<td>Reading Efficacy</td>
</tr>
<tr>
<td></td>
<td>Reading Challenge</td>
</tr>
<tr>
<td>Achievement Values &amp; Goals</td>
<td>Intrinsic</td>
</tr>
<tr>
<td></td>
<td>Reading Curiosity</td>
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<tr>
<td></td>
<td>Reading Aesthetic</td>
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<tr>
<td></td>
<td>Extrinsic</td>
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<tr>
<td></td>
<td>Importance of Reading</td>
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<td></td>
<td>Recognition for Reading</td>
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<tr>
<td></td>
<td>Reading for Grades</td>
</tr>
<tr>
<td>Social Aspects</td>
<td>Social Reasons for Reading</td>
</tr>
<tr>
<td></td>
<td>Competition in Reading</td>
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<td></td>
<td>Compliance</td>
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<td></td>
<td>Reading Work Avoidance</td>
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</table>

This 11-dimension reading motivation framework has been employed in a number of empirical studies because it provides a multidimensional and multilayer understanding of learners’ motivation and it specifically focuses on key factors in learners’ reading. In terms of the first construct, Competence and Efficacy, Reading Efficacy concerns learners’ beliefs about their success at reading, and Reading Challenge refers to learners’ satisfaction about understanding complex ideas in a text.

The second construct, Achievement Values and Goals, is divided into two subcategories: (1) intrinsic reading motivation refers to learners’ enjoyment of reading activities that are performed for their own sake, and (2) extrinsic goal orientation refers to learners performing reading activities to receive external recognition, rewards or incentives (Guthrie & Wigfield, 2000). More specifically, regarding intrinsic goal orientation, Reading Curiosity is about learners’ desire to learn about a particular interest to them, Reading Aesthetic refers to the enjoyment of experiencing different kinds of texts, and
Importance of Reading is associated with how learners value different tasks or activities. Regarding extrinsic goal orientation, Recognition for Reading relates to the gratification in receiving a tangible form of recognition for success in reading, and Reading for Grades is mainly about teachers’ evaluation of learners’ reading performance.

In terms of the social aspects of reading motivation, Social Reasons for Reading refers to learners’ sharing the meaning they gain from reading with family and friends, Competition in Reading is about the desire to outperform others in reading, Compliance is associated with reading for an external requirement, and Reading Work Avoidance concerns what learners do not like about reading.

2.5.2.2 Empirical Studies on Reading Motivation

Baker and Wigfield (1999) analysed the reading motivation of Year 5 and 6 primary school students to investigate the relationship between reading motivation, reading achievement and reading amount. A weak relationship between the students’ reading motivation and their reading achievement was identified. Among all the dimensions of reading motivation, only reading work avoidance was consistently related to their reading performance.

A significant analysis and discussion on reading motivation was presented by J. H.-Y. Wang and Guthrie (2004). The researchers found that intrinsic and extrinsic motivation were related to reading comprehension in different ways. More specifically, intrinsic motivation was positively related to reading achievement and it empowered students’ cognitive engagement in understanding tests. However, extrinsic motivation was negatively related to reading achievement and students with extrinsic motivation were more likely to use strategies at the surface level.
To further examine the relationship between motivation and reading achievement, Unrau and Schlackman (2006) investigated and analysed the reading motivation of about 2,000 university students. The study found that Asian students’ intrinsic motivation was positively related to their reading achievement while their extrinsic motivation was negatively related. However, for Hispanic students, neither intrinsic nor extrinsic motivation had a direct effect on reading achievement.

Another study, by Huang (2007), involved 247 Year 7 Chinese students in Taiwan. In contrast to the studies conducted in Western society, the study reported significant relationships between the learners’ self-efficacy and reading achievement, between their intrinsic motivation and reading achievement, and between their extrinsic motivation and reading achievement.

Several studies on motivation have revealed that motivation may play a mediating role in language learning through the use of strategies. A recent study by Ardasheva (2016) conducted a structural equation modelling (SEM) investigation of the mediating and intervening factors, such as motivation, L2 proficiency, age and strategies, that directly or indirectly influence academic achievement. Students’ use of metacognitive strategies was identified as a mediator between their motivation for language learning and academic achievement. In addition, motivation was found to be the strongest predictor of students’ strategy uses.

This section discusses the role of motivation from two aspects. As a key component in SRL, motivational beliefs work together with SRL strategies in leaners’ self-regulation processes to facilitate their learning. As an independent factor that refers to learners’ goals, values and beliefs, reading motivation was proved to be positively related with learners’ reading performance, and various dimensions of reading motivation influence
on reading achievement in different ways. Thus far, prior studies have not been able to convincingly show the relationships among SRL, reading motivation, and reading achievement.

2.6 SRL Intervention Programmes

Since a positive relationship between SRL and academic achievement has been identified in numerous studies, approaches to help students enhance their academic achievement through improving their SRL have been attracting considerable interest. A number of researchers have carried out SRL intervention programmes and attempted to test the effectiveness of SRL invention in enhancing students’ academic achievement. Previous meta-analyses have indicated that SRL interventions are effective in improving learners’ academic achievement (e.g., Dignath, Buettner, & Langfeldt, 2008; Hattie, Biggs, & Purdie, 1996).

This section reviews a variety of SRL intervention programmes that were designed and implemented at different lengths, with different teaching and learning content, under different conditions, among different levels of students and in different school subjects.

2.6.1 Self-Regulated Learning Intervention Programmes in Empirical Studies

Firstly, this section reviews four systematic and organised SRL intervention programmes: the Self-Regulation Empowerment Programme (SREP), the Self-Regulated Strategy Development (SRSD) programme, the Strategic Content Learning (SCL) programme, and the Learning to Learn (LTL) programme. Then intervention emphasis on one particular process or aspect of SRL are discussed
2.6.1.1 Self-Regulation Empowerment Programme (SREP)

The SREP was established by Cleary and Zimmerman (2004) with the intention of empowering at-risk secondary school students to become more strategic, motivated and regulated. The SREP was developed on the basis of Zimmerman’s social cognitive theory, with particular focus on the cyclical process.

The SREP contained two primary components: diagnostic assessment and develop the self-regulated learner. The diagnostic assessment component is employed to obtain an overall understanding of learners’ academic-related issues, from general knowledge to specific learning situations, as well as to help researchers identify the problems or difficulties learners have in their SRL. In the second component, develop the self-regulated learner, researchers help students become self-regulated learners using three steps. Firstly, students learn to enhance their empowerment by adopting self-monitoring and/or graphing methods, and to establish the link between strategy use and academic performance. Secondly, students expand their repertoire of study and learning strategies by learning and practising. Thirdly, students are able to utilise the cyclical feedback loop of SRL.

The SREP was first tested with a middle school student, Anna, in a case study (Cleary & Zimmerman, 2004). In accordance with the above-mentioned two key components of SREP, the researchers first identified Anna’s study difficulties in her science class by using their Assessment Specificity Guide to observe her use of strategies in her science study. Then Anna adopted a graphing method to enhance her self-awareness of study strategies as well as the relationship between her ineffective strategies and her poor academic performance in science. After obtaining a correct understanding of her strategy use and her failing test scores, Anna learned and practised strategies that could help her
improve her science study. Finally, Anna was empowered to engage in positive cycles of motivation and learning. In this study, by adopting the SREP, Anna understood the dynamic loop of SRL, and learned how to control her school performance and employ effective strategies.

To further examine the effectiveness of the SREP programme, a pre–post quasi-experimental study was conducted by Cleary, Platten and Nelson (2008) with eight Year 9 US high school students. Six of them were provided with the SREP training twice a week, for 23 sessions in total. The SREP training included six modules: introduction, task analysis, goal setting, strategic planning, strategy training and self-reflection, which were implemented in sequence. The results of this research revealed that the SREP intervention group increased about 13 points on the post-intervention biology test, and showed a better use of adaptive SRL strategies and greater confidence. However, the small sample size in Cleary et al.’s (2008) study limited its generalisation, and the lack of a pure control group limited its reliability of comparison. Moreover, the adoption of a self-report method in data collection created limitations in the accuracy of the data. Despite these weaknesses, this study tested the effectiveness of SREP and provided educational implications for improving low-achieving students’ academic performance.

2.6.1.2 Self-Regulated Strategy Development (SRSD)

Another widely used intervention programme is the SRSD approach developed by Graham and Harris (1993). This programme focuses on improving the writing performance of students with difficulties in writing. The SRSD aims at helping students utilise higher level cognitive processes in composition and writing strategies, and to develop positive attitudes towards both writing and themselves as writers (Graham & Harris, 1993). Similarly to the SREP, the SRSD is based on the consideration that SRL
is a cyclical process. However, in contrast to the SREP, which was informed by social cognitive theory, the SRSD intervention is based on Vygotskian thinking.

The SRSD was designed with seven basic recursive stages that can be further adjusted according to individual differences. The seven stages include pre-skill development, an initial conference about instructional goals and their significance, discussion of the strategy, modelling, memorisation of the strategy, collaborative practice and independent performance (Graham & Harris, 1993). To determine whether the SRSD programme is effective in improving students’ academic achievement, Harris and Graham (1999) carried out an experimental study involving 43 Year 5 and 6 elementary school students with learning disabilities. Thirty-three participants were enrolled in three different experimental groups with three different treatments of SRSD interventions, and the other 10 students were enrolled in the control group.

The three SRSD treatments differed from each other. The full SRSD group included all of the components, the SRSD–without explicit self-regulation (SRSD-WESR) group included all except explicit instruction in goal setting and self-monitoring, and the direct teaching group further removed the components of strategy instruction on the basis of the SRSD-WESR group. As hypothesised, students in the three treatment groups reported different improvements in their writing performance. The learners in the full SRSD group obtained higher scores in the post-test of writing than the students in the SRSD-WESR group, which in turn surpassed those in the direct teaching group. This study provided evidence for the effectiveness of the full SRSD model in enhancing learners’ writing (Harris & Graham, 1999).
2.6.1.3 Strategic Content Learning (SCL)

The third intervention programme that has been proven to be a useful way to improve learners’ SRL is the SCL programme developed by Butler (1998). Similarly to the two above-mentioned interventions, the SCL programme was established with an understanding of SRL as a cyclical process. In contrast to the SRSD approach, the SCL programme pays more attention to the role of motivational and volitional control strategies in the intervention, and provides support to students in their cognitive, motivational and volitional processes during their learning. Moreover, compared with the SRSD programme, which focuses more on improving students’ writing performance, the SCL approach has a wider range of subjects, from secondary school to college students, and from reading, writing, to math performance.

Butler (1998) performed a pre–post quasi-experimental study with 30 post-secondary students to examine the SCL intervention. The pre- and post-test assessments examined the students’ task performance, metacognitive knowledge, self-efficacy, strategy use and attributions. During the SCL intervention, tutors assisted the students to analyse task demands as well as the criteria for task performance. The students learned to choose appropriate strategies for tasks on the basis of the demands and criteria. Instructors also assisted the students to identify the effectiveness of the strategies they chose to complete tasks, and helped them analyse the gaps and make judgements to adjust their strategies and maximise their progress towards their goals. Because SRL is a recursive process, the students were instructed to implement, evaluate and fine-tune strategies repeatedly until their individual needs were met. In comparing the data of pre- and post-tests, the results indicated that SCL was an effective intervention that helped the students improve their task performance, metacognition, attribution and use of strategies.
2.6.1.4 SRL Learning to Learn (LTL)

Another significant SRL intervention is the LTL programme (Hofer & Yu, 2003). In contrast to the three interventions mentioned above, the LTL is not a series of training sessions, but a semester-long introductory level psychology course at the University of Michigan. The course included two hours in lectures and two hours in a laboratory/discussion format every week, aiming at improving the cognitive and motivational components of college students’ SRL. The lectures provided students with psychological concepts, principles and research findings, while the laboratory/discussion helped students transfer theories or knowledge into practice.

In a study by Hofer and Yu (2003), 78 undergraduate students attended the LTL course and 70 of them finished both pre- and post-tests by completing the MSLQ measurement. The results indicated that students in the LTL course increased in mastery orientation, self-efficacy, valuing of the course and the use of cognitive strategy, and decreased in text anxiety. Additionally, the results indicated that motivational beliefs and strategy use were positively correlated. Although the research provided evidence that the LTL course was effective in improving students’ motivation and strategy use, the lack of a control group limited the possibilities for further comparison.

2.6.1.5 SRL Intervention Programmes on Specific Processes or Strategies

These four intervention programmes described above were based on integrated SRL models, and included all major SRL processes. Other SRL training sessions place emphasis on one particular process or aspect of SRL, and examine the effectiveness of the specific process or aspect in improving learners’ academic achievement.
Zimmerman and Kitsantas (2002) conducted interventions on college students’ writing revision strategies at the observation and emulation level of SRL. A total of 72 college students were assigned to six groups with different conditions of modelling and social feedback during the interventions. All participants in the six groups were provided with the introduction to a writing revision strategy, including the five main steps and how to use them in sample articles. The participants then went through different types of training: some with no models, some with a mastery or coping model, and either with or without feedback. The results showed that at the observational learning level, the students in the coping-model group surpassed those in the mastery-model group, who surpassed those in the no-model group. And at the emulation level, groups with social feedback surpassed those without social feedback.

Another strategy that has attracted researchers’ attention is graphing. Kitsantas and Zimmerman (2006) investigated the effects of using a graphing strategy and self-evaluative standards in dart throwers’ performances. Seventy college students were randomly divided into five groups according to whether they were trained with absolute or graduated self-evaluative standards, and whether they were trained with a graphing strategy. The results supported the researchers’ hypothesis in that the group with the graphing strategy training showed higher dart skills and obtained stronger motivational beliefs than those not trained with the graphing strategy.

Eilam and Aharon (2003) focused on a planning and time management strategy in SRL and conducted their research with 33 Year 9 secondary school students. The participants were divided into groups in terms of their science ability. Yearly and daily planning reports were adopted as the main data collection methods. The results were similar to
those of the previous studies on SRL strategies training that indicated that teaching students strategies can help to improve academic performance.

2.6.2 Intervention Programmes for English-as-a-Foreign or -Second-Language

Compared with the large number of experimental studies on SRL intervention in other school subjects, few studies on SRL intervention have been conducted in the domains of EFL/ESL.

Chularut and DeBacker (2004) carried out an experimental study with 55 college and 24 high school ESL students to examine the effectiveness of an intervention in enhancing students’ ESL achievement. The learners’ self-regulation and self-efficacy as well as their English achievement were assessed by surveys and English tests before and after the intervention. During the intervention, all participants were randomly assigned to one of two groups: a concept mapping group or an individual study plus discussion group. The students in the concept mapping group were taught about the concept mapping strategy first, and then learned the strategy by completing their concept map handouts with instructions. After obtaining understanding of the strategy, the students started practising the concept mapping strategy on five passages. Instructors monitored their learning progress and provided feedback in the subsequent intervention session. In contrast, for the students in the individual study plus discussion group, only five passages with definitions of difficult vocabulary were provided without any instruction for learning strategies. The concept mapping strategy not only helped the students improve their English achievement, but also enhanced their self-regulation and self-efficacy. In other words, the improvement in the students’ English achievement as well as SRL and self-efficacy confirmed the effectiveness of the intervention, and suggested that educators can enhance students’ ESL achievement and SRL by improving their
strategy. One limitation of the study is that the participants ranged in age from 15 to 22 years, which covered those in secondary school and college. As learners’ perceptions of SRL may vary according to the school context and environment, more attention should have been drawn on the possible influences brought by the school levels and age groups.

SRL studies within the EFL/ESL domain are becoming more specific since students’ SRL has been studied in each individual EFL/ESL section, such as writing, reading and listening (Teng, 2016; Graham & Santos, 2015). In a recent study, Lastochkina and Smirnova (2017) conducted a quasi-experimental study aimed at promoting EFL learners’ listening performance by scaffolding their SRL. In the study, the students in the control group participated in classroom activities in which the teachers used only traditional methods, whereas those in the experimental group participated in tasks using an SRL model. After a six-month SRL intervention, the students in the experimental group performed significantly better in English listening than their counterparts in the control group. However, the SRL trainings were provided online via the Learning Management System (LMS) out of the classroom, the effects of e-learning and extra learning activities outside classroom have not been well considered.

A recent study by R. Lam (2015) investigated Hong Kong EFL learners’ SRL in English writing. Four post-secondary students attended a 15-week intervention programme that focused on strategy use. A one-hour lecture and a two-hour writing workshop were provided every week. In the first three weeks, writing strategies were taught to the students, including brainstorming, formulating and drafting, as well as how to do self-assessment and peer assessment. In the following 12 weeks, four writing cycles were adopted. Each cycle contained seven steps: first draft, self-assessment, second draft, peer assessment, third draft, instructor feedback and final draft. The data about the students’
learning were collected by stimulated recalls, individual interviews, the students’ language learning histories and text analysis tests. The results indicated the effectiveness of the intervention in helping the students improve their SRL, strategy knowledge and metacognitive knowledge. Although this study had its limitations because of its small and selective sample size as well as its adoption of retrospective think-aloud protocol data, it provided evidence for the effectiveness of explicit strategy instruction. The result of the study aligned with that of the previous study, that SRL has positive effects on students’ English achievement.

This view is supported by Teng (2016), who employed a strategies-based English writing intervention among Chinese EFL learners. Eighty university students were involved in the study and were randomly assigned to control or experimental groups. For the students in the control group, only regular English writing classes required by the university curriculum and syllabus were provided, whereas for those in the experimental group, SRL-strategies-based writing instruction was provided for 1.5 hours per week over four months. As expected, the experimental group reported a significantly higher level of SRL strategy use, and higher levels of self-efficacy and motivational beliefs than their counterparts in the control group. Teng (2016) concluded that the intervention was successful in enhancing the learners’ uses of SRL strategies and their motivation towards English writing, which led to their better English writing achievement.

A study that applied an SRL intervention in EFL learners’ English reading was conducted by Maftoon and Tasnimi (2014). A total of 149 Iranian EFL learners participated in this study, and had their reading comprehension achievement examined via the reading test of the TOEFL Paper-Based Test. After the pre-test, the participants
were randomly divided into two groups: 76 of them were assigned to the experimental group and the remaining 73 to the control group. The 76 participants in the experimental group received 10-session direct instruction on SRL that was developed from Zimmerman’s social cognitive theory, and then practised the SRL strategies in reading in all 10 sessions. The participants in the control group did not receive any instruction regarding SRL or reading strategies. After the 10-session instruction, a post-English reading comprehension test was provided to both groups. Consistent with those of Chularut and DeBacker (2004), R. Lam (2015) and Teng (2016), the results revealed an apparent increase in the test scores of the experimental group, which lent support to the effectiveness of the SRL intervention. However, in Maftoon and Tasnimi’s (2014), the researchers did not examine participants’ SRL before and after the intervention; thus, changes in their SRL could not be identified. Therefore, the data could not fully support the conclusion that SRL had a significant effect on the reading comprehension achievement of Iranian EFL learners.

2.6.3 Summary of Self-Regulated Learning Intervention Programmes

All of the studies reviewed here provide reasonably consistent evidence that SRL can be taught to students, and SRL training, including training on the overall SRL processes and on specific strategies or aspects, is useful in improving learners’ SRL as well as their academic achievement.

The studies reviewed in this section show that such SRL intervention programmes facilitate students’ SRL through direct or indirect instruction (Kistner et al., 2010). Direct instruction involves implicit and explicit direct instruction. Instructors can implicitly induce students to show particular behaviours such as modelling the strategy, promoting the use of strategies, and encouraging or suggesting strategies (Kistner et al.,
Alternatively, they can explicitly tell students to show certain activities such as explaining that some activities are learning strategies or demonstrating the significance or usefulness of specific strategies.

Another instruction that can facilitate students’ SRL development is indirect instruction, whereby teachers arrange a supportive learning environment or manipulate contextual conditions encountered by students (Kistner et al., 2010; Triquet et al., 2017). The learning content, the tasks and the teaching methods are designed and planned deliberately to create a powerful SRL-promoting environment.

In summary, the programmes facilitate learners’ SRL with either or both of the two types of instruction, and most of them successfully improve learners’ perceptions of SRL as well as academic achievement.

2.7 Self-Regulated Learning Measurements

To date, various methods have been developed and introduced to measure and assess learners’ SRL. The use of self-report instruments and interviews has a relatively long tradition within measuring of SRL. Recently, a number of innovative measurements have been developed to assess learners’ SRL, such as think-aloud protocols, observations and diaries. This section first discusses the two traditional methods used to determine SRL, and then the innovative methods are reviewed.

2.7.1 Traditional Measurements of Self-Regulated Learning

2.7.1.1 Self-report instruments

The self-report questionnaire is one of the most widely employed measurement tools of SRL. Among different questionnaires assessing SRL, the one that is most favoured by
researchers is the MSLQ developed by Pintrich, Smith, Garcia and McKeachie (1991). When the MSLQ was first generated, it was a self-report instrument focused on college students’ motivational orientations and learning strategy use for a college course (Pintrich et al., 1991). The motivational section examines six factors: intrinsic goal orientation, extrinsic goal orientation, task value, control of learning beliefs, self-efficacy for learning and performance, and test anxiety. The learning strategy section explores students’ cognitive and metacognitive strategies, and their management of different resources (Pintrich et al., 1991). This 81-item questionnaire is scored on a seven-point Likert scale, from 1 (“not at all true of me”) to 7 (“very true of me”), and the scores are constructed by taking the means of the items that make up the scale (Pintrich, Smith, Garcia, & McKeachie, 1993). In the two decades following the establishment of the MSLQ, this self-report questionnaire has been modified to versions in different languages and for different learners. Studies examining and using such modified versions have suggested mixed result in the adaptation of the MSLQ.

In addition to the modified Chinese version of the MSLQ (see Section 2.2.1.3.1), the questionnaire has been adapted for other contexts and languages. An example is the work of Karadeniz, Büyükoztürk, Akgün, Çakmak and Demirel (2008), which adapted the MSLQ for the context of Turkey. In a similar way to Rao and his colleagues, Karadeniz et al. first translated the questionnaire into Turkish, and then examined its adaptation to Turkish secondary school students using CFA. The researchers studied the two subscales (Motivation and Learning Strategy) of the MSLQ separately, and through analysing it four times six inappropriate items from the motivation scale and five from the learning strategies scale were removed to make it a more suitable questionnaire for Turkish students.
Researchers have employed modified versions to study SRL in their own populations and contexts, such as Iran and Greece. Farsani et al. (2014) investigated Iranian college students’ SRL in writing performance with the Persian version of MSLQ. The results revealed a significant relationship between SRL and students’ writing performance, and a negative relationship between students’ use of cognitive and metacognitive strategies and their writing performance. Metallidou and Vlachou (2007) adapted the Greek version of MSLQ to study primary school students’ SRL and their language and mathematics achievements, and the findings indicated that self-efficacy in SRL was the most significant predictor of students’ performance.

2.7.1.2 Interview methods

Interviews have a widespread popularity in collecting learners’ understanding or perceptions of SRL, and one of the most commonly used methods is the SRLIS developed by Zimmerman and Martinez-Pons (1986).

Learners’ uses of SRL strategies are determined in six different contexts in the SRLIS model through open-ended questions. Specifically, the methods students use to participate in class, to study and to complete their assignments are examined in the following contexts: in classroom situations, at home, when completing writing assignments outside class, when completing mathematics assignments outside class, when preparing for and taking tests, and when poorly motivated. Students’ answers are coded and classified into 14 categories of SRL strategies. In the series study by Zimmerman and his colleagues, the researchers successfully adopted the SRLIS to investigate students’ use of SRL strategies and their relationship with academic achievement (Nota et al., 2004; Zimmerman & Martinez-Pons, 1986, 1989).
One distinct advantage of using the SRLIS interview model is that it examines students’ use of SRL strategies in more domain-specific areas (Zimmerman, 2008). However, a major limitation of the SRLIS is that it is less predictive with higher achievers and further revisions are required for it to have better discrimination among higher achievers (Nota et al., 2004).

Although the self-report and interview approaches have been widely and successfully used for evaluating SRL, enabling researchers to obtain information on the general aptitudes or propensities of students in their self-regulatory processes, the limitations of these two traditional measurements have been criticised. The self-report instruments are less able to capture the relevant processes at a micro level regarding the actual cognitive events or tactics used by students, and the interviews provide a relatively enduring attribute of a person and can not help to predict future behaviour (Pintrich, 2004; Zimmerman, 2008).

Nevertheless, researchers’ choice of self-report instruments or interviews as measurement tools indicates that they consider SRL an aptitude that can help to predict whether students will or will not be able to, can or cannot self-regulate when studying (Winne & Perry, 2000). In contrast, an alternative understanding of SRL is to regard it as an event. Measuring SRL as an event enables researchers to study the self-regulatory process as a temporal entity with an apparent beginning and end, and to gain a clearer understanding of the development or progress of the SRL process (Zimmerman, 2008).

With the intention of obtaining insight into SRL and reducing the limitations of traditional measurements, a variety of innovative measurements have been developed for determining SRL, such as observations, think-aloud protocols, diaries and trace methodologies.
2.7.2 Innovative Measurements of Self-Regulated Learning

Three innovative measurements that have emerged as powerful tools for studying SRL are discussed in this section. These three methods are observations, think-aloud protocols and diaries. A seminal study examining SRL using the observation method is the work of Perry (1998). In the six-month study, the observation method together with surveys and interviews was employed to explore Year 2 and 3 teachers’ and students’ SRL. In an analysis of the observation data, the results provided more detailed information about how classroom contexts influence students’ beliefs, values, expectations and actions. Specifically, the high-SRL classes engaged, monitored and evaluated their writing progress more productively in writing activities than their low-SRL counterparts (Perry, 1998; Zimmerman, 2008). This research explored SRL in a naturalistic context and provided descriptions of both students’ and teachers’ behaviours in real classroom environments. Although the lack of a standard measurement for writing competence restricted the researcher’s study into the relationship between classroom contexts and writing competence, Perry’s study using observation as the main instrument emphasised the value of studying students’ behaviours in real school contexts. It also highlighted the importance of motivation in promoting students’ academic achievement.

Another innovative method that has been applied in SRL studies is the think-aloud protocol. Azevedo et al. (2004) adopted the think-aloud method to investigate low achievers’ use of SRL strategies and teachers’ scaffolding of SRL processes when using a Web-based environment called the RiverWeb Water Quality Simulator. A total of 49 high school students participated in the research, and the students’ group work and interactions with teachers were audio- and video-taped for coding, scoring and analysing. The results revealed that the students’ use of SRL strategies was limited and they spent
little time on planning and monitoring. Nor did teachers adopt much scaffolding to help the students. Although the validity of the think-aloud protocol for SRL measurement requires more support and evidence, this method provides researchers with a way to study SRL by capturing students’ simultaneous thinking and analysing students’ instant behaviours rather than forcing them to record or even imagine their possible behaviours using self-report instruments.

Finally, diaries have been used to measure students’ perceptions of SRL and SRL strategy use. The innovative and seminal work of Schmitz and Wiese (2006) pioneered this new approach to examining learners’ SRL. They investigated German college students’ SRL with a quasi-experimental study and by time-series analyses of diary data. A total of 40 civil engineering students participated in the study and 21 of them attended SRL training and wrote diaries for five weeks. The diaries were structured so that every day pre- and post-study the students had to answer questions in the diaries about their learning, such as “How do you feel at the moment?” and “How do you evaluate your learning results?” The results indicated that the SRL training with diaries significantly improved the learners’ SRL, and the standardised diaries were proved to be useful for SRL studies.

Compared with the other methods, measuring SRL with a diary offers several advantages. Firstly, the diary method is not only an instrument for measuring SRL; it is also a method to improve learners’ SRL. In other words, as an instrument, a diary can record and reflect the learning process for researchers’ further evaluation. Additionally, a diary can help to effectively transfer SRL training to practical use and enhance SRL learners’ competence as well as their motivation. Thus, the data of diaries enable researchers to have a deeper insight into the development of learning than a pre–post
research design (Schmitz et al., 2011). However, one limitation of the diary data, as another way of self-report, is that it may reflect participants’ subjective opinions, and requires participants with high levels of compliance (Schmitz et al., 2011).

In addition to observations, the think-aloud protocol and diary methods, innovative instruments for SRL measurements include trace logs, micro-analytic measures, error detection tasks, and so forth (Cleary & Zimmerman, 2012; Winne & Perry, 2000; Zimmerman & Schunk, 2011). These new creative methods for investigating SRL provide researchers with the tools to collect different types of data from different aspects of SRL than those collected by the traditional instruments, and to present a more comprehensive view of SRL.

Table 2.4 SRL Studies with Different Measurements

<table>
<thead>
<tr>
<th>Methods</th>
<th>Source</th>
<th>Location</th>
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<tbody>
<tr>
<td><strong>Questionnaire</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSLQ</td>
<td>Rao, Moely, &amp; Sachs (2000)</td>
<td>China (Hong Kong)</td>
</tr>
<tr>
<td></td>
<td>Rao &amp; Sachs (1999)</td>
<td>China (Hong Kong)</td>
</tr>
<tr>
<td></td>
<td>Pintrich &amp; De Groot (1990)</td>
<td>US</td>
</tr>
<tr>
<td></td>
<td>Karadeniz, Büyükoztürk, Akgün, Çakmak, &amp; Demirel (2008)</td>
<td>Turkey</td>
</tr>
<tr>
<td></td>
<td>Metallidou &amp; Vlachou (2007)</td>
<td>Greece</td>
</tr>
<tr>
<td><strong>Interview</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SRLIS</td>
<td>Zimmerman &amp; Martinez-Pons (1986, 1989)</td>
<td>U.S</td>
</tr>
<tr>
<td></td>
<td>Nota, Soresi, &amp; Zimmerman (2004)</td>
<td>Italy</td>
</tr>
<tr>
<td><strong>Interview</strong></td>
<td>Tsuda &amp; Nakata (2013)</td>
<td>Japan</td>
</tr>
<tr>
<td><strong>Interview</strong></td>
<td>Lai &amp; Gu (2011)</td>
<td>China</td>
</tr>
<tr>
<td><strong>Innovative Methods</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observation</td>
<td>Perry (1998)</td>
<td>Canada</td>
</tr>
<tr>
<td>Diary</td>
<td>Schmitz, Klug, &amp; Schmidt (2011)</td>
<td>Germany</td>
</tr>
<tr>
<td>Diary</td>
<td>Schmitz &amp; Wiese (2006)</td>
<td>Germany</td>
</tr>
</tbody>
</table>
2.8 SUMMARY

Taken together, the development in SRL studies lead to more discussions and investigations in the nature of SRL — is it a universal or context-based concept? If it is a more context-specific concept, how do different contexts, such as cultural context, social context, and student learning context influence learners’ perceptions of SRL? Particularly, in the modern Chinese context, where traditional collectivism or Confucianism are gradually transiting to individualism, it is necessary to re-examine their perceptions of SRL and explore how cultural context influences Chinese learners’ understandings of SRL.

SRL has been considered being domain-specific, and how learners’ perceive SRL differ in various school subjects remain unclear. Prior studies devote more attention to mathematics and first language learning. However, EFL/ESL is one of the most important subjects in the Chinese society, and how Chinese EFL learners regulate their English learning and how to improve their English achievement through facilitating their SRL abilities requires further studies.

Motivation has been demonstrated as a key factor that influences learning and achievement. Learners with higher levels of motivation have a greater likelihood to obtain high academic achievement, and are more likely to have high levels of SRL. Thus, research into SRL, motivation and academic achievement will provide an insight into the relationships among them, and provide practical implications in teaching and learning.

Difference between genders and between higher and lower achieving learners have also been reported playing important role in learners’ perceptions of SRL. As discussed in
this chapter, mixed evidences have been found in the literature. Hence, a further examination on the differences between female and male learners, higher and lower achieving learners will contribute to a deeper understanding of SRL.
3 THEORETICAL FRAMEWORK

3.1 INTRODUCTION

This chapter presents the main theoretical frameworks for the current study in terms of SRL and reading motivation. The first section focuses on the theoretical models for SRL and the second section focuses on those of reading motivation. The rationales for choosing each theoretical framework are addressed. Furthermore, a hypothesised model is proposed, suggesting a mediating role of SRL between reading motivation and English reading achievement.

3.2 SELF-REGULATED LEARNING THEORIES

A large volume of articles has been published providing lenses through which learners’ SRL processes can be examined, such as such as operant theory, phenomenological theory, social cognitive theory, information processing theory, volitional theory, Vygotskian theory and cognitive constructivist theory (see Chapter 2, section 2.2). As the current study was conducted within a social cognitive perspective, this section focuses on the two social cognitive models selected for the present study: Zimmerman’s social cognitive model (1986, 1989, 2002, 2008) and Pintrich’s conceptual framework (1995, 2004). The concepts of these two models as well as the rationale for choosing them as the theoretical models for the current study are discussed below.

3.2.1 Bandura’s Socio-Cognitive Theory

Bandura’s socio-cognitive learning theory is discussed first because Zimmerman’s and Pintrich’s models are based on it. Bandura’s socio-cognitive theory posits that self-regulation is a triadic and dynamic interaction of personal, behavioural and
environmental factors (Bandura, 1986). The personal factors refer to control over one’s own thoughts, feelings, motivation and actions; behavioural factors refer to one’s skills, practice and self-efficacy; and environmental factors refer to one’s social norms, influence on others and access in community. These three factors work in a reciprocal and causal way to regulate one’s behaviour (Bandura, 1999). In Bandura’s model, the internal personal, behavioural patterns and environmental events all “operate as interacting determinant that influence one another bidirectionally” (Bandura, 1999, p. 23).

Another important concept developed and addressed by Bandura is self-efficacy. According to Bandura (1999, 2008), social cognitive theory is rooted in an agentic perspective with self-efficacy as the foundation of the agency. Bandura indicated that learners with higher levels of self-efficacy are more likely to make effort in their studies (Bandura, 1990; Hathaway, 2016).

In brief, Bandura’s socio-cognitive theory provides a strong background of SRL in terms of the above-mentioned two aspects. On the basis of Bandura’s theory, Zimmerman and Pintrich developed their models and provided explanations of SRL in relation to different aspects, which are discussed in the two sections below.

3.2.2 Zimmerman’s Social-Cognitive Model

Zimmerman (1989) extended Bandura’s social cognitive theory and proposed a social cognitive model for examining SRL. Based upon Bandura’s model, Zimmerman also demonstrated that SRL processes include three determinants, namely learners’ personal processes, their behaviours and the environment. Learners’ SRL, according to this triadic formulation, varies according to the “academic context, personal efforts to self-
regulate, and outcomes of behavioural performance” (Zimmerman & Martinez-Pons, 1990, p. 51).

In addition to the triadic interplay, Zimmerman (1989) emphasised the important role of strategies as they enable students to personally (self-)regulate their behaviour, environment and conversion functioning (Zimmerman & Martinez-Pons, 1990). Strategies focusing on optimising personal regulation include organising and transforming, rehearsing and memorising, and goal setting and planning; those that focus on enhancing behaviour regulation are self-evaluating and self-consequenting; and those that focus on enhancing environmental regulation are seeking information, keeping records and self-monitoring, environmental structuring, seeking assistance and reviewing materials.

One important contribution of Zimmerman’s social cognitive model is the cyclical learning processes. The model regards the student’s learning process as a loop, which includes three phases: forethought, performance and self-reflection (see Figure 3.1).

In this three-phase model, the forethought phase addresses the pre-task learning. It contains two main subprocesses: task analysis and self-motivation beliefs. Task analysis requires self-regulated learners to set suitable goals for their studies and have ideas about how to choose effective strategies. Self-motivational beliefs include self-efficacy, outcome expectations, intrinsic interest/value and learning goal orientation, which self-regulated learners are expected to establish before commencing their learning (Ellis & Zimmerman, 2001; Schunk & Usher, 2013; Zimmerman, 2002).

The second phase is the performance phase, which addresses learning during the task. In this phase, self-control and self-observation are the two central processes. Self-control refers to the deployment of specific methods or strategies that were selected during the
forethought phase. Self-observation refers to self-recording personal events or self-experimentation to identify the cause of these events (Zimmerman, 2002). It is considered an important process that helps learners trace their performances and outcomes, and a factor that improves their future performances (Schunk & Usher, 2013).

**Figure 3.1 SRL Phases in Zimmerman’s Social Cognitive Model**

![Diagram showing the phases of Self-Regulated Learning (SRL)]

*Source: Modified from Schunk and Usher (2013) and Zimmerman (2011).*

The third phase is the self-reflection phase, which refers to learners’ post-task learning. Two key processes of this phase are self-judgement and self-reaction. Self-evaluation, one type of self-judgement, compares learners’ performances with certain standards such as a previously set goal. The other type of self-judgement—causal attribution—describes the reasons that the learner gives for success or failure (Zimmerman, 2002). The other self-reflection process—self-reaction—includes two subprocesses: self-satisfaction or affect and adaptive or defensive inferences. Self-satisfaction or affect refers to perceptions of satisfaction and associate affect regard learners’ performances and enable learners to enhance their motivation. Adaptive inferences are conclusions on
the basis of performance that direct people to new and potentially better forms of self-regulation. Adaptive inferences address efforts to enhance the effectiveness of learners’ learning methods, while defensive inferences refer to efforts to protect self-image from dissatisfaction and aversive affect by withdrawing or avoiding chances to learn (Ellis & Zimmerman, 2001; Zimmerman, 2002). After self-reflection, results or conclusions will affect the next forethought phase in this cyclical process.

Different from Bandura’s triadic SRL, Zimmerman’s model pays more attention to the learners themselves. Zimmerman’s social cognitive model views students as metacognitively, motivationally and behaviourally active participants in their own learning (Zimmerman, 1986). Regarding metacognitive processes, self-regulated learners plan, set goals, organise, self-monitor and self-evaluate during the knowledge acquisition process. Regarding motivational processes, self-regulated learners have high self-efficacy and high self-attributions and are more intrinsically goal oriented. Regarding behavioural processes, such learners select, structure and create environments that optimise their learning.

3.2.3 Pintrich’s Conceptual Framework

Another model that expands on Bandura’s social cognitive theory is Pintrich’s conceptual framework. Pintrich’s framework identifies four main phases for self-regulation: (1) forethought or planning activation, (2) monitoring, (3) control and (4) reaction and reflection. Instead of regarding the learning process as a loop, Pintrich emphasises that all these phases can occur simultaneously and dynamically as learners may change or update their goals and plans when they receive feedback at any phase (Pintrich, 2004).
Table 3.1 Four Phases of Pintrich’s Conceptual Framework

<table>
<thead>
<tr>
<th>Phase</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 Forethought</td>
<td>Planning and goal setting as well as activation of perceptions and knowledge of the task and context and the self in relation to the task</td>
</tr>
<tr>
<td>Phase 2 Monitoring</td>
<td>Various monitoring processes that represent metacognitive awareness of different aspects of the self and task or context</td>
</tr>
<tr>
<td>Phase 3 Control</td>
<td>Efforts to control and regulate different aspects of the self or task and context</td>
</tr>
<tr>
<td>Phase 4 Reaction &amp; Reflection</td>
<td>Various kinds of reactions and reflections on the self and the task or context</td>
</tr>
</tbody>
</table>

Source: Modified from Pintrich (2001)

Pintrich’s framework incorporates four main areas of regulation: (1) cognition, (2) motivation and affect, (3) behaviour and (4) context. These areas are distributed throughout all four self-regulation phases (see Table 3.1). In terms of cognition, learners’ use cognitive strategies to learn and perform a task and metacognitive strategies to control and regulate their cognition. In terms of motivation and affect, learners relate themselves to the learning task regarding self-efficacy beliefs, task values, and interests and affective reactions towards tasks, and they may also regulate their motivation and affect. In terms of behaviour, learners exert efforts, persistence, help seeking and choice behaviours on tasks (Pintrich, 2000).

In contrast to other models that put more emphasis on cognitive and metacognitive processes, Pintrich emphasised the importance of motivational beliefs, especially self-efficacy, task value and goal orientation in SRL. He suggested that these motivational processes should be included in an SRL conceptual framework because they are critical.
features of SRL (Basila, 2016; McCardle & Hadwin, 2015; Pintrich, 2015; Zimmerman & Schunk, 2001).

According to Pintrich (1999), self-efficacy refers to learners’ beliefs about their performance capabilities in a particular area, which includes their judgements about their ability to accomplish certain goals or tasks. Task value refers to students’ perceptions of the importance, utility and interest of the course material for them. Goal orientation includes mastery goal orientation, extrinsic goal orientation and relative ability orientation. Self-efficacy and task value beliefs are positively related to academic performance, and mastery orientation is more related to actual class performance than the other two goal orientations (Pintrich, 1999).

Another factor emphasised in Pintrich’s model is the contextual factor (Pintrich, 2000). Learners’ regulation of their cognition, motivation and behaviour is guided and constrained by the contextual features in the environment. In other words, tasks and contextual features, such as task characteristics, feedback systems and evaluation structures may influence how learners regulate their learning (Pintrich, 2000). Wolters and Pintrich (1998) studied the contextual differences in students’ SRL in different school subjects, and the results showed that the students’ SRL motivational beliefs and strategy employment varied according to the school subjects.

Another central idea of Pintrich’s conceptual framework is that self-regulation activities are mediators between personal, contextual characteristics and actual academic achievement or performance. Pintrich suggested that there are interactions between contextual factors, students’ processing and learning and achievement.
3.2.4 Different Self-Regulated Learning Models from Zimmerman’s and Pintrich’s Perspectives

From the two sections discussed above, it can be seen that both Zimmerman’s social cognitive model and Pintrich’s conceptual framework provide comprehensive understanding of SRL. There are two main similarities between the two models. First, both models are based on social cognitive theory but have expanded in different directions and to different extents. In addition, both models regard SRL as a goal-oriented process that starts with the forethought phase and ends with the self-reflection phase (Erhan, 2016).

However, these two models differ from each other in the following aspects. Firstly, as discussed above, Zimmerman’s social cognitive model is a cyclical process that is a learning loop that moves through the phases from forethought, to performance and to self-reflection, and then to forethought again. However, the learning processes in Pintrich’s conceptual framework do not work cyclically. Pintrich presents his SRL processes in sequence from forethought, to monitoring, to control and to reflection.

Secondly, in contrast to Zimmerman’s model, which places more emphasis on cognitive and metacognitive dimensions, especially strategies, Pintrich’s framework underlines the motivational dimension (Basila, 2016). Specifically, Zimmerman assembled SRL strategies that are used by self-regulated learners to reveal characteristics of SRL, and those strategies mainly refer to cognitive and metacognitive aspects (Zheng, Yin, Shi, & Skelton, 2016). Zimmerman’s definitions of SRL emphasise the use of strategies and he encouraged students to take the responsibility to employ strategic actions (Zimmerman, 2002; Zimmerman & Martinez-Pons, 1990). In contrast, although Zimmerman addressed self-efficacy as a motivating force, Pintrich emphasised both self-efficacy and task value because learners may lack the experience at new tasks that would give them
a sense of self-efficacy for the task. In this circumstance, task value rather than self-efficacy is the primary motivator for the task (Hathaway, 2016; Pintrich & de Groot, 1990). Additionally, Pintrich underlined the importance of goal orientation in students’ SRL. Learners with different learning goals are motivated to learn in different ways, and those with intrinsic goals are more likely to be self-regulated learners (Hathaway, 2016).

Thirdly, Zimmerman’s and Pintrich’s models regard contextual factors from different aspects. Contextual elements in Zimmerman’s model mainly refer to restructuring learners’ physical and social context to make it more compatible with individuals’ goals (Zimmerman, 2002). Thus, self-regulated learners know how to manage their learning contexts, such as formal contexts in the classroom or in the library, or informal contexts at home, which might help to improve their learning outcomes (Zimmerman, 1986, 2002, 2011). However, Pintrich clearly included context in his framework as a category exclusively dedicated to an individual’s learning environment (Hoops, Yu, Wang, & Hollyer, 2016). Context refers not only to the contextual characteristics of the classroom environment, but also features such as task characteristics, feedback systems and evaluation structures (Erhan, 2016; Pintrich, 2004).

Zimmerman’s and Pintrich’s models have other similarities and differences. For instance, both models underline the regulation of time (Pintrich, 2004; Salter, 2014; Schunk & Zimmerman, 1997). The researchers regard time planning and management as important self-regulation processes and SRL strategies. However, in terms of effort, although Zimmerman considered the importance of effort by demonstrating that SRL learners should put effort into learning and insufficient effort might be a reason for their unsatisfactory academic results, only Pintrich’s model identifies students’ regulation of
effort and, in his four-phase model, addresses effort planning and monitoring (Huh, 2016).

3.2.5 Theoretical Frameworks for the Current Study

Zimmerman’s social cognitive model and Pintrich’s conceptual framework are two of the models most commonly used by researchers studying SRL. These two models clearly present SRL processes and cover relevant dimensions that are key to self-regulation processes. In the present study, both these models based on social cognitive theory were employed as theoretical framework for the following reasons.

Firstly, in the current study, “context” was considered an important factor when investigating students’ perceptions of SRL. Specifically, this study explored learners’ perceived SRL in the context of China and in Chinese junior secondary schools. Since there are various possible influences of the Chinese context on learners’ SRL, such as social, cultural, curricular and school contexts, the contextual factors were assumed to play an important role that should be taken into consideration. Moreover, this study focused on learners’ SRL in the English reading field, and the specific tasks that were assigned to students were mainly English reading tasks. Thus, Pintrich’s conceptual framework was selected to provide theoretical support in this aspect.

Secondly, the current study implemented an SRL intervention that aimed at helping students improve their SRL and academic achievement. The intervention design was based on Zimmerman’s learning loop. Zimmerman’s model has been applied to numerous empirical studies on SRL and proven to be practical with different disciplines and at different school levels (Zimmerman & Schunk, 2001, 2008). Moreover, previous studies have successfully designed SRL intervention programmes using the SRL cyclical processes. These established SRL intervention programmes embrace both SRL
motivational beliefs and SRL strategies, and highlight the cyclical learning processes, which fill the requirements of the present study (J. Zhao, 2011). Therefore, Zimmerman’s model was selected to provide theoretical support in this aspect.

In summary, the theoretical framework regarding SRL for the current study comprised Pintrich’s and Zimmerman’s models. These two models together provided a more comprehensive understanding of SRL that was suitable for the present study.

### 3.3 Reading Motivation Theories

#### 3.3.1 Wigfield and Guthrie’s Reading Motivation Model

The theoretical framework adopted for investigating learners’ reading motivation in the current study is the model developed by Wigfield and Guthrie (1995) (see Chapter 2.5). It is a domain-specific motivation theory that focuses on conceptualizing the nature of motivation specifically for reading (Mori, 2002). Learners’ reading motivation are examined in three main constructs: (1) Competence and Reading Efficacy; (2) Achievement Values and Goals; (3) Social Aspects of Reading (Wigfield, 1997). As a prominent model in the reading motivation field, this model has been widely used in examining learners’ reading motivation (Wigfield & Guthrie, 1997).

#### 3.3.2 Reading Motivation Theory for the Current Study

Wigfield and Guthrie’s reading motivation framework was adopted in the current study to investigate learners’ reading motivation for the reasons outlined below.

With the above-mentioned 11 dimensions of reading motivation (see Chapter 2.5.2.1), Guthrie and Wigfield (2000) provided a new perspective on the nature of reading motivation. The model shows that reading motivation is actually activating and multifaceted rather than static or unidimensional. In addition, it indicates that learners’
motivation is guided by their cognition as well as their language use. For instance, learners with high levels of intrinsic reading motivation and reading efficacy are more likely to be active readers and high achievers. Thus, Wigfield and Guthrie’s model thoroughly covers key factors that are relevant to reading motivation.

As the current study investigated the ways in which and how much students are motivated in different dimensions of reading motivation, Wigfield and Guthrie’s model could provide a well-rounded perspective for examining individuals’ reading motivation. Furthermore, when analysed together with their SRL, the relationship among learners’ SRL, reading motivation and English reading achievement could be further investigated.

Although Wigfield and Guthrie’s model was first developed to measure learners L1 reading motivation, and some studies have shown that EFL learners’ L2 reading motivation differs from their L1 reading motivation and might be influenced by other factors such as their L1 reading motivation (e.g., Takase, 2007), the current study focused on examining different dimensions of reading motivation and its relationship with learners’ perceived SRL and academic achievement. Thus, this model was employed as the theoretical framework regarding reading motivation.

3.4 HYPOTHESED MODEL FOR SELF-REGULATED LEARNING ENGLISH-AS-A-FOREIGN-LANGUAGE READING

On the basis of the above-mentioned theoretical frameworks in SRL and reading motivation and the key empirical studies in SRL research, the current study explored the relationships among SRL, reading motivation and English reading achievement, and tested SRL as a possible mediator between students’ reading motivation and their English reading achievement (see Figure 3.2).
As can be seen in Figure 3.2, the hypothesised model suggests that both reading motivation and SRL are correlated with English reading achievement, and they are also predictors of academic achievement. Reading motivation is supposed to have larger prediction effects on achievement through the mediating role of SRL. Moreover, the hypothesis was intended to test whether students’ English reading achievement or their SRL would react with their reading motivation.

**Figure 3.2 Hypothesized Model for SRL EFL Reading**

![Diagram of Self-Regulated Learning (Mediator) between Reading Motivation and English Reading Achievement]

3.5 **SUMMARY**

This chapter has discussed the theoretical bases for the current study regarding SRL and reading motivation. Zimmerman’s social cognitive model and Pintrich’s conceptual framework provided theoretical support and evidence for investigating learners’ SRL. Specifically, the motivational and contextual factors were emphasised and the learning loop was employed to investigate learners’ SRL. Wigfield and Guthrie’s reading motivation model provided the theoretical basis for investigating learners’ L2 reading motivation. The 11 dimensions of the model were used to examine learners’ reading motivation in detail. A hypothesised model was presented that suggested a mediating role of SRL between students’ reading motivation and their English reading achievement.
4 METHODOLOGY

4.1 INTRODUCTION

This chapter discusses the research design, beginning with the research questions. Then, the research design and research methods are introduced. After that, participants, instruments and materials for the study are discussed in sequence. Finally, general information as well as procedures of the intervention programme are given.

4.2 RESEARCH QUESTIONS

Before discussing the research design, seven research questions raised in the current research are restated briefly to explicate the methodology.

1) What perceived SRL do Chinese junior secondary school students report having before the intervention?

2) What is the level of reading motivation do Chinese EFL students report having before the intervention?

3) What are the relationships among learners’ SRL, reading motivation, and their English reading achievement?

4) Do EFL learners’ perceived SRL and reading motivation change over time because of the intervention programme?

5) In what ways do male and female learners differ in their perceived SRL and motivation towards reading comprehension?

6) In what ways do higher and lower achieving EFL learners differ in their perceived SRL and motivation towards reading comprehension?
7) Do learners’ perceptions of SRL and their English reading proficiency help to improve their English reading following the intervention programme?

4.3 **Philosophical Worldview**

The current study adopted the pragmatic worldview as the philosophical orientation about the world and the nature of research. The philosophical worldview, which is also called a paradigm, refers to “a network of coherent ideas about the nature of the world and of the functions of the researchers which, adhered to by a group of researchers, conditions the patterns of their thinking and underpins their research actions” (Bassey, 1999, p. 42). In other words, the philosophical worldview leads to the basic ideas that guide research actions and the employment of research approaches.

As the aims of the current study were to investigate Chinese junior secondary school students’ SRL, and its relationship with their reading motivation and English reading achievement, the philosophical worldview employed was the pragmatic worldview. The reasons and rationale are presented as follows.

Firstly, pragmatism is a problem-centred worldview that emphasises the research problem and encourages using all approaches available to understand the problem (Creswell, 2013). That is to say, the pragmatic worldview grants researchers freedom to choose methods, techniques and procedures that best suit their research, and researchers are able to use both quantitative and qualitative data to gain a comprehensive understanding of research questions. According to Creswell (2013), pragmatism makes different methods, different assumptions and different forms of data collection and analysis available to researchers. Secondly, pragmatism indicates the connections between research and social, historical and other contexts. Since the current study
investigated SRL, which involves social and context influences, pragmatism enabled the inclusion of the impact of context on the study.

For these two reasons, the pragmatic worldview best met the purposes of the study through its mixed-method research design with both quantitative and qualitative data collection and analysis. It also allowed the research to take into consideration the influence of social, historical and other contexts on the results, to adopt an all-around investigation, and therefore to obtain better understanding of the research questions.

### 4.4 Research Design

A mixed-method approach was adopted for the current research. Research design, according to Creswell (2013), refers to types of inquiry within qualitative, quantitative and mixed-method approaches that provide specific direction for procedures. The mixed-method approach is a research method that combines and integrates qualitative and quantitative research and data, and draws interpretations based on the combined strengths of both sets of data to understand the research problem (Creswell, 2013, 2014). This method does not simply gather quantitative and qualitative data, or add qualitative data to a quantitative design. Compared with quantitative or qualitative approaches, the mixed-method approach is a recent addition to research methodology, but has expanded in the last three decades to a variety of disciplines, including education.

The adoption of either a quantitative or a qualitative method has advantages and limitations. The quantitative method helps to draw conclusions about large numbers of people, examines probable causes and effects, and controls for bias; however, it provides limited understanding of the context of participants, and is largely researcher driven (Creswell, 2014). The qualitative method provides detailed perspectives on a few people,
allows participants’ experiences to be understood in context, and is based on the views of participants instead of researchers. However, it studies only a few people and is highly subjective.

The above-mentioned advantages and limitations of quantitative and qualitative methods have also been revealed in empirical SRL studies. Quantitative self-report instruments have been employed in large-scale data collecting in SRL studies (e.g., Pintrich & de Groot, 1990; Rao et al., 2000); however, they have been criticised because they enable researchers to capture the relevant SRL processes only at the micro levels. Qualitative interview instruments have been employed in collecting more detailed data and providing an in-depth examination (e.g., Nota et al., 2004; Zimmerman & Martinez-Pons, 1986, 1989); however, they have also been criticised since, unlike quantitative instruments, they are not predictive (Nota et al. 2004; Pintrich, 2004; Zimmerman, 2008).

With the aim of gaining a better and more comprehensive understanding of SRL as well as avoiding the previously mentioned problems of adopting quantitative and qualitative approaches on their own, quantitative and qualitative methods were combined and integrated in the current study. Therefore, the mixed-method approach best met the needs of the current study by drawing on both quantitative and qualitative research. The quantitative data enabled the study to obtain large-scale data and to capture learners’ SRL in general. The qualitative data enabled the study to acquire information at the micro and personal level, and to capture learners’ SRL in specific contexts rather than a general condition. Moreover, mixed methods enabled the current study to integrate data, and explain the quantitative results with the qualitative data. Consequently, the study is more likely to gain a broader, in-depth and more accurate understanding of SRL, SRL intervention and its effects.
4.5 Research Methods

The two research methods that were employed in the current study were a quasi-experimental method and a case study. The quasi-experimental method was applied throughout the research design as the principal method, and the case study was embedded in the quasi-experiment for obtaining further, in-depth and accurate understanding of the research questions.

Table 4.1 Mixed-Method Research Design of the Current Study

<table>
<thead>
<tr>
<th>Mixed-method</th>
<th>Quasi-Experimental Method</th>
<th>Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details</td>
<td>• A pre-test-post-test non-equivalent group</td>
<td>• Between the pre-test and post-test</td>
</tr>
<tr>
<td>Tools</td>
<td>• Questionnaires</td>
<td>• Diaries</td>
</tr>
<tr>
<td></td>
<td>• Tests</td>
<td></td>
</tr>
<tr>
<td>Advantages</td>
<td>• Examine the changes in independent and dependent variables</td>
<td>• Explore the chronological changes</td>
</tr>
<tr>
<td>Disadvantages</td>
<td>• Not representatives</td>
<td>• Selective &amp; Subjective</td>
</tr>
<tr>
<td></td>
<td>• Validity of the research</td>
<td>• Difficult to crosschecking</td>
</tr>
</tbody>
</table>

4.5.1 Quasi-Experimental Methods

The quasi-experimental method applied in the current study is one type of experimental method that is typical of quantitative research methods. Experimental methods usually include comparisons between two or more groups of participants: one receives an experimental treatment and the other does not (Muijjs, 2010). The experimental treatment that applies to one of the groups is the focus of the experimental research method, which refers to controlled observations of the effects of a manipulated independent variable on some dependent variables (Balnaves & Caputi, 2001). Here, an
independent variable is one that the experimenter expects to influence the other, and a dependent variable is one upon which an independent variable is acting (Nunan, 1992). Thus, adopting an experimental research method could help control external factors and variables, and perform better at determining causality than other types of research (Muijs, 2010).

The quasi-experiment is one type of experimental method (the other three are pre-experimental designs, single-subject designs and true experiments) and suited the current study best. The characteristics of the pre-experimental and single-subject experimental methods did not meet the purposes of the current research. Pre-experimental designs study one experimental group only, and no control or comparison group is involved; single-subject designs include an over-time observation of the behaviour of a single individual (Creswell, 2013). The other two experimental methods, quasi-experiments and true experiments, are similar to each other in their experiment design in that they both have experimental and control groups, but not in the allocation of participants. In a true experiment, participants are randomly assigned to different groups, whereas in a quasi-experiment, participants are not (Creswell, 2013; Muijs, 2004). Although true and pure experiments are most advantageous for research, it is often not as practical to involve randomised samples as it is to use naturally formed groups (e.g., classrooms, organisations, family units and volunteers) in educational settings (Creswell, 2013). As randomised groups were difficult to organise for the current intervention programme, the most suitable and convenient research participants were those from intact classes, and the quasi-experimental method was the most practical and appropriate research method.
To be more specific, a pre-test–post-test non-equivalent group design was employed as the principal research design of the current study. Quasi-experiments are divided into various types in terms of the arrangement of pre- and post-tests and groups, and the most appropriate one among them is the pre-test–post-test non-equivalent group design with both pre- and post-tests, and both experimental and control groups. The first reason for choosing this specific strategy was that by conducting both a pre-test and a post-test before and after the intervention programme, it was possible to examine the changes in both independent and dependent variables. The second reason was that, as discussed in the previous section, the participants were from intact classes that were naturally formed and not randomised, which leads to inequality of control and experimental groups.

Thus, according to the above discussions, a quasi-experimental method—specifically, a pre-test–post-test non-equivalent group design—was employed as the main research method in the study. In this research method, both control and experimental group participants, who were from unequal and non-randomised intact classes, attended two pre- and post-tests before and after an SRL intervention programme. The learners’ SRL was the independent variable and the learners’ reading motivation and their English reading achievement were the dependent variables. An SRL intervention programme was designed and applied to the experimental group to change the independent variable, and the responding changes in the learners’ English reading motivation and their English reading achievement were investigated.

4.5.2 Case Study

A case study was the other research method employed in the research. The application of the case study method helped to compensate for the limitations of the quasi-
experimental method, and enabled the research design to generate a more comprehensive understanding of the research questions.

Case studies, in contrast to the experimental method, do not require large samples or adopt rigid protocols to examine a limited number of variables, but involve an in-depth, longitudinal examination of a single instance or event—the case (Wilson, 2009). The main features of the case study method—concern with a rich and vivid description of events relevant to the case, provision of a chronological narrative of events relevant to the case, a focus on individuals or groups and understanding their perceptions of events, highlighting of specific events that are relevant to the case, and attempts to portray the richness of the case in writing up the report—are helpful for catching unique features that may otherwise be lost in large-scale data, for reflecting the reality, and for providing insights into the cases in the research (Cohen, Manion, & Morrison, 2007).

In short, applying the quasi-experimental method alone did not best meet the needs of the current study, which intended to explore the chronological changes in the participants’ SRL and English reading performance during the intervention, and to gain accurate understanding of how the intervention programme influenced the participants’ SRL. The pre- and post-tests provided the numeric data at two time points only—before and after the intervention programme. Thus, a case study was employed to help to minimise this limitation of the experimental method, and to obtain the subtle and complex changes of the participants’ studying, to enrich the data.

For the current research, eight participants from experimental groups were selected as cases. The participants were selected according to their pre-intervention English reading achievement, their willingness and teachers’ recommendations (see Chapter 4.6.3). All cases were required to write semi-structured weekly diaries during the intervention, and
the diary data were integrated with those of the quasi-experiment to provide a more comprehensive understanding of the influence of the intervention as well as the development of the participants’ perceptions of SRL from pre-test to post-test. More details about the case are presented in Sections 4.6 to 4.8.

Both experimental and case study methods have disadvantages when employed in empirical studies. The weaknesses of the quasi-experimental method are that the non-randomised participants may not be able to represent the population and the non-equivalent groups might have an impact on the validity of the research. The weaknesses of the case study method are that collected data may be selective, biased, personal and subjective, and they are also not easily open to crosschecking (Cohen et al., 2007; Wilson, 2009). However, by combining and integrating the data of the two research methods, and by providing more rigid and strict control on data collection and analysis, it was possible to minimise the disadvantages of each research method for the current study.

4.6 PARTICIPANTS

This section discusses learners participated in the study from the following aspects: the sampling strategies, and participants for different stages of the study. Participants for different stages of the research design are summarized in Figure 4.1.

4.6.1 Sampling

Participants for the current study were chosen on the basis of the learners’ convenience and availability by applying the convenience and the purposive sampling strategies (Creswell, 2013). Although employing a random selection of participants would be helpful in enhancing the research validity, conducting the intervention in intact classes
in junior secondary schools in China was more practical and achievable for the current study. To minimise the possible influences of the differences between control and experimental groups on the research results, class settings, the total number of students and gender distributions, average grades of the class compared with other classes, and the teachers’ background information were taken into consideration carefully before the data collection and analysis.

The research was carried out in a junior secondary school in the central region of China for reasons of convenience. It was a typical junior secondary school in Mainland China and around the upper-intermediate level in terms of education and academic achievement. Intact classes from Year 8 were selected. Compared with the other two years in junior secondary school, Year 8 classes are not as pressed for time or under as much stress as their Year 9 counterparts, who have to prepare for their senior secondary school entrance examination, and they are not novices like their Year 7 counterparts, who have just started their secondary school studies. Students in Year 8 have established their own learning methods system to some extent, and are not that busy preparing for senior secondary school entrance examinations; thus, the participants were interested in and had time for learning new methods and theories as well as applying them in their practical studies.

### 4.6.2 Participants in Pre-Intervention Tests

Table 4.2 summarises information on the students for pre-intervention tests in three intact classes. Fifty students from Class A validly participated in the pre-intervention tests; 27 were male and 23 were female. Fifty-six students from Class B participated the study; 29 were male and 27 were female. And 58 students from Class C participated the pre-test; 30 were male and 28 were female. The students’ pre-intervention
questionnaires were collected and those were removed if any of the following conditions occurred: (1) the students were absent from school on the day of conducting pre- or post-questionnaires and tests; (2) the students did not answer questionnaires correctly; and (3) the students did not put their student identification (ID) on the questionnaires.

Figure 4.1 Participants in different stages of the current study

As can be seen from Table 4.2, five participants from the control group (Class A) and two participants from the experimental group (Class B) were removed as their incomplete information rendered the data invalid. The specific reasons are as follows: one participant from the control group transferred to other schools during the semester, two of them did not put their ID on the post-test questionnaires, and the other two did not return the questionnaires to the teacher. Two were removed from the experimental group because of their absence in pre-questionnaires. In summary, a sample of three intact classes, 171 students, was targeted to participate, and the number of students who completed the pre-intervention tests was 163 in total (male: \( N = 87, 53.4\% \); female: \( N = 76, 46.6\% \))
Table 4.2 Information on Participating Students

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Class</th>
<th>Student Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Ling</td>
<td>Class A (Control)</td>
<td>$N = 55$</td>
</tr>
<tr>
<td>Shao</td>
<td>Class B (Experimental)</td>
<td>$N = 58$</td>
</tr>
<tr>
<td>Chen</td>
<td>Class C (Pre-test)</td>
<td>$N = 58$</td>
</tr>
</tbody>
</table>

Note: $M = \text{male}, F = \text{female}$

4.6.3 Participants in the Intervention Programme

Only two intact classes were assigned to the control or the experimental group randomly for the intervention study, namely Class A and Class B. Eight participants were selected from the experimental group for further case studies. The purposive selection referred to the participants’ English reading achievement, their general academic achievement, the English teachers’ suggestions and the participants’ willingness. The eight selected participants from the experimental group included two male high achievers, two female high achievers, two male low achievers and two female low achievers.

The teachers who participated in the SRL intervention programme were selected on the basis of their willingness and convenience as well as their background information, such as age, gender, teaching experience and education background. As displayed in Table 4.3, both teachers were females, aged between 28 and 32. They were comparatively young teachers in the context of China. The younger teachers showed more interest in and indicated a much greater willingness to participate in the intervention programme than the teachers above middle age in this junior secondary school. The two participating teachers had similar teaching experience, and they both had worked as junior secondary school English teachers for about six to seven years. Both Teacher Ling from the control
group and Teacher Shao from the experimental group had been teaching their classes since Year 7, which meant they had taught their classes for a whole academic year already and the intervention programme took place at the beginning of their second year of teaching these two classes. One difference between the two teachers was their education background in terms of their highest academic degrees and their majors (see Table 4.3).

**Table 4.3 Information on participating teachers**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Ling</th>
<th>Shao</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>Class A (Control)</td>
<td>Class B (Experimental)</td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Female</td>
</tr>
<tr>
<td>Age</td>
<td>28</td>
<td>32</td>
</tr>
<tr>
<td>Education Background</td>
<td>Bachelor in English (non-normal)</td>
<td>Master in English (non-normal)</td>
</tr>
<tr>
<td>Teaching Experience</td>
<td>6yrs (from Year 7)</td>
<td>7yrs (from Year 7)</td>
</tr>
</tbody>
</table>

### 4.6.4 Participants in Post-Intervention Tests

Participants for the post-intervention tests only included those from the experimental group and control group (see Figure 4.1). The detailed information is the same as participants for the pre-intervention tests in Chapter 4.6.4.

### 4.7 INSTRUMENTS AND MATERIALS

This section first discusses three instruments employed in the research: questionnaires, tests and diaries. Then, the relevant materials that were used by the teachers to conduct the SRL intervention and those used by the students for their learning and practising of SRL and English reading are presented.
4.7.1 Instruments

Three instruments were employed for data collection in the current study: questionnaires, tests and diaries (see Table 4.4). The purpose of adopting different instruments was to seek comprehensive understanding of the research questions and triangulate the data collected by different instruments with each other to increase the validity and reliability of the research. The MSLQ and MRQ were validated with exploratory factor analysis (EFA) first before employing in the main study (see the validation processes in Chapter 5).

Table 4.4 Summary of Instruments Used in the Study

<table>
<thead>
<tr>
<th>Instruments</th>
<th>Forms</th>
<th>Items</th>
<th>Aims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaire</td>
<td>MSLQ</td>
<td>7-point Likert scale</td>
<td>Original 81 items</td>
</tr>
<tr>
<td></td>
<td>MRQ</td>
<td>5-point Likert scale</td>
<td>Original 54 items</td>
</tr>
<tr>
<td>Background info</td>
<td>Multiple-choice, open-ended questions</td>
<td>11 items</td>
<td>Demographic information, SRL pre-perception</td>
</tr>
<tr>
<td>Test</td>
<td>English reading</td>
<td>Multiple-choice, open-ended questions, cloze</td>
<td>15 questions</td>
</tr>
<tr>
<td>Diary</td>
<td>Weekly structured</td>
<td>Close-ended questions, open-ended questions, 5-point Likert scale</td>
<td>14 questions</td>
</tr>
</tbody>
</table>

4.7.1.1 Questionnaires

Questionnaires were adopted in the current study to measure participants’ SRL and reading motivation before and after the intervention programme. This section first discusses the questionnaire as an instrument in general. Then, information about the
three particular questionnaires that were employed in the current study—(1) the MSLQ, (2) the MRQ and (3) a background information questionnaire—are presented.

A questionnaire is a typical survey design form and a widely adopted educational research instrument. Survey designs, according to Creswell (2014), are procedures in quantitative research in which investigators administer a survey to a sample or to the entire population of people in order to describe the attitudes, opinions, behaviours or characteristics of the population. Participants choose answers to questions and supply basic personal or demographic information to complete and return to the researcher. For the current study, the questionnaire was a preferred type of data collection for the following reasons.

Firstly, the questionnaire enabled the current study to collect large-scale data that helped in catching general or universal factors of the participants’ SRL and reading motivation. Secondly, the questionnaire enabled the study to capture the participants’ SRL and motivation both before and after the intervention, which helped in examining the changes caused by the intervention. Thirdly, the questionnaire was a useful tool for gathering actual information and data on attitudes and preferences, beliefs and predictions, behaviour and experience. Finally, the questionnaire was the most time-saving and economical instrument compared with other large-scale data collection methods (Balnaves & Caputi, 2001; Cohen et al., 2007).

4.7.1.1.1 The Motivated Strategies for Learning Questionnaire

The first questionnaire employed in the present study was the Chinese version of the MSLQ, a questionnaire originally developed by Pintrich, Smith, Garcia and McKeachie in 1991, with the aim of exploring US college students’ SRL. The questionnaire consists of two subscales: an SRL motivational belief subscale (includes 31 items) and an SRL
strategies subscale (includes 50 items). The SRL motivational belief subscale measures students’ SRL through value, expectancy and affective components, which are further divided into six factors: Intrinsic Goal Orientation, Extrinsic Goal Orientation, Task Value, Control Beliefs, Self-Efficacy for Learning and Performance, and Test Anxiety. The learning strategies subscale measures students’ SRL through components of cognitive and metacognitive strategies and resource management strategies. These two components include factors such as Rehearsal, Elaboration, Organisation, Crucial Thinking, Metacognitive Self-Regulation, Time and Study Environment, Effort Regulation, Peer Learning and Help Seeking (see Table 4.5).

Since the establishment of the MSLQ, researchers have employed the original and modified versions of this instrument with different levels of students (primary, junior high school, senior high school, college or graduate students), in different academic disciplines (mathematics, language learning or physical education), in relation to different aspects of SRL (motivation or learning strategies), and in different cultural contexts (Western and non-Western countries). The MSLQ uses a seven-point Likert scale, from 1- “Not at all true of me” to 7-“Very true of me”, and the scores for a component are calculated by taking the average of the sum of all included items under this component. For all but Test Anxiety, an increase in rating is an increase in the measured component. For Test Anxiety, an increase in rating is a decrease in the component.
Table 4.5 The Original Version of the Motivated Strategies for Learning Questionnaire

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Components</th>
<th>Factors</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation Subscale</td>
<td>Value Components</td>
<td>Intrinsic Goal Orientation</td>
<td>1,16,22,24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extrinsic Goal Orientation</td>
<td>7,11,13,30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Task Value</td>
<td>4,10,17,23,26,27</td>
</tr>
<tr>
<td></td>
<td>Expectancy Components</td>
<td>Control Beliefs</td>
<td>2,9,18,25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self-Efficacy for Learning and Performance</td>
<td>5,6,12,15,20,21,29,31</td>
</tr>
<tr>
<td></td>
<td>Affective Components</td>
<td>Test Anxiety</td>
<td>3,8,14,19,28</td>
</tr>
<tr>
<td>Learning Strategies Subscale</td>
<td>Cognitive and Metacognitive Strategies</td>
<td>Rehearsal</td>
<td>39,46,59,72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Elaboration</td>
<td>53,62,64,67,69,81</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organization</td>
<td>32,42,49,63</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crucial Thinking</td>
<td>38,47,51,66,71</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Metacognitive</td>
<td>33,36,41,44,54,55,56,57,61,76,78,79</td>
</tr>
<tr>
<td></td>
<td>Resource Management Strategies</td>
<td>Time &amp; Study Environment</td>
<td>35,43,52,65,70,73,77,80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Effort Regulation</td>
<td>37,48,60,74</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peer Learning</td>
<td>34,45,50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Help Seeking</td>
<td>40,58,68,75</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>15</td>
<td>81</td>
</tr>
</tbody>
</table>

The reliability of different refined versions of the MSLQ questionnaire have been shown to be adequate when used with students from different school levels and from different background (Rao & Sachs, 1999). In the study of Huang (2008), the application of the MSLQ with Taiwanese college students indicated a satisfactory reliability (Cronbach’s $\alpha = .72$). However, although Cronbach’s alpha coefficient for motivation, cognition, and metacognition were above .70, that of resource management was low (.49 to .59). In
Teng (2016), the revised version of MSLQ with Chinese college students showed a satisfactory reliability (Cronbach’s $\alpha \geq .70$). Cronbach’s alpha coefficient for all factors ranged between .70 and .87.

### 4.7.1.1.2 The Motivations for Reading Questionnaire

The other questionnaire that was employed in the current study was the Chinese version of the MRQ, which was originally generated by Wigfield, Guthrie and McGough in 1996, with the aim of exploring children’s motivation towards reading. This questionnaire contains 54 items in total, which are classified into three main constructs and further divided into 11 components: Reading Efficacy, Reading Challenge, Reading Curiosity, Aesthetic Enjoyment of Reading, Importance of Reading, Reading Recognition, Reading for Grades, Social Reasons for Reading, Reading Competition, Compliance and Reading Work Avoidance (see Table 4.5). Similarly to the MSLQ, the MRQ was first translated into Chinese by the translator and the researcher together with a back and forth translation method, then the vocabularies and sentences were modified according to suggestions from the junior secondary school teachers as well as feedback from the participants in the pilot testing. The MRQ is rated on a four-point Likert scale, from “Very different from me” to “A lot like me”. The scores for each component are calculated by taking the average of the sum of all included items under this component. For all but Reading Avoidance, an increase in rating is an increase in the measured component. For Reading Avoidance, an increase in rating is a decrease in the component.

The reliability of the original versions of MRQ questionnaire has been reported to be adequate (Wigfield & Guthrie, 1997). In another study conducted by Wigfield, Guthrie, Tonks and Perencevich (2004), Cronbach’s alpha coefficient for different dimensions ranged between .56 and .74. In a comparative study between Chinese and US students,
the reliability of the dimensions in the MRQ indicated similar results for two groups.
Those for the US students ranged from .43 to .83, and those for the Chinese students
from .59 to .99 (Wang & Guthrie, 2004)

Table 4.6 The Original Version of the Motivation for Reading Questionnaire

<table>
<thead>
<tr>
<th>Mains Constructs</th>
<th>Components</th>
<th>Items Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence &amp; Efficacy</td>
<td>Reading Efficacy</td>
<td>3, 9, 15, 50</td>
</tr>
<tr>
<td></td>
<td>Reading Challenge</td>
<td>2, 26, 7, 44, 48</td>
</tr>
<tr>
<td></td>
<td>Reading Curiosity</td>
<td>5, 8, 13, 16, 35, 45</td>
</tr>
<tr>
<td>Achievement Values &amp; Goals</td>
<td>Intrinsic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reading Aesthetic</td>
<td>10, 24, 30, 33, 41, 46</td>
</tr>
<tr>
<td></td>
<td>Importance of Reading</td>
<td>53, 54</td>
</tr>
<tr>
<td></td>
<td>Extrinsic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recognition for Reading</td>
<td>14, 17, 29, 31, 36</td>
</tr>
<tr>
<td></td>
<td>Reading for Grades</td>
<td>19, 37, 39, 40</td>
</tr>
<tr>
<td>Social Aspects</td>
<td>Social Reasons for Reading</td>
<td>1, 11, 20, 21, 34, 38, 42</td>
</tr>
<tr>
<td></td>
<td>Competition in Reading</td>
<td>12, 18, 22, 43, 49, 51</td>
</tr>
<tr>
<td></td>
<td>Compliance</td>
<td>4, 6, 25, 32, 47</td>
</tr>
<tr>
<td></td>
<td>Reading Work Avoidance</td>
<td>23, 27, 28, 52</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>54</td>
</tr>
</tbody>
</table>

4.7.1.1.3 Background Information Section

In addition to the above two questionnaires, 11 items were added before the MSLQ in
the pre-tests with the aim of gathering participants’ demographic information as well as
their pre-perceptions of SRL. This section contains both multiple-choice and open-ended questions (see Table 4.7).

It is noteworthy that both the MSLQ and the MRQ contain items that measure participants’ motivation, which seemed to result in an overlap when applying both
questionnaires. However, the MSLQ measured participants’ motivational beliefs in relation to SRL by regarding them as key components of SRL, whereas the MRQ examined learners’ reading motivation specifically as an independent factor. Thus, the two scales measured different motivation factors in relation to different aspects, and employing both of them did not necessarily lead to conflict in the current study.

Table 4.7 The Background Information Section

<table>
<thead>
<tr>
<th>Questions</th>
<th>Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male/Female</td>
</tr>
<tr>
<td>School level</td>
<td>Year 7/8/9</td>
</tr>
<tr>
<td>Age</td>
<td>(fill in the blank)</td>
</tr>
<tr>
<td>Do you have pre-perceptions on SRL?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Where do you learn SRL?</td>
<td>Teacher/Parents/Self/Other, please specify</td>
</tr>
<tr>
<td>Do you have pre-perceptions on SRL strategies?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Where do you learn SRL strategies?</td>
<td>Teacher/Parents/Self/Other, please specify</td>
</tr>
<tr>
<td>Please list the SRL strategies you know</td>
<td>(fill in the blank)</td>
</tr>
<tr>
<td>Do you have pre-perceptions on motivational beliefs?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Where do you learn motivational beliefs?</td>
<td>Teacher/Parents/Self/Other, please specify</td>
</tr>
<tr>
<td>Please list the motivational beliefs you know</td>
<td>(fill the blank)</td>
</tr>
</tbody>
</table>

Although questionnaires were suitable and effective tools for measuring students’ SRL and reading motivation in the current study, it is important to point out the limitations of the rating scales that might influence the accuracy of the results. First, participants might have different understandings of the scale. For instance, “not really true of me” for one participant might be “very untrue of me” for another. In addition, participants might intend to avoid choosing two extreme items at each end of the continuum of the
rating scale but opt for the mid-point of the rating scale in order not to be extremists. With the aim of minimising the possible limitations, instructions and announcements were clearly written at the beginning of each questionnaire that there were no right or wrong answers. Additionally, the teachers were required to emphasise the importance of choosing the most suitable answers when assigning the questionnaires to the students.

4.7.1.2 Translation and validation of the questionnaires

In the current study, the original English versions of the MSLQ and MRQ were translated into Chinese first. A NAATI (National Accreditation Authority for Translators and Interpreters) certified English-Chinese translator and the researcher, a Chinese native speaker with advanced English proficiency, worked together on the translation using a back and forth translation method (Rao & Sachs, 1999). The translator was provided with background knowledge on SRL and reading motivation, and was required to focus not on specific vocabulary but on general meanings of each questionnaire item. After completing the translations of the questionnaires, the Chinese versions of these two questionnaires were assigned to Chinese junior secondary school students for preliminary checking (see Section 5.2 for details). After revising the questionnaire items according to teachers’ and students’ feedback, the Chinese versions of the MSLQ and MRQ were then applied to a larger sample of junior secondary school students for validation. Exploratory factor analysis (EFA) was employed to examine the underlying structure of the factors in both questionnaires to determine whether the Western-established questionnaires were suitable for measuring junior secondary school students’ SRL and motivation in the China context. (Young & Pearce, 2013; Teng, 2016).
4.7.1.3 Tests

The English reading test was another instrument employed in this study throughout the SRL intervention to measure participants’ English reading achievements. In total two English reading tests and four exercises were conducted: one pre-intervention test, one pre-intervention test, four during intervention exercises and one post-intervention test.

Tests have been extensively adopted in research fields as a powerful method for researchers to gather numerical rather than verbal data (Cohen et al., 2007). Tests can be divided into different types according to their representation, their purpose and whether they are commercial or not (Cohen et al., 2007). The test adopted in the current study to measure participants’ English reading achievement is a norm-referenced test, which is a test in which the individual’s grade is a measure of how well he or she did in comparison with a large group of test takers. This type of tests enables rank orderings of performance and achievement to be constructed (Cohen et al., 2007; Creswell, 2013, 2014).

The English reading tests conducted in the current study were designed to measure the participants’ English reading achievement through three sub-tests: a multiple-choice test, an open-ended question test and a cloze test. The aim of administering three different types of tests was to minimise the drawback of any single sub-test types, and to obtain a more comprehensive and reliable understanding of the learners’ English reading achievement. All tests came from mock tests or workbooks that suitable for Year 8 EFL learners, and were reviewed and agreed by junior secondary school teachers. The participants were informed that they could use any language—English, Chinese or a combination of English and Chinese—to complete their tests. I expected that by integrating the three different types of sub-tests and by waiving the language limitations
on answering, English reading tests could reveal the participants’ English reading achievement most accurately. The students’ scores were calculated by counting and adding correct answers to the questions. Each correct answer helped the participants gain one point, and the sum of the correct answers was the scores of the students’ English reading test. It was interesting to see that although the participants were told that they could answer the test questions in any language they liked, all of them completed the reading test in English. The details of each reading test are summarised in Table 4.8. The word lengths of each test had been controlled, and all the selected passages had been reviewed and checked by English teachers to ensure that the difficulty levels were suitable for junior secondary school students.

4.7.1.4 Diaries

The instrument employed for the case study was a diary (see Table 4.8). A diary is a type of document used to record information on a daily basis. It represents a good source for text (word) data for a qualitative study and has the advantage of being in the language and words of the participants (Creswell, 2013; Schmitz et al., 2011). The reason for adopting diaries in the current study was to supplement the questionnaire instrument in capturing the participants’ changes in SRL. In other words, employing diaries as a research instrument enabled the researcher to trace possible changes and capture chronological development during the SRL intervention.

Weekly semi-structured diaries were employed in the present study. The participants were required to complete their diaries regarding their English reading learning every week during the intervention. Each weekly diary contained two main parts. The first part concentrated on examining the students’ performance in the SRL forethought phase. The participants were required to answer questions about their achievement expectation, goal
setting, plans for strategy use and plans for time management. Participants were required to finish the first part of the diary before start learning. The second part focused on examining their performance in the SRL performance and reflection phases. Questions included the participants’ actual time use, actual strategy uses, reflections on effective, ineffective and adjusted strategies, and their reflections on their achievement. The students were asked to complete the second part of the diary after their English reading learning/practice. If they decided not to study English reading for the particular week, they could tick “no” under the question “Do you intend to study English reading today” in the diary and did not need to finish the rest of the diary for that week.

Table 4.8 Summary of the Reading Test Specifications in the Study

<table>
<thead>
<tr>
<th>Test</th>
<th>Types</th>
<th>Topics</th>
<th>Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-</td>
<td>Multiple-choice</td>
<td>A funny story of Bruno, a boy of eight</td>
<td>186</td>
</tr>
<tr>
<td></td>
<td>Open-ended</td>
<td>An introduction to apples</td>
<td>154</td>
</tr>
<tr>
<td></td>
<td>Cloze</td>
<td>A narrative of one of my days</td>
<td>67</td>
</tr>
<tr>
<td>Practice 1</td>
<td>Multiple-choice</td>
<td>An introduction to tea</td>
<td>191</td>
</tr>
<tr>
<td></td>
<td>Open-ended</td>
<td>An introduction to the Chinese Spring Festival</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td>Cloze</td>
<td>A dialogue between hotel reception and customer</td>
<td>64</td>
</tr>
<tr>
<td>Practice 2</td>
<td>Multiple-choice</td>
<td>A discussion about a dream</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td>Open-ended</td>
<td>A discussion about “thank you”</td>
<td>175</td>
</tr>
<tr>
<td></td>
<td>Cloze</td>
<td>A narrative of Tom’s Monday night</td>
<td>62</td>
</tr>
<tr>
<td>Practice 3</td>
<td>Multiple-choice</td>
<td>An introduction to language learning</td>
<td>151</td>
</tr>
<tr>
<td></td>
<td>Open-ended</td>
<td>A discussion about “cool”</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td>Cloze</td>
<td>A narrative of Lucy’s morning</td>
<td>73</td>
</tr>
<tr>
<td>Practice 4</td>
<td>Multiple-choice</td>
<td>An introduction to Chinese singer Jay Chou</td>
<td>204</td>
</tr>
<tr>
<td></td>
<td>Open-ended</td>
<td>An introduction to Australia</td>
<td>170</td>
</tr>
<tr>
<td></td>
<td>Cloze</td>
<td>A narrative of my friendship</td>
<td>86</td>
</tr>
<tr>
<td>Post-</td>
<td>Multiple-choice</td>
<td>A story of Penny, a tour guide</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td>Open-ended</td>
<td>An introduction to “flash mob”</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>Cloze</td>
<td>A narrative of my friendship</td>
<td>62</td>
</tr>
</tbody>
</table>
### Table 4.9 Information on Weekly Structured Diary Used in the Study

<table>
<thead>
<tr>
<th>Diary No.: __________</th>
<th>Date: __________</th>
<th>Time: __________</th>
</tr>
</thead>
</table>

#### Before Studying

Do you intend to learn today?

- Yes. Please answer all questions below.
- No. Please explain briefly your reasons: _____________________________

Formulate your individual **learning goal** for today. Please be as specific as you can.

My learning goal for today: _________________________________________

Your expectations of your learning **outcomes** for today. Please answer by choosing from 1 to 5. My **expectations** of my learning outcomes for today: ____________________________

How much **time** would you like to spend on study today? ____________________________

List the **strategies** you would like to adopt in today’s study. Please be as specific as you can: ____________________________

Do you agree with the following statements? Please answer by choosing from 1 to 5.

- Today, I am studying because I find the topic very interesting.
- Today, I am studying because I want to do well on the next learning.
- Today, I can remain calm when facing learning difficulties because I can rely on my abilities.
- Today, I think about how to proceed effectively.

#### After Studying

Did you **reach the individual learning goals** that you listed before studying?

- Yes ( ) No

Talk about your learning experience. (You could talk about before/during/after learning activities)______

How do you **evaluate your learning outcomes** for today. Please answer by choosing from 1 to 5.

My learning outcomes for today: ____________________________

How much **time** have you spent on study today: ____________________________

List all the **strategies** you have adopted in today’s study. Please be as specific as you can: ____________________________

List all the **effective strategies** you have adopted in today’s study. Please be as specific as you can.

List all the **ineffective strategies** you have adopted in today’s study. Please be as specific as you can.

How you would like to **adjust** your strategies for the study next time. Please be as specific as you can.

Do you agree with the following statements? Please answer by choosing from 1 to 5.

- Today, while learning, I was not concentrating.
- Today, I skipped some of the tasks I wanted to accomplish.
- I set up a concrete plan for today.
- Today, I purposefully tried to motivate myself for learning.
- Today, I said to myself: I am able to do it.
All eight participants were informed that their personal diaries would not be exposed to people other than the researcher and anything written in their diaries would not affect their school achievement or school records, and they were encouraged to record their true, complete and accurate thoughts and feelings in the assigned diaries. The diary for the previous week was collected by the teachers on the Monday of the next week, and the diary for the coming week was given to the participants at the same time.

**4.7.2 Materials**

Two key materials were used in the current study. They are the SRL intervention instruction booklet for the teachers in the experimental group, and the SRL learning brochure for the students in the experimental group. These documents were distributed to the teachers and students with print copies.

**4.7.2.1 Teachers’ instruction booklet**

The teacher from the experimental group was provided with an SRL instruction booklet as intervention teaching guide and for her reference during the programme. The booklet included a detailed arrangement for the SRL intervention programme, an explanation of the basic theories of SRL and some key relevant empirical studies. The arrangement was presented in a calendar form. Arrangements for each intervention session and key teaching contents were clearly displayed on each particular week. The theory introductions provided the main concepts and definition of SRL. Relevant empirical studies on SRL and SRL interventions were also briefly listed as back-up knowledge as well as guidance for the teachers. In addition, the students’ SRL brochure was given to the teachers for their reference.
4.7.2.2 Students’ self-regulated learning learning brochure

An SRL brochure was assigned to each participant in the experimental group as their learning and practising material during the intervention programme. The brochure was written in Chinese language appropriate for junior secondary school students. It contained introductions to both basic SRL knowledge and the intervention programme. The contents of the brochure were presented in a less academic but more contextual, practical and interesting way with graphs and pictures. Additionally, the brochure included four English reading exercises with designed pre- and post-questions based upon the SRL loop. One separate page listing 15 key SRL strategies was inserted in the brochure for the students’ reference when they did their English reading exercises.

Before assigning it to the participants, the brochure was reviewed by the teachers and was revised according to their suggestions on the use of vocabulary, the word order of sentences, and the expression and explanation of academic terminology.

4.8 Research Programme

The research included three stages: (1) questionnaire validation, (2) self-report questionnaire and (3) intervention programme. In the first stage, two questionnaires, the MSLQ and the MRQ, were employed to test their validity when used with Chinese junior secondary school students. In this part, a total of 656 junior secondary school students were recruited and the data were collected for EFA.

The second stage was conducted to collect the participants’ pre-perceived SRL and reading motivation, and to explore the relationships among their SRL, reading motivation and achievement. In this part, the modified MSLQ, the modified MRQ and an English reading test were conducted with about 160 junior secondary students.
The third stage of this study included three phases: pre-intervention tests, interventions and post-intervention tests (see Table 4.10). The whole programme lasted for more than four months, from September 2015 to January 2016, with three short breaks in September (Teachers’ Day), October (Mid-Autumn Festival and National Day Holiday) and November (mid-term examinations) respectively.

Table 4.10 Schedule for Control and Experimental Groups in the Study

<table>
<thead>
<tr>
<th>Measurements</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Case study (N=8)</td>
</tr>
<tr>
<td>Pre-tests</td>
<td>Week 0 (Yes)</td>
<td></td>
</tr>
<tr>
<td>Intervention</td>
<td>(No)</td>
<td>Week 1-16 (Yes)</td>
</tr>
<tr>
<td>Diary</td>
<td>(No)</td>
<td>Week 1-16 (Yes)</td>
</tr>
<tr>
<td>Post-tests</td>
<td></td>
<td>Week 16(Yes)</td>
</tr>
</tbody>
</table>

4.8.1 Phase I – Pre-Intervention Tests

In Phase One, both the control and the experimental groups completed the two questionnaires on SRL and reading motivation, as well as the English reading test as the pre-intervention tests. The participants were first given the MSLQ and were required to finish the questionnaire in 25 minutes. Then the MRQ was assigned to the students and they were required to finish it in 20 minutes. Finally, an English reading test with three reading passages was assigned to the students, and they were given 25 minutes to complete the test.

4.8.2 Phase II – Self-Regulated Learning Intervention and Case Study

The second phase of the current study consisted of two sections. The first section was the SRL intervention programme, and the second was the case study.
The 16-week intervention was a teacher-led training programme that was applied during the students’ English classes. An English teacher from the experimental group provided students with two 15- to 20-minute workshops on SRL based upon the provided schedule and booklet in their English classes every week. As a researcher, I did not involve in any training sessions during the intervention, but provided continuous support to teachers. If they had any questions regarding SRL, they could contact me for further information.

The aim of the 16-week intervention programme was to help the students improve their SRL and determine whether this helped in enhancing their reading motivation and English reading achievement. Under the direction of these goals, the intervention programme was designed to include two introductory weeks, six learning weeks and eight practising weeks (see Table 4.11). Introductory sessions included 60 to 80 minutes of instruction sessions, learning sessions had 180 to 240 minutes of instruction, and practising sessions had 240 to 320 minutes of instruction. The introductory weeks, as the name indicates, provided the participants with an introduction to SRL and to the intervention programme. During the following six learning weeks, SRL cyclical processes, motivational beliefs and learning strategies were taught. Then in eight practising weeks, the students were asked to practise their English reading with the SRL knowledge they had been taught, which was alternated with classroom discussions and sharing activities on SRL.
Table 4.11 SRL Intervention Arrangement by Weeks

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Instructions</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-week</td>
<td>Explain and discuss SRL and intervention arrangement with teachers</td>
<td>Assign questionnaires and SRL brochure</td>
</tr>
<tr>
<td></td>
<td><strong>Introductory Weeks</strong></td>
<td></td>
</tr>
<tr>
<td>Week 1:</td>
<td>Aims and designs of this intervention</td>
<td>Pre-tests (All groups)</td>
</tr>
<tr>
<td></td>
<td>SRL intervention schedule</td>
<td>Diary 1 (Case)</td>
</tr>
<tr>
<td></td>
<td>Ethics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assign SRL learners' brochure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SRL definition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SRL theory</td>
<td></td>
</tr>
<tr>
<td>Week 2:</td>
<td>SRL loop</td>
<td>Diary 2 (Case)</td>
</tr>
<tr>
<td></td>
<td>Relationship between SRL and academic achievement (theory + empirical studies)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Learning Weeks</strong></td>
<td></td>
</tr>
<tr>
<td>Week 3:</td>
<td>Self-reflection phase</td>
<td>Diary 3 (Case)</td>
</tr>
<tr>
<td></td>
<td>Forthought phase</td>
<td>Diary 4 (Case)</td>
</tr>
<tr>
<td>Week 4:</td>
<td>Performance phase</td>
<td>Diary 5 (Case)</td>
</tr>
<tr>
<td>Week 6:</td>
<td>SRL strategies</td>
<td>Diary 6 (Case)</td>
</tr>
<tr>
<td>Week 7:</td>
<td>SRL review (definition/meaning)</td>
<td>Diary 7 (Case)</td>
</tr>
<tr>
<td></td>
<td>SRL loop review</td>
<td></td>
</tr>
<tr>
<td>Week 8:</td>
<td>SRL strategies review</td>
<td>Diary 8 (Case)</td>
</tr>
<tr>
<td></td>
<td>Classroom discussion</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Practising Weeks</strong></td>
<td></td>
</tr>
<tr>
<td>Week 9:</td>
<td>Practice 1: Test &amp; Pre–Post Questions</td>
<td>Practice 1 (Experimental groups)</td>
</tr>
<tr>
<td></td>
<td>Review Practice 1: Test</td>
<td>Diary 9 (Case)</td>
</tr>
<tr>
<td>Week 10:</td>
<td>Review Practice 1: Learning loop &amp; strategies</td>
<td>Diary 10 (Case)</td>
</tr>
<tr>
<td>Week 11:</td>
<td>Practice 2: Test &amp; Pre–Post Questions</td>
<td>Practice 2 (Experimental groups)</td>
</tr>
<tr>
<td></td>
<td>Review Practice 2: Test</td>
<td>Diary 11 (Case)</td>
</tr>
<tr>
<td>Week 12:</td>
<td>Review Practice 2: Learning loop &amp; strategies</td>
<td>Diary 12 (Case)</td>
</tr>
<tr>
<td>Week 13:</td>
<td>Practice 3: Test &amp; Pre–Post Questions</td>
<td>Practice 3 (Experimental groups)</td>
</tr>
<tr>
<td></td>
<td>Review Practice 3: Test</td>
<td>Diary 13 (Case)</td>
</tr>
<tr>
<td>Week 14:</td>
<td>Review Practice 3: Learning loop &amp; strategies</td>
<td>Diary 14 (Case)</td>
</tr>
<tr>
<td>Week 15:</td>
<td>Practice 4: Test &amp; Pre–Post Questions;</td>
<td>Practice 4 (Experimental groups)</td>
</tr>
<tr>
<td></td>
<td>Review Practice 4: Test</td>
<td>Diary 15 (Case)</td>
</tr>
<tr>
<td>Week 16:</td>
<td>Review Practice 4: Learning loop &amp; strategies</td>
<td>Diary 16 (Case)</td>
</tr>
<tr>
<td>Post-week</td>
<td>Intervention summaries</td>
<td>Post-tests (All groups)</td>
</tr>
</tbody>
</table>

While the students in the experimental group were undergoing the intervention programme, the students in the control group did not receive any training on SRL but
received regular English class instruction. The total amount of English reading study time for the two groups was similar to avoid the influence of study time differences on the intervention results. The English teachers from the experimental and control groups were required not to interact with each other about the intervention programme to avoid any interference in the control group.

In the second section of the intervention programme, eight students selected from the experimental group participated in the case study, which explored the development of the students’ SRL and their English reading achievement. Case study participants were required to complete a semi-structured weekly diary every week to make a record of their English reading studies in that particular week.

4.8.3 Phase III – Post-Intervention Tests

The third phase was the post-intervention test phase. Two questionnaires, the MSLQ and the MRQ, were retested with both groups of students. A post-intervention English reading test was also conducted with both groups to measure the participants’ English reading achievement. Similarly to Phase One, the questionnaires and tests were assigned to the students by the English teachers and the students were instructed to finish them in 25 minutes, 20 minutes and 25 minutes respectively.

4.9 Intervention Procedures

The previous section discussed the designed processes of the intervention programme in general. In the current section, detailed procedures of the intervention employment are presented for both the teachers’ and the students’ aspects.
4.9.1 Teachers’ Preparation

Before conducting the intervention programme, two group meetings were arranged to provide an introduction to the teachers about the SRL intervention. The first meeting included the teachers from both the control and the experimental groups. General information on the current study and the intervention plan was introduced. Copies of pre- and post-test questionnaires as well as information sheets and consent forms were offered.

Then, the teacher from the experimental group was invited to attend the second meeting, which explained the intervention programme in further detail. The teacher was given the instruction booklet as well as the intervention brochure for the participants. The researcher went through the intervention programme with the teacher by week, and she was allowed to ask any questions about the programme. Copies of the SRL brochures for students and the answers for each English reading practice session were given to the teacher. Monthly face-to-face meetings were scheduled.

4.9.2 Classroom Procedures

The teacher introduced the intervention programme to her class one week before the intervention programme. Aims, procedures and arrangements were presented. Information sheets and consent forms were assigned to the students, and the students were informed that their participation was voluntary.

The experimental group started their SRL intervention programme with the introductory sessions conducted by their English teacher. The SRL brochures were assigned to each participant in the experimental group in the first session. As discussed in Section 4.8, in the introductory and learning weeks, the participants focused on gaining relevant knowledge of SRL. They were free to ask any questions as well as communicate with
peers in their classroom. In the practising weeks, the students first completed the pre-practice test questions regarding time use, strategies and predictions on practice test scores. Then they were given 20 to 25 minutes to finish English reading practice tests. After that, the teacher provided the correct answers to the students by writing them on the blackboard, and the students marked their practice tests according to the correct answers provided. Finally, the students were asked to review their reading practice tests by answering post-practice test questions regarding time use, strategies and test scores.

In the meantime, the students in the control group had their English classes as usual. To ensure the total amount of time for the students’ English reading learning and practising was similar in the control and experimental groups, the SRL intervention sessions were arranged in English practice classes. According to the school schedule, all classrooms in the school had seven English classes each week, including two consecutive English classes arranged on one of the weekday afternoons. Most of the English teachers used the two consecutive classes to do some English practice, mainly in listening and reading. The teachers in the experimental group arranged the intervention in these consecutive English classes, and the teacher in the control group also arranged reading learning and practice in her two consecutive English classes. In this way, the total amount of time for the students’ English reading learning and practising was similar in the control and experimental groups.

4.10 Data Analysis

Data analysis of the current study included three main stages: questionnaire validation, quantitative analysis and case study analysis.
4.10.1 Preparatory Stage – Questionnaire Validation

First was the preparatory stage, in which EFA was conducted to examine the validity of the two translated questionnaires—the MSLQ and the MRQ—when measuring junior secondary school students in the China context. Data collected for the questionnaire validation first went through data screening and preliminary data analysis, including examining the missing values, outliers, skewness and kurtosis, normality of distribution and homogeneity of variance.

Questionnaires with more than 10% incomplete answers and those containing intentional mischief or obvious inaccurate responses were removed from the database, and a listwise measure was employed in the data analysis. The criterion for standard skewness is between 0 and \(|3.0|\), and that for kurtosis is between 0 and \(|8.0|\) (Field, 2013). The Shapiro–Wilk test of normality was employed to check the distribution. The data are considered normal if the value for the test is greater than .05. The normal Q-Q plot was also referred to as a criterion. Detailed information on the EFA is presented in Section 5.3.

4.10.2 Quantitative Data Analysis

The second stage of data analysis was quantitative analysis that investigated the pre- and post-intervention data of the two questionnaires and English reading tests. SPSS Statistics version 24 was employed for quantitative data analysis. Independent samples \(t\)-tests, paired samples \(t\)-tests, Pearson product-moment correlations, one-way analysis of covariance (ANCOVA), simple linear regression analysis and multiple regression analysis were employed to examine the data. Partial eta squared \((\eta_p^2)\), Cohen’s \(d\) and Cohen’s \(f^2\), and \(r\) were adopted to estimate effect sizes. \(Z\) values were calculated to
estimate the differences between correlations. The significant level .05 was applied in all tests.

Data screening and preliminary data analysis were conducted in the same way as in the preparatory stage. Additionally, homogeneity of variance was examined to see whether the variability in the two conditions was about the same. If the result was greater than .05, the scores in one condition did not vary too much from the scores in the second condition. Then, five inferential statistical tests were employed: Pearson product-moment correlation coefficient, paired samples t-tests, one-way ANCOVA, one-way repeated measures analysis of variance (ANOVA) and independent samples t-tests. These inferential statistical tests are briefly explained individually below, including their main function and index.

**Pearson product-moment correlation**

The Pearson product-moment correlation test is a measure of the strength of a linear association between two variables. It was employed in the current study to examine the correlation among the students’ SRL, reading motivation and English reading achievement. Pearson correlation coefficient (r) was referred to as the index of the strength of the correlation between two variables.

**Paired samples t-test**

The paired sample t-test is a statistical procedure used to determine whether the mean difference between two sets of observations is zero. In a paired sample t-test, each subject or entity is measured twice, resulting in pairs of observations, and it compares the means between two related groups on the same continuous, dependent variable. For the current study, the participants’ SRL, reading motivation and English reading
achievement were examined both before and after the intervention; thus, a series of paired samples $t$-tests were performed to examine whether the participants differed between pre- and post-tests in the three above-mentioned aspects respectively. In this case, the dependent variables were the learners’ SRL, reading motivation and English reading achievement, and the two related groups were the data of “pre-intervention” and that of “post-intervention”.

**One-way analysis of covariance**

One-way ANCOVA is used to test the effects of categorical variables on a continuous dependent variable, controlling for the effects of selected other continuous variables, which co-vary with the dependent. In this study, one-way ANCOVA was employed to examine the effects of the treatment and non-treatment conditions on the learners’ SRL, reading motivation and English reading achievement after the intervention respectively, controlling for their results of pre-intervention tests. The dependent variables were the data of post-intervention tests, independent variables were their treatment conditions (control group with no treatment or experimental group with treatment), and the covariances were the data of pre-intervention tests.

**Independent samples $t$-test**

The independent samples $t$-test is used to determine whether there is a statistically significant difference between the means in two unrelated groups. In the current study, independent samples $t$-tests were employed to test the differences between genders and between higher and lower achievers. The dependent variable was the learners’ scores in pre-and post-intervention tests. When examining gender differences, the independent variable was gender, which had two groups—male and female—and when examining
differences between achievers, the independent variable was achievement levels, which had two groups—“higher achievers” and “lower achievers”.

**Regression analysis**

The aim of using a regression test is to develop a quantitative prediction for the dependent variable. In the current study, simple linear regression analysis was employed to examine whether the learners’ SRL or reading motivation as a whole could predict their English reading achievement. Similarly, multiple regression analysis was used to examine whether a single SRL or reading motivation factor could predict the learners’ learning outcomes.

**Mediation analysis**

In the field of psychology, the mediator variable explains how external physical events affect internal psychological significance. In this study, an intervention was designed to improve the mediating variable SRL, which was hypothesised to be causally related to a dependent variable—academic achievement. In other words, it was believed that SRL as the mediator might transmit the effect of the independent variable—reading motivation—on the dependent variable—reading achievement.

**Effect Size**

Effect size is a way of quantifying the size of differences between groups and it is particularly valuable for quantifying the effectiveness of interventions (Coe, 2002). Table 4.12 summarises the effect sizes for different statistical tests as well as their corresponding indices and criterion.
Table 4.12 Index of Effect Sizes and the Criteria

<table>
<thead>
<tr>
<th>Statistical test</th>
<th>Effect size</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation</td>
<td>$r$</td>
<td>.1</td>
<td>.3</td>
<td>.5</td>
</tr>
<tr>
<td>ANCOVA/ANOVA</td>
<td>$\eta_p^2$</td>
<td>.01</td>
<td>.06</td>
<td>.14</td>
</tr>
<tr>
<td>Regression</td>
<td>$f^2$</td>
<td>.02</td>
<td>.15</td>
<td>.35</td>
</tr>
<tr>
<td>$t$-test</td>
<td>Cohen’s $d$</td>
<td>.2</td>
<td>.5</td>
<td>.8</td>
</tr>
</tbody>
</table>

4.10.3 Case Study Data Analysis

The third stage was the analysis of the case study. The analysis included two main analyses: thematic analysis, which focused on texts in the diaries, and content analysis, which focused on frequencies in the diaries.

4.10.3.1 Thematic analysis and deductive coding

Thematic analysis is a data reduction and analysis strategy by which qualitative data are segmented, categorised, summarised and reconstructed in a way that captures the important concepts within the dataset (Given, 2008). The segmentation and categorisation process is thematic coding, which usually can be further categorised into two coding approaches: deductive coding, in which themes are drawn from existing theoretical ideas that the researcher brings to the data, and inductive coding, in which themes are drawn from the raw information itself (Marks & Yardley, 2004).

The current study employed a deductive coding approach of thematic analysis. The participants’ diaries were coded with reference to the Zimmerman’s (1989) and Pintrich’s (2001) SRL model. Key SRL factors, and relevant SRL motivational beliefs and strategies were extracted through analysing the Chinese junior secondary school students.
4.10.3.2 Content Analysis

Content analysis is a method for counting particular features of a text or visual image, and statistical tests can be used to analyse the frequency of codes when it has been carried out on a large, representative dataset. In the current study, the learners’ goal settings and strategies employment were investigated by content analysis. The total amount of goals and strategies mentioned by the students in their diaries were counted to obtain a quantitative description of the manifest content of the learners’ diaries.

4.11 Ethical Considerations

The current study was carried out after gaining approval from the University of Auckland Human Participants Ethics Committee on June 2015 (Reference Number 014709).

After receiving the approval from the ethics committee, I first contacted the administrator of the target junior secondary school with the Chinese version of the Participant Information Sheet (PIS) and Consent Form (CF) for the School Principal, together with the materials that would be used in the current study (the MSLQ, the MRQ, English reading test, diary and SRL booklet).

With the consent of and permission from the Principal, the school administrator distributed the information regarding the study on the bulletin board of the school so that the teachers and students who were interested could get in touch with the administrator or researcher. With this procedure, I accessed potential participants and invited them to participate in the study.

It was clearly stated that participation in the whole study was voluntary and potential participants were given the PIS and CF (see Appendix B & C). For students who were
below 16 years, students’ assent and their parents’ consent were sought. With their signatures on both forms, the students were finally involved in the study. For the intervention programme, which was going to be conducted in an intact class, the class in which the majority of the students agreed to be participants in the study was chosen, and the class teacher’s consent was sought. The participants in the study were allowed to withdraw at any time and under any circumstance.

Moreover, participants’ questionnaires, tests and diaries were anonymous and numbered from 1 to 120 so that a link between participants’ questionnaire, tests and diaries was established. Participants’ questionnaires, tests, and diaries were stored securely and will be shredded after six years and all digital files will be permanently deleted from the laptop and any other device.

4.12 SUMMARY

This chapter has provided information on the research design, methods, participants and instruments, as well as the processes and procedures in sequence. The current study was a mixed-method study with a quasi-experimental approach as the main method and a case study as a complementary method. Three intact classes were involved in the study and two of these were assigned to control or experimental groups. Questionnaires, tests and diaries were the instruments used for data collection. The intervention programme included three main phases: pre-intervention, intervention and post-intervention. The participants in the experimental group attended a 16-week teacher-led SRL intervention aimed at improving their self-regulated learning ability. Eight high- and low-achieving students were selected for the case study during the intervention.
5 VALIDATION OF THE QUESTIONNAIRES

5.1 INTRODUCTION

In order to collect useful data, reliable questionnaires must be developed. As both of the MSLQ and MRQ questionnaires are Western-based questionnaires that developed and mainly modified in Western context (Pintrich et al., 1991; Wigfield et al., 1996), the reliabilities of the questionnaires and how adequate when apply with Chinese junior secondary EFL learners require further examinations. Additionally, as learners’ perceptions of SRL closely interact with and are influenced by the cultural and contextual factors, the measurement tools should be adapted accordingly.

This chapter reports on how the two questionnaires, the Motivated Strategies for Learning Questionnaire (MSLQ) and the Motivation for Reading Questionnaire (MRQ), were validated through EFA analysis. The first section of the chapter provides information on the piloting of the questionnaires, focusing on examining the suitability of the translation and expression in Chinese for Chinese junior secondary school students. The second section reports on the EFA performed on these two questionnaires, focusing on examining the underlying structures of the questionnaires in a Chinese context. The results of the EFA were expected to help in modifying the questionnaires.

5.2 PILOT STUDY

There were three main objectives for the questionnaire piloting: (1) to check whether the translation and wording of the questionnaires were clear to the participants, (2) to check whether there were any potential problems that might arise during the
questionnaire implementation and (3) to obtain the participants’ feedback and suggestions for further improvement.

To meet the objectives, a total of 27 participants were invited to participate in the questionnaire piloting. The participants were asked to pay attention to the expression and wording of all the questionnaire items, the instructions on the questionnaires and the implementation of the questionnaires. After completing the questionnaires, the participants were asked to provide comments on the questionnaires themselves as well as the procedures for questionnaire implementation. The Chinese version of the MSLQ and the SRL background information scale was piloted with 15 respondents, and that of the MRQ was piloted with 12 respondents. The participants for the pilot study came from a junior secondary school in Anhui, China, which was different from the one where data collection for the main study was carried out to avoid any possible data contamination. These participants were recruited from different year levels of a secondary school to obtain more comprehensive data from them.

Table 5.1 Demographic Information on Participants in the Pilot Study

<table>
<thead>
<tr>
<th></th>
<th>MSLQ &amp; SRL background</th>
<th>MRQ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Year 7</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Year 8</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Year 9</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>7</td>
</tr>
</tbody>
</table>

A review of the data revealed that the participants’ feedback was mainly about their trouble understanding the questionnaire. For instance, item 43 from the MRQ, “I try to get more answers right than my friends”, was first translated into Chinese as a direct
translation, and one participant mentioned that he had trouble understanding it (“我尝试着比我的朋友们获得更多正确的回答”). The participants also reported trouble in understanding certain types of word, such as “nouns”, “pronouns”, or some phrases in the questionnaire items. For instance, one participant mentioned that she did not know what exactly “a list of good readers” referred to in item 22, “It is important for me to see my name on a list of good readers”. This also happened with item 26 in the MSLQ. One participant reported trouble in determining what “subject matter” referred to in “I like the subject matter of this course”.

To solve these problems raised by the participants in the pilot study, I decided to consult with another teacher, who had a master’s degree in education. All questionnaire items were carefully reviewed together by the teacher and me. Some of the Chinese translations were paraphrased to enhance clarity, and some unclearly presented questions were revised by adding further explanations. It needs to be emphasised that all paraphrases follow the original idea in Pintrich’s questionnaire. For instance, the translation for item 43 was changed from “I try to get more answers right than my friends/我尝试着比我的朋友们获得更多正确的回答” to “When doing English reading practices/in examinations), I try to answer more questions correctly than my friends (在英语阅读练习/考试中), 我尝试着比我的朋友们做对更多的题目”.

The revised Chinese versions of the questionnaires were then sent to three junior secondary school teachers for their comments and feedback. As the schoolteachers were familiar with the students’ reading abilities and their level of linguistic proficiency, they were asked to check whether the questionnaires were suitable for Year 8 students. All three teachers agreed that the questionnaires were appropriate for Year 8 students; thus,
5.3 **EXPLORATORY FACTOR ANALYSIS**

EFA was performed to explore the underlying structures of the MSLQ and the MRQ when they were administered to Chinese junior secondary school students. A total of 656 junior secondary school students were recruited for the EFA, of whom 340 were male students (51.83%) and 316 were female students (48.17%). Data for the EFA of the MSLQ were collected from 619 students (324 males, 295 females) from Year 7 \( (n = 168) \), Year 8 \( (n = 339) \) and Year 9 \( (n = 112) \) with an average age of 14.52 years, and data for the MRQ were collected from 255 junior secondary school students (131 males, 124 females) from Year 8 \( (n = 168) \) and Year 9 \( (n = 87) \) with an average age of 14.38 years. The sample size met the rule of the ratio of cases to variables because there were at least five cases for each of the variables (Pallant, 2013). The detailed procedures of EFA and corresponding indices and criteria are summarised in Table 5.2 (Field, 2013; Pallant, 2013; Stevens, 1996; Zhao, 2011).

As can be seen in Table 5.2, the criterion for factor extraction was to retain factors with eigenvalues greater than 1.0 or greater than 0.7 with consideration of the scree plot. The specific rule for factor retention was selected dependent on several preconditions. According to Field (2013), to use Kaiser’s one-eigenvalue rule, the following preconditions should be met first: the average communality is greater than .60, communalities after extraction are greater than .70, variables are fewer than 30, and the sample size exceeds 250. Thus, for the EFA in the current study, Kaiser’s rule was employed when the preliminary data analysis met the requirements. If the preconditions were not met, Jolliffe’s .70 eigenvalues rule was used (Jolliffe, 1986). The factor
The extraction procedure did not rely only on the eigenvalues. The scree plot, especially the cut-off point, was also referred to as an important criterion (Field, 2013; S. H. Kim, 2013; Yong & Pearce, 2013). Additionally, the prior factor structures of the scale and relevant SRL models and empirical studies were considered important references in the EFA for factor extraction.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Correlation</td>
<td>&gt; .30 with at least one other item</td>
</tr>
<tr>
<td>2. Kaiser–Meyer–Olkin measure of sampling adequacy</td>
<td>&gt; .50</td>
</tr>
<tr>
<td>3. Bartlett’s test for whether the correlation matrix in the current study significantly different from an identity matrix</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>4. Communality for the amount of variance on a variable accounted for by the set of factors</td>
<td>&gt; .20</td>
</tr>
<tr>
<td>5. Eigenvalue with scree plot</td>
<td>Kaiser &gt; 1, or Jolliffe &gt; .70, scree plot cut-off point</td>
</tr>
<tr>
<td>6. Factor loadings</td>
<td>&gt; .30</td>
</tr>
<tr>
<td>7. Interpretability of the identified factors in accordance with theories and literature</td>
<td>Original factor structure and relative literature</td>
</tr>
<tr>
<td>8. Cronbach’s alpha for subscales and whole scale</td>
<td>&gt; .70</td>
</tr>
</tbody>
</table>

5.3.1 Exploratory Factor Analysis on the Motivated Strategies for Learning Questionnaire

EFA was performed first with the MSLQ. Two subscales of the MSLQ were examined separately because they measured learners’ SRL from two different aspects (Rao & Sachs, 1999; Teng & Zhang, 2016, 2018).
5.3.1.1 The self-regulated learning Motivational Belief subscale

Three prerequisites were examined to check whether the data were suitable for EFA. Firstly, the factorability of all questionnaire items was examined, and the results showed that 30 out of 31 items correlated at least .30 with at least one other item. Secondly, the Kaiser–Meyer–Olkin (KMO) values were examined, and the results showed that the KMO value was .940 with Bartlett’s sphericity test $\chi^2(465) = 8,735, p < .001$, and the KMO values for all individual questionnaire items were well above .73. Thirdly, the initial communalities for each item were examined and the results showed that the initial communalities of all items were above .20 except item 3. Because item 3 violated both the first (correlation) and the third (communalities) criteria, it was removed from the questionnaire. The examinations on the three prerequisites suggested that the data were appropriate for further EFA.

Then, data from the Motivational Belief subscale were subjected to principal axis factoring extraction with an oblimin rotation. Principal axis factoring was employed because the dataset violated the assumption of multivariate normality. An oblimin rotation was performed because it was assumed that the factors describing the structure were interrelated (Fabrigar, Wegener, MacCallum & Strahan, 1999; Yong & Pearce, 2013).

As discussed above (see Section 5.1), the factor extractions were mainly referred to eigenvalues and the scree plot. The number of factors to extract was tested four times based upon suggestions by Yong and Pearce (2013): (1) at the number based on the a priori factor structure, (2) at the number predicted by the scree test, (3) at the numbers above and below the number based on the a priori factor structure and (4) at the numbers above and below the number of factors suggested by the scree test. For the Motivational
Belief subscale, since both the scree plot and the original scale suggested six factors, five- to seven-factor structures were tested to obtain the most appropriate one.

Comparing the results of the five- to seven-factor structures showed that the seven-factor structure was the most appropriate one as it had fewer cross-loadings and fewer low factor loadings (below .30). Additionally, this structure was the most theoretically valid. A total of eight items were excluded from the scale for the following reasons: they did not achieve minimal factor loadings (+/− .30), they cross-loaded on more than one factor with cross-factor loadings > .40 or the factor contained only two items (Pallant, 2013; Raubenheimer, 2004). As a result, five factors with 23 items were retained.

Through examination of the items clustering around each factor, five motivational beliefs were identified and named based on the theory and the related literature: Factor 1, Intrinsic Goal Orientation (IG), accounting for 34.87% of the variance; Factor 2, Test Anxiety (TA), accounting for 8.51% of the variance; Factor 3, Control of Beliefs (CB), accounting for 4.86% of the variance; Factor 4, Self-Efficacy (SE), accounting for 3.87% of the variance; and Factor 5, Task Value (TV), accounting for 2.80% of the variance. Table 5.3 shows the oblique rotated solution and results of the principal axis analysis of the 23-item, five-factor scale. Communalities for the items ranged from .37 to .68, indicating that the items were reliable indicators for the factor. Cronbach’s alpha for the other factors (ranging from .674 to .843) and for the whole scale (0.918) indicated an acceptable to excellent reliability (George & Mallery, 2011).
Table 5.3 Modified Motivational Beliefs Questionnaire with Five Factors

<table>
<thead>
<tr>
<th>Item</th>
<th>IG</th>
<th>TA</th>
<th>CB</th>
<th>SE</th>
<th>TV</th>
<th>h²</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0.623</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.564</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0.524</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.566</td>
<td>0.843</td>
</tr>
<tr>
<td>15</td>
<td>0.502</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.568</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.401</td>
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<td></td>
<td></td>
<td></td>
<td>0.368</td>
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</tr>
<tr>
<td>5</td>
<td>0.387</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.585</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>0.376</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.608</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
<td>0.63</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>0.638</td>
<td></td>
<td></td>
<td></td>
<td>0.471</td>
<td>0.674</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td>0.317</td>
<td></td>
<td></td>
<td>0.366</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>−0.608</td>
<td></td>
<td></td>
<td></td>
<td>0.475</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>−0.503</td>
<td></td>
<td></td>
<td></td>
<td>0.578</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>−0.488</td>
<td></td>
<td></td>
<td></td>
<td>0.464</td>
<td>0.821</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>−0.457</td>
<td></td>
<td></td>
<td></td>
<td>0.468</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
<td>−0.407</td>
<td></td>
<td></td>
<td></td>
<td>0.501</td>
<td></td>
</tr>
<tr>
<td>2</td>
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Note. IG = Intrinsic Goal Orientation, TA = Test Anxiety, CB = Control of Beliefs, SE = Self-Efficacy, TV = Task Value, h² = communalities, α = Cronbach’s alpha

5.3.1.2 The self-regulated learning Learning Strategies Subscale

The Learning Strategies subscale of the MSLQ went through the same process as the Motivational Belief subscale. Three prerequisites were examined first to check the suitability of the data for further EFA. The results of factorability showed that 49 of the 50 items correlated at least .30 with at least one other item. The KMO measure was .965, all KMO values for the individual items were well above .76 and Bartlett’s sphericity test was χ²(1,225) = 15,835, p < .001. The initial communalities for all questionnaire
items ranged from .16 to .65, and the one with lower than .20 was removed as it also violated the factorability criterion. The results of the above three prerequisites suggested that the data were appropriate for EFA.

Data from the Learning Strategies subscale were subjected to principal axis factoring extraction and an oblimin rotation. The criterion for deciding the number of factors to extract was the same as the Motivational Beliefs subscale discussed above. As the scree plot suggested eight factors and the original Learning Strategies subscale contained nine factors, seven- to 10-factor structures were tested to determine the most appropriated one (Yong & Pearce, 2013). Among these factor structures, the nine-factor structure was considered the most appropriate because it has fewer cross-loadings and fewer low factor loadings (below .30), and it was also the most theoretically valid one. By removing items with loadings lower than .30, those cross-loaded on more than one factor with cross-factor loadings > .40, and factors with one or two items, six factors with 34 items were retained.

Based on SRL and learning strategies theory and the related literature, six SRL strategies were identified and labelled: Factor 1, Strategic Planning (SP), accounting for 35.42% of the variance; Factor 2, Lack of Self-Regulation (LSR), accounting for 6.67% of the variance; Factor 3, Classroom Discipline (CD), accounting for 4.08% of the variance; Factor 4, Self-Evaluation (SEV), accounting for 2.46% of the variance; Factor 5, Task Strategies (TS), accounting for 2.25% of the variance; Factor 6, Self-Control (SC), accounting for 1.87% of the variance. Table 5.4 shows the oblique rotated solution and results of the principal axis analysis of the 34-item, six-factor scale. Communalities for the items ranged from .21 to .68, indicating that the items were reliable indicators for
the factor. Cronbach’s alpha for the factors (ranging from .765 to .885) and for the whole scale (0.927) indicated an acceptable to excellent reliability (George & Mallery, 2011).

Table 5.4 Modified Learning Strategies Subscale Questionnaire with Six Factors

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Note. SP = Strategic Planning, LSR = Lack of Self-Regulation, CD = Classroom Discipline, SEV = Self-Evaluation, TST = Task Strategies, SC = Self-Control, h² = communalities, α = Cronbach’s alpha

eigen-
value 17.71 3.335 2.041 1.228 1.126 0.935 .927
% of variance 35.419 6.67 4.082 2.456 2.252 1.87
By conducting EFA on the two subscales of the MSLQ, the original 81-item, 15-factor structured MSLQ was modified to a 57-item, 11-factor structured questionnaire. The modified Chinese version of MSLQ was employed to measure the Chinese junior secondary school students’ MSLQ in the main study.

5.3.2 Exploratory Factor Analysis of the Motivation for Reading Questionnaire

EFA was also performed with the MRQ to examine its validity, and it went through the same processes as those of the above two scales.

The factorability of the 54 items were examined first and the results showed that 48 of the 54 items correlated at least .30 with at least one other item. The KMO measure was .898, indicating the data were sufficient for EFA. The Bartlett’s sphericity test, \( \chi^2(1,431) = 6,848, p < .001 \) showed that there was a patterned relationship between the items. Thirdly, the initial communalities for all items ranged from .28 to .65.

It was interesting to find that four items from the factor Reading Work Avoidance of the original MRQ did not meet or were at the edge of above-mentioned criteria. This was confirmed by the recommendation of the questionnaire’s authors, Wigfield et al. (1996), that the factor Reading Work Avoidance should be calculated separately from other factors in the questionnaires. Thus, four items from the factor Reading Work Avoidance were not included in further EFA, but were regarded as an independent factor in measuring what the students did not like about reading. The examination of the remaining 50 items suggested that the data were suitable for further EFA.

Then, the data were subjected to principal axis factoring extraction with an oblimin rotation. The scree plot suggested eight factors, and the original Learning Strategies
subscale contained 10 factors (excluding the factor Reading Working Avoidance). Thus, seven- to 11-factor structures were examined to find the most appropriate one.

Table 5.5 Modified MRQ questionnaire with Six Factors (Excluding the Reading Work Avoidance Factor)

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<td>1.647</td>
<td>1.353</td>
<td>1.272</td>
<td>0.919</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of variance</td>
<td>28.24</td>
<td>5.254</td>
<td>4.143</td>
<td>3.432</td>
<td>2.819</td>
<td>2.649</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes. RE = Reading Efficacy, RG = Reading for Grades, EN = Reading for Enjoyment, RS = Reading for Social Reasons, RC = Reading Challenge, IR = Importance of Reading
An examination of low factor loadings and cross-loadings, and a review of the reading motivation literature indicated that the seven-factor structure was the most appropriate one. The modified MRQ contained six factors with 33 items.

In total, six reading motivations were identified and named with reference to the reading motivation literature and theories: Factor 1, Reading Efficacy (RE), accounting for 29.24% of the variance; Factor 2, Reading for Grades (RG), accounting for 5.25% of the variance; Factor 3, Reading for Enjoyment (EN), accounting for 4.14% of the variance; Factor 4, Reading for Social Reasons (RS), accounting for 3.43% of the variance; Factor 5, Reading Challenge (RC), accounting for 2.82% of the variance; and Factor 6, Importance of Reading (IR), accounting for 2.85% of the variance. Table 5.5 shows the oblique rotated solution and results of the principal axis analysis of the 34-item, six-factor scale. Communalities for the items ranged from .33 to .66, indicating that the items were reliable indicators for the factor. Cronbach’s alpha for the factors (ranging from .665 to .814) and for the whole scale (0.919) indicated an acceptable to excellent reliability (George & Mallery, 2011).

5.3.3 Summary of Exploratory Factor Analysis Findings

5.3.3.1 Exploratory factor analysis results of the Motivated Strategies for Learning Questionnaire

The modified Chinese version of the MSLQ was a 57-item, 11-factor structured questionnaire (see Table 5.6). The results of the EFA of the MSLQ indicated that the questionnaire, established and developed in the Western context, did not fit well in the context of China, and modifications were required. This result is consistent with those of previous studies in validating the MSLQ with Chinese students (e.g., Rao & Sachs, 1999). It can be seen that the Motivational Belief subscale of the MSLQ measures
similar constructs in Chinese students to those in Western students, but the Learning Strategy subscale measures Chinese students differently. It measures learners more from the three cyclical phases of SRL, and shows that Chinese junior secondary school students lack knowledge of SRL to some extent. The nature of the modified version of MSLQ is a 7-Likert scale questionnaire from 1-“Not at all true of me” to 7-“Very true of me”. For Test Anxiety and Lack of Self-Regulation, an increase in rating is a decrease in the measured component, and for the rest components, an increase in rating is an increase in the measured component.

Table 5.6 Modified Chinese Version of the MSLQ

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Factors</th>
<th>Item Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivational Beliefs</td>
<td>Intrinsic Goal Orientation</td>
<td>1,4,5,6,12,15</td>
</tr>
<tr>
<td></td>
<td>Task Value</td>
<td>17,26,27</td>
</tr>
<tr>
<td></td>
<td>Control Beliefs</td>
<td>2,9,10,22,23,25</td>
</tr>
<tr>
<td></td>
<td>Self-Efficacy</td>
<td>20,21,29,30,31</td>
</tr>
<tr>
<td></td>
<td>Test Anxiety</td>
<td>8,19,28</td>
</tr>
<tr>
<td>Learning Strategies</td>
<td>Strategic Planning</td>
<td>62,63,64,72,78,81</td>
</tr>
<tr>
<td></td>
<td>Task Strategies</td>
<td>34,36,39,43,48,49,50,51</td>
</tr>
<tr>
<td></td>
<td>Self-Control</td>
<td>55,61,65,66</td>
</tr>
<tr>
<td></td>
<td>Self-Evaluation</td>
<td>56,67,68,69,71</td>
</tr>
<tr>
<td></td>
<td>Classroom Discipline</td>
<td>70,73,74,76</td>
</tr>
<tr>
<td></td>
<td>Lack of Self-Regulation</td>
<td>33,37,52,57,60,77,80</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>57</td>
</tr>
</tbody>
</table>

5.3.3.2 Exploratory factor analysis results of the Motivation for Reading Questionnaire

The modified Chinese version of the MRQ was a 33-item, seven-factor structured questionnaire (see Table 5.7). In general, the MRQ measures the same constructs in
Chinese students as it does with Western students. The nature of the modified version of MRQ is a 5-Likert scale questionnaire from 1-“Not at all true of me” to 5-“Very true of me”. For Reading Avoidance, an increase in rating is a decrease in the measured component, and for the rest components, an increase in rating is an increase in the measured component.

### Table 5.7 Modified Chinese Version of the MRQ

<table>
<thead>
<tr>
<th>Main Constructs</th>
<th>Factors</th>
<th>Item Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence &amp; Efficacy</td>
<td>Reading Efficacy</td>
<td>9, 11, 12, 14, 15, 26</td>
</tr>
<tr>
<td></td>
<td>Reading Challenge</td>
<td>3, 37, 43, 44, 49</td>
</tr>
<tr>
<td>Achievement Values &amp; Goals</td>
<td>Intrinsic Reading for Enjoyment</td>
<td>8, 13, 16, 24, 33, 35, 41, 46, 48</td>
</tr>
<tr>
<td></td>
<td>Importance of Reading</td>
<td>40, 53, 54</td>
</tr>
<tr>
<td>Social Aspects</td>
<td>Extrinsic Reading for Grades</td>
<td>17, 18, 19, 25, 47</td>
</tr>
<tr>
<td></td>
<td>Social Reasons for Reading</td>
<td>20, 21, 22, 29, 34</td>
</tr>
<tr>
<td></td>
<td>Reading Work Avoidance</td>
<td>23, 27, 28, 52</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>7</strong></td>
</tr>
</tbody>
</table>

### 5.4 Summary

This chapter has discussed the questionnaire preparation, including the processes of translation, adaptation, validation and modification. The pilot studies resulted in the adjustment of some Chinese translations and expressions because some of the translated questionnaire items might have led to misunderstanding or have been unfamiliar to Chinese students. The results of the EFA are consistent with Teng and Zhang (2016) and Rao and Sachs (1999), indicating that the questionnaires established in Western educational contexts did not fit well in a Chinese context, and modifications were made in order for them to be used to measure the target participants more appropriately. The
modified Chinese versions of the MSLQ and MRQ were employed for data collection in the main study.
6 QUANTITATIVE FINDINGS

6.1 INTRODUCTION

This chapter reports on the quantitative findings from the two questionnaires and provides answers to the research questions listed in Chapter 4. The first section reports the descriptive statistics of the participants’ perceived SRL and motivation in English reading. Then the correlations among their reported SRL, reading motivation and English reading achievement are examined. The third section reports on the effects of the intervention programme on the participants’ SRL, reading motivation and English reading achievement. Subsequently, gender differences as well as differences between high- and low-achieving EFL learners are investigated.

6.2 LEARNERS’ PERCEIVED SELF-REGULATED LEARNING AND MOTIVATION IN ENGLISH READING

Participants’ perceived SRL and reading motivation were examined to answer Research Question 1 what perceived SRL strategies do Chinese junior secondary school students report using before the intervention, and Research Question 2 what is the level of reading motivation do Chinese EFL students report having before the intervention. Data analyzed in this section were derived from pre-intervention MSLQ, MRQ and SRL background information scales.

6.2.1 Learners’ Perceptions of SRL in English Reading

Descriptive statistics of the learners’ perceived SRL in English reading are displayed in Table 6.1. The mean scores for each SRL factor ranged from 3.94 to 4.87 (on a seven-
point scale), which indicated that the Chinese junior secondary school learners were not actually passive learners but had low to medium levels of SRL.

Table 6.1 Descriptive Statistics of the Participants’ Perceived SRL (N = 160)

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivational Beliefs (excluding Test Anxiety)</td>
<td>18.18</td>
<td>4.08</td>
</tr>
<tr>
<td>Control of Learning Beliefs</td>
<td>4.78</td>
<td>1.11</td>
</tr>
<tr>
<td>Task Value</td>
<td>4.58</td>
<td>1.2</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>4.53</td>
<td>1.23</td>
</tr>
<tr>
<td>Test Anxiety</td>
<td>4.32</td>
<td>1.46</td>
</tr>
<tr>
<td>Intrinsic Goal Orientation</td>
<td>4.30</td>
<td>1.18</td>
</tr>
<tr>
<td>Learning Strategies (excluding Lack of Self-Regulation)</td>
<td>21.58</td>
<td>4.85</td>
</tr>
<tr>
<td>Classroom Discipline</td>
<td>4.87</td>
<td>1.12</td>
</tr>
<tr>
<td>Self-Evaluation</td>
<td>4.43</td>
<td>1.16</td>
</tr>
<tr>
<td>Self-Control</td>
<td>4.19</td>
<td>1.18</td>
</tr>
<tr>
<td>Lack of Self-Regulation</td>
<td>4.17</td>
<td>1.02</td>
</tr>
<tr>
<td>Strategic Planning</td>
<td>4.15</td>
<td>1.16</td>
</tr>
<tr>
<td>Task Strategies</td>
<td>3.94</td>
<td>1.13</td>
</tr>
<tr>
<td>Total MSLQ (excluding Test Anxiety and Lack of Self-Regulation)</td>
<td>37.14</td>
<td>7.91</td>
</tr>
</tbody>
</table>

From Table 6.1, it can be seen that the mean scores for Control of Learning Beliefs and Classroom Discipline were much higher than those of other factors. This suggested that the learners emphasised effort making and believed it was positively related to academic achievement. It also indicated that the learners strongly believed that their learning behaviours were the forms or results of obeying classroom discipline. In contrast, the mean score for Task Strategies was much lower than that of other factors, suggesting
that the participants did not frequently employ strategies for their English reading learning.

The participants’ prior understandings about SRL were also examined from the SRL background information scale. In general, around two-thirds of the participants reported that they had previous knowledge of SRL. Of the participants who had prior experience in using SRL, 60% indicated that their SRL knowledge was taught by their teachers, 10% were taught by their parents, and 20% learned by themselves. When the participants were asked to list their pre-perceived SRL strategies, the majority reported reviewing and previewing, doing exercises and help seeking. When they were asked to list their pre-perceived SRL motivational beliefs, the majority reported enhancing academic achievement, happiness, realising dreams, self-interest and the development of their country. (see Table 6.2).

Table 6.2 Descriptive Statistics of Participants’ Pre-perceptions of SRL

<table>
<thead>
<tr>
<th>SRL strategies</th>
<th>Responses</th>
<th></th>
<th>Motivational beliefs</th>
<th>Responses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Percent</td>
<td>Academic achievement</td>
<td>N</td>
<td>Percent</td>
</tr>
<tr>
<td>Review</td>
<td>40</td>
<td>14.7%</td>
<td></td>
<td>39</td>
<td>21.2%</td>
</tr>
<tr>
<td>Preview</td>
<td>25</td>
<td>9.2%</td>
<td>Happy life</td>
<td>17</td>
<td>9.2%</td>
</tr>
<tr>
<td>Exercise</td>
<td>24</td>
<td>8.8%</td>
<td>Realize dream</td>
<td>12</td>
<td>6.5%</td>
</tr>
<tr>
<td>Help seeking</td>
<td>23</td>
<td>8.4%</td>
<td>Intrigue interest</td>
<td>8</td>
<td>4.3%</td>
</tr>
<tr>
<td>Hard working</td>
<td>19</td>
<td>7.0%</td>
<td>For development of country</td>
<td>8</td>
<td>4.3%</td>
</tr>
<tr>
<td>Memorizing</td>
<td>16</td>
<td>5.9%</td>
<td>Have to learn</td>
<td>7</td>
<td>3.8%</td>
</tr>
<tr>
<td>Self-reflection</td>
<td>14</td>
<td>5.1%</td>
<td>For good universities &amp; careers</td>
<td>6</td>
<td>3.3%</td>
</tr>
<tr>
<td>Listen to teachers</td>
<td>13</td>
<td>4.8%</td>
<td>For parents or teachers</td>
<td>5</td>
<td>2.7%</td>
</tr>
</tbody>
</table>
6.2.2 Learners’ Motivation in English Reading

The learners’ motivation in English reading was examined by analysing the modified MRQ. The mean scores of each factor ranged from 2.21 to 2.67 (on a five-point scale), which indicated a medium level of reading motivation.

As Table 6.3 shows, the mean score for Reading for Grades was much higher than that of other factors, which suggested that the participants were more likely to become motivated to read to achieve better scores. In contrast, Reading Efficacy scored the lowest among all factors. It suggested that the students did not believe that they could be successful at reading, and this factor did not motivate them to read.

Table 6.3 Descriptive Statistics of the Participants’ Reading Motivation

<table>
<thead>
<tr>
<th>Variables</th>
<th>N = 162</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading for Grades</td>
<td></td>
<td>2.80</td>
<td>.66</td>
</tr>
<tr>
<td>Reading Competition</td>
<td></td>
<td>2.59</td>
<td>.69</td>
</tr>
<tr>
<td>Reading Work Avoidance</td>
<td></td>
<td>2.56</td>
<td>.64</td>
</tr>
<tr>
<td>Reading for Enjoyment</td>
<td></td>
<td>2.55</td>
<td>.68</td>
</tr>
<tr>
<td>Importance of Reading</td>
<td></td>
<td>2.53</td>
<td>.80</td>
</tr>
<tr>
<td>Reading for Social Reasons</td>
<td></td>
<td>2.36</td>
<td>.71</td>
</tr>
<tr>
<td>Reading Efficacy</td>
<td></td>
<td>2.18</td>
<td>.78</td>
</tr>
<tr>
<td>MRQ (excluding Reading Work Avoidance)</td>
<td></td>
<td>15.01</td>
<td>3.40</td>
</tr>
</tbody>
</table>
6.3 RELATIONSHIPS AMONG SELF-REGULATED LEARNING, MOTIVATION AND ENGLISH READING ACHIEVEMENT

Following discussion of the students’ perceived SRL and reading motivation, this section examines the relationships among their perceived SRL, reading motivation and English reading achievement. The correlations among these were examined by Pearson product-moment correlation tests. The predictive effects of SRL and reading motivation on English reading achievement were examined by multiple regression tests. The results examined in this section were intended to provide answers to Research Question 3 What are the relationships among learners’ SRL, reading motivation, and their English reading achievement.

6.3.1 Correlations between Self-Regulated Learning, Reading Motivation and English Reading Achievement

A series of Pearson product-moment correlation tests was performed to determine the relationship between the students’ perceived SRL and reading motivation. The results summarised in Table 6.4 indicate that most of the SRL factors were positively correlated with motivation factors except Test Anxiety, Lack of Self-Regulation and Classroom Discipline.

Reading Enjoyment was positively correlated with the most SRL factors, especially with Intrinsic Goal Orientation ($r = .463$) and Task Strategies ($r = .400$). Reading Competition was moderately correlated with Intrinsic Goal Orientation ($r = .451$), Strategic Planning ($r = .403$), Self-Control ($r = .440$), and Task Strategies ($r = .419$).

Reading Work Avoidance revealed weak negative correlations with Self-Efficacy ($r = -.008$), Classroom Discipline ($r = -.091$), and Task Strategies ($r = -.007$). Reading for
Social Reasons indicated a weak negative correlation with Classroom Discipline \((r = -0.04)\) as well.

Then, a series of Pearson product-moment correlations was employed to examine the relationship among the learners’ perceived SRL, reading motivation and English reading achievement. As shown in Table 6.4, there was a moderate, positive, significant correlation between the learners’ SRL and their English reading achievement, \(r = 0.373, p < .001\), suggesting that higher levels of SRL are associated with higher scores in English reading tests. A moderate, positive, significant correlation was found between the participants’ SRL and their motivation \((r = 0.486, p < .001)\). Additionally, a weak, positive, significant correlation was found between the learners’ reading motivation and achievement \((r = 0.197, p = 0.012)\).

**Table 6.4 Correlations among Factors in SRL and Motivation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>RE</th>
<th>RG</th>
<th>EN</th>
<th>RS</th>
<th>RC</th>
<th>IR</th>
<th>RWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>IG</td>
<td>.411**</td>
<td>.343**</td>
<td>.463**</td>
<td>.337**</td>
<td>.451**</td>
<td>.402**</td>
<td>.010</td>
</tr>
<tr>
<td>TA</td>
<td>.06</td>
<td>.07</td>
<td>.157*</td>
<td>.186*</td>
<td>.15</td>
<td>.182*</td>
<td>.095</td>
</tr>
<tr>
<td>CB</td>
<td>.176*</td>
<td>.252**</td>
<td>.323**</td>
<td>.190*</td>
<td>.276**</td>
<td>.268**</td>
<td>.117</td>
</tr>
<tr>
<td>SE</td>
<td>.302**</td>
<td>.328**</td>
<td>.366**</td>
<td>.264**</td>
<td>.356**</td>
<td>.274**</td>
<td>-.008</td>
</tr>
<tr>
<td>TV</td>
<td>.274**</td>
<td>.282**</td>
<td>.346**</td>
<td>.296**</td>
<td>.337**</td>
<td>.323**</td>
<td>.007</td>
</tr>
<tr>
<td>SP</td>
<td>.365**</td>
<td>.309**</td>
<td>.381**</td>
<td>.363**</td>
<td>.403**</td>
<td>.329**</td>
<td>.021</td>
</tr>
<tr>
<td>LSR</td>
<td>.134</td>
<td>.046</td>
<td>.100</td>
<td>.160*</td>
<td>.161*</td>
<td>.107</td>
<td>.160*</td>
</tr>
<tr>
<td>CD</td>
<td>.038</td>
<td>.188</td>
<td>.094</td>
<td>-.038</td>
<td>.087</td>
<td>.107</td>
<td>-.091</td>
</tr>
<tr>
<td>SC</td>
<td>.364**</td>
<td>.262**</td>
<td>.387**</td>
<td>.276**</td>
<td>.440**</td>
<td>.272**</td>
<td>.008</td>
</tr>
<tr>
<td>TST</td>
<td>.367**</td>
<td>.293**</td>
<td>.400**</td>
<td>.375**</td>
<td>.419**</td>
<td>.305**</td>
<td>-.007</td>
</tr>
<tr>
<td>SEV</td>
<td>.399**</td>
<td>.239**</td>
<td>.370**</td>
<td>.354**</td>
<td>.353**</td>
<td>.374**</td>
<td>.068</td>
</tr>
</tbody>
</table>

*Note. IG = Intrinsic Goal Orientation, TA = Test Anxiety, CB = Control of Beliefs, SE = Self-Efficacy, TV = Task Value, SP = Strategic Planning, LSR = Lack of Self-Regulation, CD = Classroom Discipline, SEV = Self-Evaluation, TST = Task Strategies, SC = Self-Control, RE = Reading Efficacy, RG = Reading for Grades, EN = Reading for Enjoyment, RS = Reading for Social Reasons, RC = Reading Challenge, IR = Importance of Reading, RWA = Reading Work Avoidance*
Table 6.5 Correlations among Participants’ SRL, Motivation and Achievement

<table>
<thead>
<tr>
<th>Variable</th>
<th>SRL</th>
<th>Motivation</th>
<th>Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SRL</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>2. Motivation</td>
<td>.486**</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>3. Achievement</td>
<td>.373**</td>
<td>.197*</td>
<td>--</td>
</tr>
</tbody>
</table>

6.3.2 Predictive Effects on English Reading Achievement

A simple linear regression analysis and a multiple regression analysis were conducted to further investigate the relationship between the students’ perceived SRL and their English reading achievement.

The predictor for the simple linear regression analysis was the students’ perceived SRL, and the results indicated that their perceptions of SRL explained a significant amount of variance in their English reading achievement, $F(1, 158) = 25.493, p < .001, R^2 = .139, R^2_{Adjusted} = .133$, with a medium effect size ($f^2 = .16$).

Then a multiple regression analysis was performed to explore the predictive effects of each SRL factor on the students’ English reading achievement. Eleven SRL factors were predictors. The results summarised in Table 6.6 show that only Self-Efficacy and Lack of Self-Regulation significantly predicted the learners’ English reading achievement.

In a similar way, a simple linear regression analysis and a multiple regression analysis were conducted to explore the relationship between the students’ perceived reading motivation and their English reading achievement.

The predictor for the simple linear regression analysis was the students’ perceived reading motivation, and the results indicated that their perceptions of reading motivation
explained a significant amount of variance in their English reading achievement, $F(1, 160) = 6.472, p = .012, R^2 = .039, R^2_{Adjusted} = .033$, with a small effect size ($f^2 = .04$).

Table 6.6 Predictions of SRL Factors on English Reading Achievement

<table>
<thead>
<tr>
<th></th>
<th>$B$</th>
<th>Beta</th>
<th>$p$</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LL</td>
</tr>
<tr>
<td>Intrinsic Goal</td>
<td>.549</td>
<td>.232</td>
<td>.093</td>
<td>-.093</td>
</tr>
<tr>
<td>Test Anxiety</td>
<td>.138</td>
<td>.072</td>
<td>.374</td>
<td>-.168</td>
</tr>
<tr>
<td>Control of Beliefs</td>
<td>.484</td>
<td>.191</td>
<td>.085</td>
<td>-.067</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>.561</td>
<td>.246</td>
<td><strong>.027</strong></td>
<td>.064</td>
</tr>
<tr>
<td>Task Value</td>
<td>-.296</td>
<td>-.126</td>
<td>.286</td>
<td>-.841</td>
</tr>
<tr>
<td>Strategic Planning</td>
<td>-.304</td>
<td>-.126</td>
<td>.352</td>
<td>-.945</td>
</tr>
<tr>
<td>Lack of Self-Regulation</td>
<td>-.503</td>
<td>-.183</td>
<td><strong>.028</strong></td>
<td>-.056</td>
</tr>
<tr>
<td>Classroom Discipline</td>
<td>.026</td>
<td>.010</td>
<td>.909</td>
<td>-.424</td>
</tr>
<tr>
<td>Self-Reflection</td>
<td>.069</td>
<td>.028</td>
<td>.825</td>
<td>-.547</td>
</tr>
<tr>
<td>Task Strategies</td>
<td>.052</td>
<td>.021</td>
<td>.883</td>
<td>-.639</td>
</tr>
<tr>
<td>Self-Evaluation</td>
<td>.092</td>
<td>.039</td>
<td>.749</td>
<td>-.475</td>
</tr>
</tbody>
</table>

Table 6.7 MRQ Factors on English Reading Achievement

<table>
<thead>
<tr>
<th></th>
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Then, a multiple regression analysis was performed to explore the predictive effects of each reading motivation factor on the students’ English reading achievement. Seven reading motivation factors were predictors. The results summarised in Table 6.6 show that none of the individual factors was a useful predictor for English reading achievement.

6.3.3 Self-Regulated Learning as a Mediator between Reading Motivation and English Reading Achievement

With the aim of testing the hypothesised model suggested in Section 3.4, a mediation analysis was employed to investigate whether SRL performed a mediating role in the relationship between reading motivation and English reading achievement.

Firstly, a series of regression models were conducted to examine whether the relationship between reading motivation and English reading achievement would be mediated by the learners’ SRL (Baron & Kenny, 1986; Bempechat, Li & Ronfrad, 2018).

The hypothesised mediator SRL was first regressed on the independent variable reading motivation, and the results showed that motivation significantly predicted the learners’ SRL, $p < .001, b = 1.127, R^2 = .237$. Then, the dependent variable, the learners’ English reading achievement, was regressed on the independent variable reading motivation, and the results showed that the learners with higher motivation achieved higher scores in English reading, $p < .001, \beta = .161, R^2 = .034$. Thirdly, the learners’ reading achievement was regressed on both motivation and SRL. With both independent variables in the model, motivation was no longer a significant predictor, $p = .811$, whereas the learners’ SRL was, $p < .001, b = .125$. Thus, the results showed that the learners’ SRL mediated the relationship between their reading motivation and their English reading achievement (see Figure 6.1).
6.4 Effects of Self-Regulated Learning Intervention

The previous two sections examined the participants’ perceived SRL, reading motivation and English reading achievement as well as the correlations among them before the intervention programme was implemented. This section turns its focus to the effect of the SRL intervention programme on the above-mentioned three aspects.

The investigation into the effects of the intervention included two phases. In the first phase, changes in the learners’ perceptions of SRL and reading motivation from pre- to post-intervention were examined. The data from the control and experimental groups were adopted with paired samples *t*-tests. In the second phase, differences in post-intervention perceptions between the groups were investigated. The data from the experimental group and control group were adopted with ANCOVA. Partial eta squared ($\eta^2_p$) and Cohen’s *d* were used to estimate effect sizes. Data analysed in this section helped to answer Research Question 4 do EFL learners’ perceived SRL and reading
motivation change over time because of the intervention programme, and Research Question 7 do learners’ perceptions of SRL strategies and their English reading proficiency help to improve their English reading following the intervention programme.

6.4.1 Changes in Learners’ Perceptions of Self-Regulated Learning

6.4.1.1 Changes in learners’ perceptions of self-regulated learning from pre- to post-intervention tests

6.4.1.1.1 Control group’s perceptions of self-regulated learning in pre- and post-intervention tests

A series of paired samples t-tests was employed to compare the learners’ perceptions of SRL before and after the intervention programme, and the results were summarised in Table 6.8. It can be seen that the control group did not show a significant difference in the perceived SRL between the pre-intervention test \((M = 38.01, SD = 7.12)\) and the post-intervention test \((M = 39.60, SD = 8.20)\), \(t(48) = -1.807, p = .077\).

Examination of the 11 SRL factors individually revealed a significant difference in the control group learners’ Test Anxiety between pre- and post-intervention tests, Pre-\(M_{TA}\) = 4.30, \(SD = 1.50\), Post-\(M_{TA}\) = 4.93, \(SD = 1.05\); \(t(48) = -3.156, p = .003\), with a medium effect size (Cohen’s \(d = .49\)). A significant difference was also found between their pre- and post- Task Strategies, Pre-\(M_{TS}\) = 4.18, \(SD = .99\), Post-\(M_{TS}\) = 4.64, \(SD = 1.06\); \(t(48) = -3.522, p = .001\), and Cohen’s \(d = .444\) indicated a medium effect size.

6.4.1.1.2 Experimental group’s perceptions of self-regulated learning in pre- and post-intervention tests

The findings for the experimental group indicated a significant difference in the students’ perceived SRL between pre- \((M = 39.88, SD = 8.30)\) and post-intervention
tests ($M = 40.71$, $SD = 8.26$), $t(54) = −2.361$, $p = .022$. Cohen’s $d = .101$ indicated a small effect size. Specifically, experimental group did not show any significant difference in their perceptions of SRL motivational beliefs, but did in that of SRL strategies between pre- and post-tests ($\text{Pre}-M_{\text{LSS}} = 23.08$, $SD = 5.14$, $\text{Post}-M_{\text{LSS}} = 24.18$, $SD = 5.20$; $t(54) = −3.381$, $p = .001$). The effect of gain scores was small (Cohen’s $d = .214$).

For the 11 SRL factors, a significant positive medium difference was found in the learners’ perceived Classroom Discipline between pre- and post-intervention tests ($\text{Pre}-M_{\text{CD}} = 4.96$, $SD = 1.26$, $\text{Post}-M_{\text{CD}} = 5.51$, $SD = 1.06$; $t(54) = −3.828$, $p < .001$, Cohen’s $d = .476$), and in Self-Control ($\text{Pre}-M_{\text{SC}} = 4.50$, $SD = 1.19$, $\text{Post}-M_{\text{SC}} = 4.76$, $SD = 1.23$; $t(54) = −2.123$, $p < .038$, Cohen’s $d = .214$). In contrast, a significant negative difference was found in the learners’ perceptions of Intrinsic Goal Orientation between pre- and post-intervention tests, $\text{Pre}-M_{\text{IG}} = 4.74$, $SD = 1.23$, $\text{Post}-M_{\text{IG}} = 4.46$, $SD = 1.25$; $t(54) = 2.268$, $p = .027$. Cohen’s $d = −.222$ suggested a negative, small effect size.
Table 6.8 Results of Paired Samples t-tests of the SRL Variables at the Pre- and Post-Tests in the Control and Experimental Groups

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6.4.1.2 Differences in learners’ perceived self-regulated learning after intervention between groups

The ANCOVA was employed with the control and experimental groups. The students’ perceptions of SRL after the intervention programme were compared, controlling for their perceptions before the intervention. The results indicated that there were no significant differences in the learners’ post-intervention perceived SRL, controlling for their pre-intervention perceived SRL. For the 11 individual SRL factors, the results showed that after controlling for pre-intervention perceptions, there was a significant effect of the group on the learners’ post-intervention perceived Test Anxiety ($F(1, 101) = 4.303, p = .041, \eta^2 = .041$), Control of Learning Beliefs ($F(1, 101) = 10.917, p = .001, \eta^2 = .098$), Lack of Self-Regulation ($F(1, 101) = 9.648, p = .002, \eta^2 = .087$), Classroom Discipline ($F(1, 101) = 9.068, p = .003, \eta^2 = .082$), and Task Strategies ($F(1, 101) = 3.944, p = .050, \eta^2 = .038$).

In other words, the results revealed that with the same basic level of SRL before the intervention, the experimental group outperformed the control group in their post-intervention reported Control of Learning Beliefs and Classroom Discipline with small to medium effect sizes, whereas the control group reported significantly higher scores in post-Test Anxiety and Lack of Self-Regulation than the experimental group.
6.4.2 Changes in Learners’ Perceptions of Reading Motivation

6.4.2.1 Changes in learners’ perceptions of motivation in English reading from pre- to post-tests

6.4.2.1.1 Control group’s perceptions of reading motivation in pre- and post-intervention tests

A series of paired samples t-tests was employed to examine the participants’ perceived reading motivation before and after the intervention (see Table 6.8). For the control group, no significant difference was found between their perceptions of reading motivation in the pre- ($M = 16.58, SD = 2.89$) and in the post-intervention tests ($M = 16.34, SD = 2.00$); $t(50) = .450, p = .654$.

6.4.2.1.2 Experimental group’s perceptions of reading motivation in pre- and post-intervention tests

For the experimental group, the results indicated a significant difference between the participants’ pre-perceptions ($M = 16.20, SD = 3.00$) and post-perceptions of reading motivation ($M = 16.64, SD = 2.49$); $t(54) = −2.769, p = .008$. Cohen’s $d = .159$ indicated a small effect size.

Regarding each reading motivation factor, significant differences were found between pre- and post-intervention in Reading Efficacy ($Pre-M_{RE} = 2.35, SD = 0.70$, $Post-M_{RE} = 2.56, SD = 0.63$; $t(54) = −2.467, p = .017$. Cohen’s $d = .311$), Reading for Social Reasons ($Pre-M_{RS} = 2.44, SD = .62$, $Post-M_{RS} = 2.67, SD = .63$; $t(54) = −2.801, p = .007$. Cohen’s $d = .367$), and Importance of Reading ($Pre-M_{IM} = 2.64, SD = .86$, $Post-M_{IM} = 2.87, SD = .64$; $t(54) = −2.167, p = .035$. Cohen’s $d = .296$). In contrast, a negative small significant difference was found in the learners’ reported Reading for Grades between
pre- and post-intervention, Pre-\(M_{RG} = 3.13, SD = .55\), Post-\(M_{RG} = 2.97, SD = .56\); \(t(54) = 2.125, p = .038\). Cohen’s \(d = -.287\).
Table 6.9 Results of Paired Samples *t*-tests of the Motivation Variables at the Pre- and Post-Tests in the Control and Experimental Groups

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</tr>
<tr>
<td>E</td>
<td>55</td>
<td>2.80</td>
<td>0.69</td>
<td>55</td>
<td>2.71</td>
<td>0.55</td>
<td>0.821</td>
</tr>
<tr>
<td>Importance of Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>50</td>
<td>2.86</td>
<td>0.73</td>
<td>50</td>
<td>2.71</td>
<td>0.64</td>
<td>1.045</td>
</tr>
<tr>
<td>E</td>
<td>55</td>
<td>2.64</td>
<td>0.86</td>
<td>55</td>
<td>2.87</td>
<td>0.64</td>
<td>−2.167</td>
</tr>
<tr>
<td>Reading Work Avoidance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>50</td>
<td>2.68</td>
<td>0.59</td>
<td>50</td>
<td>2.58</td>
<td>0.56</td>
<td>0.846</td>
</tr>
<tr>
<td>E</td>
<td>55</td>
<td>2.47</td>
<td>0.67</td>
<td>55</td>
<td>2.58</td>
<td>0.56</td>
<td>−0.950</td>
</tr>
<tr>
<td>MRQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>50</td>
<td>16.58</td>
<td>2.89</td>
<td>50</td>
<td>16.34</td>
<td>2.00</td>
<td>−2.769</td>
</tr>
<tr>
<td>E</td>
<td>55</td>
<td>16.20</td>
<td>3.00</td>
<td>55</td>
<td>16.64</td>
<td>2.49</td>
<td></td>
</tr>
</tbody>
</table>
6.4.2.2 Group differences in learners’ perceived reading motivation after the intervention

A series of one-way ANCOVA was employed to investigate the difference between the control and experimental groups in their post-intervention perceived reading motivation. The results showed that there was no statistically significant difference between the two groups in their post-intervention reported motivation after controlling for their pre-intervention reported motivation. Moreover, no significant differences were found between the two groups in their post-intervention perceptions on any of the individual motivation factors after controlling for their pre-intervention perceptions.

6.4.3 Changes in Learners’ English Reading Achievement

6.4.3.1 Changes in learners’ English reading scores from pre- to post-tests

A series of paired sample $t$-tests was employed to compare the participants’ English reading achievement before and after the intervention programme. The results summarised in Table 6.9 suggest that positive significant differences were found between the pre- and post-intervention English reading achievement for both groups.

Among the two groups, the experimental group implied the largest effect size (Cohen’s $d = .639$) in the changes from pre- to post-intervention English reading scores, Pre-M$\text{scores} = 9.15$, $SD = 1.94$, Post-M$\text{scores} = 10.40$, $SD = 1.99$, $t(57) = -15.923$, $p < .001$. Similarly, the control group indicated a small positive significant difference between their pre- ($M = 9.10$, $SD = 2.92$) and post-intervention English reading test ($M = 9.58$, $SD = 3.02$), $t(57) = -5.853$, $p < .001$, Cohen’s $d = .162$. 
### Table 6.10 Results of Paired Samples t-Tests of the English Reading Test at the Pre- and Post-Tests in the Control and Experimental Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre</th>
<th>Post</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>C</td>
<td>50</td>
<td>9.10</td>
<td>2.92</td>
<td>50</td>
<td>9.58</td>
</tr>
<tr>
<td>E</td>
<td>55</td>
<td>9.15</td>
<td>1.94</td>
<td>55</td>
<td>10.40</td>
</tr>
</tbody>
</table>

#### 6.4.3.2 Differences in learners’ post-intervention reading scores between groups

A one-way ANCOVA was performed to examine whether there was a significant difference between the control and experimental groups on their post-intervention English reading scores after controlling for their pre-intervention scores. The result showed that the experimental group significantly outperformed the control group in the post-English reading test controlling their pre-test scores, $F(1, 102) = 45.89, p<.001$, partial $\eta^2 = .310$.

#### 6.5 Gender Differences

In this section, gender differences in the participants’ perceived SRL, reading motivation and English reading achievement were examined and their changes through intervention were compared. Additionally, gender differences in their relationships among SRL, reading motivation and English reading achievement are examined. Results discussed in the current section help to answer Research Question 5 in what ways do male and female learners differ in their perceived SRL and motivation towards reading comprehension?
First, the results of the independent $t$-tests indicated that there were no significant differences between the male and female learners in their perceived SRL and reading motivation (see Table 6.11).

### Table 6.11 Results of independent $t$-test of males’ and females’ perceived SRL and Reading Motivation (Pre-intervention results of students from three classes)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Pre-tests</th>
<th>95% CI</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N  M  SD</td>
<td>$t$  $p$  $d$</td>
<td>$LL$  $UL$</td>
</tr>
<tr>
<td>MSLQ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>86 37.23 8.41</td>
<td>−2.303 2.666</td>
<td>0.144 0.357</td>
</tr>
<tr>
<td>Female</td>
<td>74 37.05 7.34</td>
<td>−1.600 1.01 0.053</td>
<td>0.161</td>
</tr>
<tr>
<td>MRQ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>86 14.75 3.33</td>
<td>−1.600 5.17</td>
<td>1.01 0.453</td>
</tr>
<tr>
<td>Female</td>
<td>74 15.30 3.48</td>
<td>−1.600 5.17</td>
<td>1.01 0.453</td>
</tr>
</tbody>
</table>

Then, ANCOVAs were performed and the results showed that there were no significant differences between genders in their post-intervention reported SRL ($F(1, 52) = .482, p = .491$), reading motivation ($F(1, 52) = .635, p = .429$), or English reading achievement ($F(1, 52) = .284, p = .597$) after controlling for that of their pre-intervention.

Thirdly, no significant differences were found in SRL-scores correlations or motivation-scores correlations between the male and female students, but a significant difference was found in SRL-motivation correlations between the male ($r = .617$) and female students ($r = .326$); $Z = 2.37, p = .002$ (Pallant, 2013).
6.6 Differences Between High- and Low-Achieving Learners

Differences between the high and low achievers were similarly examined. Independent samples \( t \)-tests were performed to investigate the difference between the high and low achievers in both pre- and post-intervention tests, one-way ANCOVA was performed to examine the differences in the post-test results between the two groups, and Pearson product-moment correlations were employed to examine the correlations among SRL, reading motivation and English reading achievement. Results discussed in the current section help to answer Research Question 6 in what ways do higher and lower achieving EFL learners differ in their perceived SRL and motivation towards reading comprehension.

The participants from the experiment group were assigned to high-achieving and low-achieving groups for comparisons. The top 25% students who obtained 11 scores or more (on a 15-point scales) were categorised as high-achieving learners, \( N = 13 \ (M = 11.15, SD = .38) \), and the bottom 25% who had 8 scores or less were categorised as low-achieving learners, \( N = 16 \ (M = 6.75, SD = 1.73) \).

Results of the independent samples \( t \)-test indicated that there were significant differences between the higher and lower achievers in their pre-perceived SRL (\( M_{\text{high}} = 41.72, SD = 7.62, M_{\text{low}} = 36.46, SD = 6.18; t(27) = −2.952, p = .05, \) Cohen’s \( d = 0.77 \)). No significant differences were found in the learners’ pre-perceived reading motivation between the high-achieving and low-achieving learners (see Table 6.12)
Table 6.12 Results of Independent t-test of Higher- and Lower-Achieving Learners’
Perceived SRL and Reading Motivation

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-tests</th>
<th>95% CI</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>LL</td>
</tr>
<tr>
<td>MSLQ</td>
<td>High</td>
<td>13</td>
<td>41.72</td>
<td>7.62</td>
<td>-10.506</td>
</tr>
<tr>
<td>Low</td>
<td>16</td>
<td>36.46</td>
<td>6.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MRQ</td>
<td>High</td>
<td>13</td>
<td>15.83</td>
<td>3.33</td>
<td>-2.293</td>
</tr>
<tr>
<td>Low</td>
<td>16</td>
<td>15.82</td>
<td>2.67</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Then, a series of ANCOVAs was performed. For the learners’ perceived SRL, the results revealed that there was no significant effect of group on the learners’ post-perceived SRL after controlling for their pre-perceptions of SRL, $F(1, 26) = 0.216, p = .646$. Similarly, no significant difference was found between the high-achieving and low-achieving students on their post-intervention reported reading motivation when controlling for their pre-perceived reading motivation, $F(1, 26) = 0.003, p = .958$. However, a statistical significant difference was found between two groups of achievers in their post-test scores, $F(1, 26) = 4.359, p = .047$ after controlling for the learners’ pre-test English scores, Partial $\eta^2 = .144$ indicated a medium effect size.

It can be seen that for the participants from both high- and low-achieving groups in pre- and post-intervention tests, neither their perceived SRL nor their motivation was significantly related to their reading scores. Significant correlations were found between the learners’ SRL and motivation for both the high ($r = .788$) and low achievers ($r = .541$). $Z$ value implied that there was no significant difference in the motivation-scores correlation between the high and low achievers ($Z = 1.38, p = .168$).
Table 6.13 Results of ANCOVA for SRL, Reading Motivation, and English Reading Achievement

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>$F(1,26)$</th>
<th>$p$</th>
<th>Partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post- MSLQ</td>
<td>0.216</td>
<td>0.646</td>
<td>0.008</td>
</tr>
<tr>
<td>Post- MRQ</td>
<td>0.003</td>
<td>0.958</td>
<td>0.001</td>
</tr>
<tr>
<td>Post- Score</td>
<td>4.359</td>
<td><strong>0.047</strong></td>
<td><strong>0.144</strong></td>
</tr>
</tbody>
</table>

6.7 Summary

This chapter has reported the quantitative findings from the two questionnaires about the learners’ perceived SRL, motivation and reading scores. The results showed that the Chinese EFL learners were low- to medium-level SRL learners who emphasised the role of effort making and learning for following classroom discipline. The Chinese EFL learners’ reading motivation was at the medium level and they were more likely to be motivated by achieving higher grades. Significant correlations were found between the learners’ perceived SRL and their academic achievement, as well as between their reading motivation and achievement. Intrinsic Goal Orientation and Lack of Self-Regulation were two factors that best predicted the learners’ reading achievement.

The results of the effect of the intervention indicated that the experimental group showed a large increase in their English reading achievement from pre- to post-tests. The male and female students did not show significant differences in either the pre- or post-tests, Differences between the high and low achievers were found in their perceptions of SRL before the intervention.
To summarise, this chapter has provided quantitative analyses on the changes of the Chinese junior secondary school EFL learners’ SRL, reading motivation and English reading achievement. In the next chapter, case study data are analysed to provide further information about the students’ changes in SRL, reading motivation and English reading achievement throughout the intervention.
7 CASE STUDY FINDINGS

7.1 INTRODUCTION

A case study was employed with eight selected participants. Their performances were traced to explore changes in their perceived SRL as well as to examine in depth the effects of the intervention. Data for the case studies were derived from the participants’ semi-structured weekly diaries, including both texts and quotes from open-ended questions, and frequencies and numbers from semi-open questions. A thematic analysis method was employed for analysing the text data in a deductive way, and a content analysis method was conducted for analysing numbers. In this chapter, the learners’ perceptions of key SRL factors are examined, including their general understanding as well as identified changes in each SRL factor during the intervention. Data used for analyses in this section were derived from the learners’ answers to the open-ended questions in the diaries. Then, differences between genders and between the high- and low-achieving learners are investigated.

Before the case study data analysis is presented, the eight students that were selected for the case study are briefly introduced. Eight participants from the experimental group were selected for the case study on the basis of their English pre-test scores, their general academic performance, teachers’ suggestions and their own willingness (see Chapter 4.5.2). Demographic information about the eight cases is presented in Table 7.1. All cases were reported by assigning a pseudonym to each participant out of ethical considerations.
### Table 7.1 Learners’ Demographic Information for Case Study

<table>
<thead>
<tr>
<th>Group</th>
<th>Case</th>
<th>Gender</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-achieving</td>
<td>Ding</td>
<td>Female</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Zhang</td>
<td>Male</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Miao</td>
<td>Female</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Qiu</td>
<td>Male</td>
<td>14</td>
</tr>
<tr>
<td>Low-achieving</td>
<td>Zhou</td>
<td>Female</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Zhu</td>
<td>Male</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Jia</td>
<td>Female</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Li</td>
<td>Male</td>
<td>13</td>
</tr>
</tbody>
</table>

7.2 **PARTICIPANTS’ PERCEPTIONS OF SELF-REGULATED LEARNING IN THE CASE STUDY**

In this section, the learners’ perceptions of each SRL factor are examined individually, and the changes in their perceptions throughout the treatment are explored. The section starts with an examination of factors in the SRL forethought phase, and then those in the performance and self-reflection phases are examined in sequence. In addition, other SRL factors that have an influence on SRL are investigated at the end of this section. Specifically, learners’ Goal-Setting, Strategic Planning, and their Self-Efficacy, Intrinsic Goal Orientation are key components of the SRL forethought phase. Their perceptions of Self-Instruction and Task Strategies are components of the SRL performance phase. The self-reflection phase mainly includes Self-Evaluation and Adaptive Inferences. Other factors include Task Value, Classroom Discipline, Control of Learning Beliefs, Lack of Self-Regulation and Test Anxiety.
7.2.1 Learners’ Perceptions of Self-Regulated Learning in the Forethought Phase

7.2.1.1 Goal setting

Goal setting is a key component of the forethought learning phase, and it also plays an important role on the performance phase and self-reflection phase as learners’ goal setting instructs their following learning processes (Zimmerman, 1989).

By examining the learners’ diaries, it could be seen that their goal setting could be classified into three types. The first type was relevant to homework and school activities, including to finish homework effectively, to preview the teaching materials for the next day and to review materials taught before. This was the most often mentioned goal setting type, identified in more than two-thirds of the diaries. A typical example of this was Miao, who frequently set this type of goal to review key learning materials, and to thoroughly understand teaching materials. This type of goal could also be found in Qiu’s diaries. He mentioned that his goals were to review his notes and records, to figure out problems raised recently, to strengthen weaknesses in his learning, and to revise prior incorrect questions.

The second type of goal setting related to school achievement, such as to obtain higher scores in the coming examinations, to answer all quiz questions correctly and to have better academic achievement. This type of goal setting was also frequently reported by the learners, especially in the weeks leading up to examinations. For instance, in Jia’s diaries, her learning goals included gaining higher scores, and entering a good senior secondary school.
Figure 7.1 Participants’ Goal-Setting – Homework or School Activities

2. Formulate your individual learning goal for today. Please be as specific as you can.
“I will finish the homework assigned by teachers first, then review courses. Finally, I will read/learn some extracurricular knowledge.”
“Finish the tasks assigned by teachers. Assigned some extra learning tasks by myself, and would like to finish carefully.”
“Finish all tasks assigned by teachers today.”
“Finish the required homework first. Review today’s course materials, and preview tomorrow’s courses.”

Figure 7.2 Participants’ Goal-Setting – School Achievement

2. Formulate your individual learning goal for today. Please be as specific as you can.
“Finish my work effectively and start to prepare mid-term examinations.”
“Review, prepare final examines.”
“Be able to enter good middle-school.”
The third category of goal setting specifically related to the learners’ English reading learning, such as enhancing reading speed and finishing reading tasks more effectively. As illustrated in Zhang’s diary, to understand certain English grammar structures, and to memorise English vocabulary and short passages were his goals specific to English reading. Similar goal settings were found in Jia’s diaries, in which she specified that she worked hard to memorise more English vocabulary.

**Figure 7.3 Participants’ Goal-Setting – English reading specific**

2. Formulate your individual learning goal for today. Please be as specific as you can.

“Finish homework, memorize English vocabularies and grammar, and practice Chinese extracurricular reading.”

“Enhance my reading speed, and improve my ability in doing cloze quizzes.”

“Enhance my reading speed and accuracy.”

“Accuracy rate 85%.”

The learners’ goal setting showed a significant change from non-specific to specific and from distal to hierarchical as the intervention went on. An example of this is Ding’s goal setting. In Ding’s first diary, she briefly wrote that her learning goal was “review (English) and read books”. Then her goal settings showed a tendency to become concrete. In her fifth
diary, she wrote, “today’s learning goals are finish homework, and strengthen my weak points in (English) prepositions”. In her seventh diary, she wrote that she would review previous English examination papers to prepare for the coming mid-term examination”. When it came to the latter half of the intervention programme, Ding’s goal settings became more task specific with plenty of detailed information. Additionally, her learning goals were more hierarchically organised. For instance, in her 12th diary, she wrote, “I make a plan for my study today. I will list the key content that I would like to review first, and then review them according to my notes.”

**Figure 7.4 Participants’ Goal-Setting – Non-specific to Specific**

2. Formulate your individual learning goal for today. Please be as specific as you can.
   “Review and read books.” (Ding, 1st diary)
   “Today’s target is to do homework, and then strengthen (English) prepositions.” (Ding, 5th diary)
   “Review previous examine papers, and prepare for mid-examines.” (Ding, 7th diary)
   “Set targets for today, list the content that I would like to review, and review them according to my notes.” (Ding, 12th diary)
Miao and Qiu’s goal setting indicated similar changes to Ding’s from unspecific to specific, and from distal to hierarchical. In Miao’s first diary, she reported her learning goal as “trying to be perfect in all my studies”, and in her 15th diary, she reported her learning goals as “First, I will finish my homework, and then I will focus on learning new English vocabulary and grammar. After that I will do some extracurricular exercises. I think by doing these I could improve my English reading speed, improve my English achievement and ability”.

Similarly, in Qiu’s first diary, he reported that his learning goals were “review course materials, review teachers’ instructions and try to remember and understand all knowledge taught this week”. In his sixth diary, more detailed descriptions were provided on learning goals:

Figure 7.5 Participants’ Goal-Setting – Qiu’s sixth diary

2. Formulate your individual learning goal for today. Please be as specific as you can.
   “1. Finish all my homework (about 2.5 hours); 2. Memories English vocabularies and phrases (half an hour); 3. Revise incorrect questions in English, Physical, Math (half an hour); 4. Do math exercises (40 minutes); 5. Do English reading exercise (20 minutes); 5. Summarize course notes (more than half an hour).”

In brief, the students’ goal setting mainly related to homework and school activities, and academic achievement, and some were specific to English reading. A trend towards specific and hierarchical was found in the students’ goal settings as the intervention went on.
7.2.1.2 Strategic planning

Another important component in the SRL forethought phase was strategic planning, which refers to purposively selecting a strategy to maximise learners’ learning or performance (Zimmerman, 2008). As shown in the learners’ diaries, the most common strategies for their strategic planning were seeking information, and goal setting and planning. Other strategies, such as seeking peers’ help, reviewing examination exercises, rehearsal and memorising and self-evaluation also ranked high on the learners’ strategic planning lists. For instance, Miao reported that she would like to employ a review examination exercises strategy for her study, Zhang and Li intended to use a self-evaluation strategy for their study, and Zhu planned to employ a rehearsal and memorising strategy.

The first apparent change in the learners’ strategic planning was that the students gradually became familiar with strategies. This was exemplified in Jia’s diaries. Jia’s first few diaries showed that she did not have a clear understanding of strategic planning and she reported “reading books” as a learning strategy. From Week 4, she seemed to gain some ideas about seeking help and started to employ strategies taught in the intervention programme, such as seeking information, self-evaluation, environmental structuring.

The second change in their strategic planning was similar to that of goal setting, from unspecific to specific, and from unfocused to focused. This was also exemplified in Jia’s diaries. After gaining more understanding about SRL learning strategies, Jia’s strategic planning became more specific with more details. For instance, in her 14th diary, her strategic planning was “use strategy goal-setting and planning, spend one hour on my homework, one hour for school material reviewing, and another half hour for previewing”.

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5. List the strategies you would like to adopt in today’s study. Please be as specific as you can.

“Read books” (Jia, 1st Diary)
“Memorize notes, listen to classes carefully” (Jia, 2nd Diary)
“Seeking help” (Jia, 4th Diary)
“(Strategy)1. Self-evaluation, (Strategy)4. Seeking information, (Strategy)6. Environmental structuring” (Jia, 10th Diary)
“(Strategy)3. Setting goals and planning, (Strategy)9. Seeking peer help. Half hours for previewing, an hour for doing homework, and an hour for previewing.” (Jia, 14th Diary)

Another example of this change was Qiu. Qiu employed various strategies in the first half of the intervention but his strategic planning was very general and not specific to learning tasks. However, from Week 9, Qiu started to select learning strategies according to the specific tasks he had to do. For instance, for doing English exercises, Qiu intended to apply a keeping records and monitoring strategy, and for dealing with difficult questions, he planned to apply a seeking peers’ help strategy. Similar changes were found in Miao’s
diaries. Miao reported in the later weeks of the intervention that she selected strategies according to tasks, her previous set goals and the specific context she was in.

Therefore, regarding the students’ strategic planning, it was shown that they wanted to employ seeking information, and goal setting and planning. Their planning indicated a change from being unfamiliar to being familiar with the SRL strategies and from unspecific to specific use of them.

7.2.1.3 Self-efficacy and intrinsic goal orientation

Self-efficacy and intrinsic goal orientation are examined together in this section because the learners’ perceptions of these two SRL motivational beliefs were at similar levels and changed in a similar way throughout the intervention.

During the intervention, neither self-efficacy nor intrinsic goal orientation were frequently reported by the learners. Regarding self-efficacy, Miao wrote once that she thought she was able to master all class materials and was confident in achieving good scores in the coming examinations. Regarding intrinsic goal orientation, it seemed that among all eight participants in the case study, Qiu was the only one who was more intrinsically goal oriented. In his Week 7 and Week 13, he reported that he was motivated to learn to master knowledge. Other participants were more likely to be motivated by extrinsic goals such as grades, competitions and examinations rather than intrinsic goals. No significant changes in these two factors during the intervention could be traced because the participants provided a limited number of reports on self-efficacy and intrinsic goal orientation.
“Learn more knowledge” (Qiu, 8th Diary)
“Devote effort to improve achievement” (Zhou, 5th Diary)
“I want to rank top 300 among all learners in Year 8, and enter a good university (in the future)” (Li, 9th Diary)

7.2.2 Learners’ Perceptions of of Self-Regulated Learning in the Performance Phase

7.2.2.1 Self-control

A major component of the performance phase, self-control includes self-instruction, attention focusing and task strategies (Cleary & Zimmerman, 2012). This section examines the learners’ self-instruction and attention focusing. Task strategies are examined in the next section separately because they play a key role in learning processes and change in strategy employment is one of the main focuses of the current study. Self-instruction refers to overt or subvocal verbalisation to guide performance, and attention focusing refers to learners’ control of their attention (Zimmerman, 2011).

In terms of self-instruction and attention focusing, neither of these two factors was frequently mentioned by the learners. A few of the diaries included content related to self-instruction. Li wrote in his Week 2 diary, “I told myself to be more carefully when doing
exercises”, and Zhang mentioned that he told himself to be more focused when he could not concentrate on learning (Week 7).

Figure 7.8 Participants’ Self-Control

“Memorize English vocabularies. Be more focus when studying, and not distracted (by other things).” (Zhang, 7th Diary)

Although the learners did not talk about attention focusing very often, seven out of eight participants mentioned in their diaries that they took measures to create a productive study environment that would help to sustain their attention better. For instance, Zhang reported that he tried to finish as much of his homework at school as he could because he could be more attentive in the classroom than at home (Week 2). Qiu wrote that he wanted to study in a quiet place with fewer distractions (Week 5), and Li said that he sought the opportunities to study alone without distractions (Week 5). Li also mentioned in his diaries that he did not do well in attention focusing. In his Weeks 7, 8 and 12 diaries, he mentioned that he could not focus on study and was easily distracted by other things when doing exercises.

Although no significant changes were found in the learners’ perceptions on self-instruction and attention focusing since limited diaries were provided, it can be seen that the learners placed more emphasis on these two factors in the introductory and learning weeks than in the practising weeks. This was especially true for the weeks after Week 12, when none of these students mentioned these two factors.
Figure 7.9 Participants’ Environmental Structuring

“Concentrate on study, do not be distracted by surroundings (television, snacks)” (Li, 5th Diary)
“Environmental structuring. Find somewhere quite and suitable for studying. (I am) easily to be distracted.” (Li, 8th Diary)
“Find a more suitable please to read.” (Li, 7th Diary)
“Environmental structuring, try to finish my homework at school, and don’t take a lot of them home.” (Zhang, 2nd Diary)

7.2.2.2 Task Strategies

7.2.2.2.1 Most used strategies

Task strategies refers to learners’ strategy employment in their performance phase. This section first focuses on the most and least used strategies reported by the participants. Then, general patterns of changes in the learners’ strategy employment are examined. The most and least used strategies were identified by counting and comparing the total number of each strategy reported by the students.

According to the students’ diaries, the most used strategies were Seeking Information and Reviewing Examination Exercises. For half of the intervention, Seeking Information ranked the highest among all strategies as the most used strategy. These weeks were mainly
distributed across the introductory and learning weeks of the intervention. *Reviewing Examination Exercises* was reported as the most used strategy for about six weeks, and these weeks were mainly distributed across the practice weeks of the intervention.

Ding, Miao and Zhu were typical participants who indicated a preference for using a *Seeking Information* strategy. They reported employment of this strategy in more than half of their diaries. An example of an employing *Seeking Information* strategy was found in Ding’s diary. She referred to extracurricular materials for enhancing her studies in her ninth diary, and to searching online resources for information in her 14th diary. Similar examples were found in Miao’s diaries, where she reported that she referred to books other than textbooks for further information.

**Table 7.2 Participants’ Uses of Strategies During the Intervention**

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeking information</td>
<td>46</td>
</tr>
<tr>
<td>Reviewing examination records</td>
<td>46</td>
</tr>
<tr>
<td>Goal-setting and planning</td>
<td>37</td>
</tr>
<tr>
<td>Seeking peer’s help</td>
<td>37</td>
</tr>
<tr>
<td>Self-evaluation</td>
<td>33</td>
</tr>
<tr>
<td>Rehearsing and memorizing</td>
<td>29</td>
</tr>
<tr>
<td>Environmental structuring</td>
<td>21</td>
</tr>
<tr>
<td>Keeping records and monitoring</td>
<td>14</td>
</tr>
<tr>
<td>Self-consequences</td>
<td>11</td>
</tr>
<tr>
<td>Organizing and transforming</td>
<td>2</td>
</tr>
</tbody>
</table>
Another commonly used strategy was *Reviewing Examination Exercises*. Both Miao and Jia showed their preferences for using this strategy. For example, Miao reported that she reviewed examination exercises very often because she considered it an effective way to prepare for coming examinations, which she always aimed at achieving good scores. Miao clearly described in her sixth diary the relationship between using this strategy and academic achievement: “I review previous examination exercises so I can possibly obtain a good score”. Jia had similar thoughts on the reviewing examination exercises strategy that reviewing previous exam papers could help to prepare for the coming final examinations (Jia’s Weeks 13 to 15 diaries).

In addition to *Seeking Information* and *Reviewing Examination Exercises*, *Seeking Peer’s Help* was another commonly used strategy reported by the participants. This strategy was
more likely to be used in the early- to mid-intervention stage. Miao was a typical example who employed this strategy often. She frequently asked and discussed questions with classmates to solve problems or gain a better understanding. Another typical example was Li. However, in contrast to Miao, Li employed this strategy in a negative way as he sought peers’ help by copying their work.

**Figure 7.11 Participants’ Use of Review Examination Exercises Strategy**

“Review examination exercises. Review books.”

Another commonly used strategy was *Goal-setting and Planning*, which was frequently mentioned by students throughout the intervention programme. Employment of this strategy is exemplified in Qiu’s diaries. In most of his diaries, he listed his goals, his planned activities towards the goals, and corresponding strategies to achieve the goals. Specifically, in his fourth diary he clearly demonstrated his learning plans with goals (to figure out the problems that he did not understand well), his corresponding study activities (to review notes from teachers and classes, to revise those exercises in which he did not give the right answers before, to make a collection of these exercises and re-study them to understand the problem), and his planned strategy employments (environmental structuring, seeking information and seeking peers’ help).
10. List strategies you used today

“Setting learning goals, review and organize learned knowledge”.
“Answer: preview before courses, listen to classes carefully, take notes, review after courses, set everyday goals, will not give-up until reach the goals, communicate with classmates.”

7.2.2.2 Least used strategies

In contrast to the commonly used strategies, there were strategies less used by the learners. Among all given SRL strategies, the least used strategy was *Organising and Transforming*. It was employed twice in total during the intervention. Only Jia reported it in her Weeks 1 and 2 diaries, and she did not provide detail on how she would like to use it in her studies.

*Self-consequences* was another less used strategy. Although some participants used it in their learning, the total frequencies remained at a low level compared with other strategies. Regarding his employment of self-consequences, Zhang reported that he would reward himself with movies and food if he could complete all his study plans (Weeks 1 and 4). Ding also mentioned that she would reward herself with snacks if she was satisfied with her work (Week 10).
Figure 7.13 Participants’ Use of Self-Consequence Strategy

“Self-consequences: reward and punishment.”
“Reward myself with a lot of tasty food. Seeking “Soutijun”’s help, ask teachers, (reward) myself with movies “Zhuoyaoji”.”
“Setting goals and plans, self-consequence, rewards and punishments.”

7.2.2.2.3 Changing patterns

Regarding the students’ employment of SRL strategies, three main changing patterns were identified: (1) from using simple and superficial strategies to using more complex and comprehensive strategies, (2) from irregular strategy employment to regular strategy employment with fixed patterns and (3) establishing their own ways of using strategies according to different contexts.

From simple to complex

The first pattern was a change from using simple and superficial strategies to using complex and comprehensive strategies. For instance, Zhu’s reported strategy employment showed a change from using his believed “strategies” to using SRL strategies taught by teachers during the intervention. In Zhu’s first several diaries, he reported “reading books” as an SRL strategy. He also tried to use strategies such as luck or specific tricks to select correct answers according to popular Chinese folk sayings. A typical example of this was in Zhu’s
third diary, in which he mentioned that he employed “guessing by intuition” as a strategy. Another example was in Zhu’s fourth diary, that he used a strategy similar to “flipping a coin”. However, Zhu’s strategy employment showed an apparent change from the mid-intervention point. He realised that it was not possible to achieve well by playing tricks or relying on luck, and started to use SRL strategies such as Seeking Information, Goal setting and Planning, and Seeking Peers’ Help. His diaries revealed a steady increase in the number of SRL strategy employments from Week 6 on.

Figure 7.14 Changes in Participants’ Strategy Use

12. List all the ineffective strategies you have adopted in today’s study. Please be as specific as you can.

“By observing the sky. (similar to flip a coin)” (Zhu, 4th Diary)

13. How you would like to adjust your strategies for the study next time. Please be as specific as you can.

“I will set up goals and plans, and follow it (the plans) strictly.” (Zhu, 6th Diary)

Jia’s diaries revealed a similar changing pattern. At the beginning of the intervention programme, Jia attempted to use SRL strategies for her studies. However, because she did not have a thorough or clear understanding of those strategies, she did not know how to apply them correctly to her studies. Thus, in the first several weeks, she reported her strategy use based upon her own understanding. This can be seen in her first several diaries, where she described the strategies as “I went to my classmates” (seeking peers’ help) and “I read
books and tried to remember the content…I talked to my classmates and glanced at the textbooks” (rehearsal and memorising, seeking peers’ help and reviewing textbooks). Although this situation did not change significantly as the intervention went on, she used more formal expressions when describing SRL strategies in her diaries of later weeks (Weeks 12 to 14).

**From irregular to regular**

The second change identified in the students’ strategy employment was from irregular use to regular use of SRL strategies. Some participants even developed their own strategy use system. A typical example was found in Ding’s diaries. In Ding’s first three diaries, she employed nine different strategies in each. However, in her diaries for later weeks, especially after Week 8, she usually employed three to four strategies each time, combining one or two of her commonly used strategies, such as *Reviewing Notes* and *Rehearsal and Memorising*, with her less or rarely employed strategies, such as *Self-evaluation*, *Environmental Structuring*, and *Keeping a record and Monitoring*. In other words, Ding developed a strategy employment routine for her study. She attempted different combinations of strategies in her studies, such as combining her commonly used strategies, which she knew well, with less used strategies that were new to her. Ding employed these different strategy combinations with different learning tasks.

A change from irregular to regular strategy employment in individuals’ strategy arrangements was also found in Zhu’s diaries, especially in the later eight weeks. Specifically, Zhu’s commonly used strategies were *Rehearsal and Memorising* and *Self-evaluation*. In the second half of the intervention, her strategy employment usually included
one or both of these two strategies along with some other strategies, such as *Seeking Peers’ Help, Seeking Information*, and *Goal Setting and Planning*.

**From unspecific to specific**

The third pattern found in the learners’ diaries was a change from applying strategies widely in all situations to selecting strategies based on the specific context or task.

Firstly, the students’ strategy employment was adjusted according to the specific context or condition. An example of this was Zhang’s strategy use. Zhang’s strategy use remained regular and stable throughout the intervention. He usually selected two or three strategies from his commonly used ones, including Rehearsal and Memorising, *Seeking Information, Keeping Records and Monitoring*, and *Self-consequences*. However, in special contexts, such as in the weeks leading up to examinations, he changed his strategy use. In those examination weeks, Zhang employed more examination-related strategies such as *Reviewing Examination Exercises* and *Seeking Teachers’ Help*.

Secondly, the participants’ strategy use was adjusted according to specific tasks. The students gradually learned to employ strategies according to particular tasks. A typical example of this was Qiu’s strategy employment. In Qiu’s third diary, he mentioned that he kept practising different strategies to determine the most effective one for his studies. In his eighth diary, he wrote, “I select appropriate strategies according to the tasks”. Ding also stated that she kept revising her strategy employment according to her learning experience, and mentioned that she would like to revise her strategy employment according to her own analysis of her test results.
7.2.3 Learners’ Perceptions of Self-Regulated Learning in the Self-Reflection Phase

7.2.3.1 Self-Evaluation

Self-evaluation is an important component in the SRL self-reflection phase. According to the learners’ diaries, the students evaluated themselves according to different criteria. In some circumstances, the students evaluated their academic performance by comparing it with their earlier performance. For instance, in Miao’s Week 6 diary, she wrote, “I am quite positive about my study (because) I think my English has improved”. In Zhou’s Week 7 diary, she mentioned that she was happy about her English reading practice tests as she had more correct answers this time (than last time).

Miao’s evaluation of her perceptions of strategies: “I think I did well (because) I gradually found out which strategies work more effectively for me, (and) I could keep on using them.” Another example can be found in Qiu’s diary: “I am feeling good. I have more ideas about employing strategies on studies and I practise…”

Moreover, the participants reported that they evaluated themselves by comparing with their personal goals, such as Zhou, “I didn’t achieve my goal that I set previously, I did not finish doing extracurricular reading exercises”.

7.2.3.2 Adaptive inferences

Adaptive inferences is another component in the SRL self-reflection phase, which directs students to alter their self-regulatory approach to new and potentially better forms of SRL processes. Thus, this section examines the learners’ considerations about choosing more effective strategies, removing less effective strategies and adjusting their strategy
employment to achieve better results. Three pairs of comparisons were made between the learners’ actual used, effective, ineffective and adjusted strategies respectively as they might provide a whole picture of learners using the learning loop for their studies.

The first pair of comparisons was made between the learners’ adjusted strategies and their actual used strategies. This comparison was made to examine whether the learners would employ the strategies that they reported as an adjusted strategy in their previous diary. The results indicated that, in general, around 30% of the strategies mentioned in the learners’ previous diaries were actually used in their next learning practice sessions. The conversion rate of adjusted strategies to actual used strategies remained stable in the introduction and the beginning of the learning weeks, followed by a sharp increase at the end of the learning weeks. Then the rate fluctuated in the practising weeks, and remained low in the last three intervention weeks. Additionally, among all strategies, reviewing examination exercises was the one with the highest conversion rate. Other strategies, such as goal-setting and planning, seeking peers’ assistance, and rehearsing and memorising also obtained a high conversion rate. In contrast, strategies such as organising and transforming, and parents or teachers initiated learning were not actually employed.

The second comparison was made between ineffective strategies and actual strategies used. This comparison was made to examine whether the learners dropped strategies they considered ineffective in their previous learning practice. In the whole intervention programme, only seven ineffective strategies were abandoned by the learners in their next learning practices, and the rest (36) continued to be used by them. These seven strategies were environmental structuring (once), keeping records and monitoring (twice), parents or teachers initiated learning (twice), and self-consequences (twice). Five of these were
distributed across the introductory and learning weeks, and the other two were in the practising weeks. For strategies such as reviewing examination exercises, seeking information and seeking peers’ assistance, although the learners reported them as ineffective strategies several times, they continued using them, and sometimes with higher frequencies.

The third comparison pair was the learners’ actual strategy use and the effective strategies they reported. This comparison was made to examine how the learners dealt with the strategies they considered effective. In other words, whether they would continue using these strategies and how they would possibly increase the frequency of using them were investigated. The results revealed that in 64 cases (40%) learners increased their use of their reported effective strategies, in 133 cases (81%) learners sustained their use of these effective strategies, and in 19% of the total cases, learners decreased their use of previously reported effective strategies.

7.2.4 Other Important Self-Regulated Learning Factors

7.2.4.1 Task value

Task value was an SRL factor commonly mentioned by the students during the intervention. It was likely that the students were motivated by the importance and usefulness of specific learning tasks or work.

The task that gained the highest values from the learners was doing exercises. Zhang’s diary was a good illustration of placing high value on exercises.

I will first review the exercises I did before in Dianzhongdian (an exercise book) and then I will review another exercise book (called) 5-Year-Examination 3-Year-
Mocks, and after that, I will focus on the questions that I don't understand and pay more attention to strengthen my weakness, such as my understanding towards some English vocabulary and sentence structures. (Week 9)

The two exercise books mentioned in Zhang’s diary were popular among Chinese junior secondary school students, and focused on helping students prepare for their senior secondary school entrance examination.

Another learner, Zhu, also talked about the value of doing exercises in his 14th diary: “I will attempt to finish three sets of exercises from Dianzhongdian today, (which I think is) important for (me to get good scores) in my examination”.

In addition to doing exercises, another task that was emphasised by the learners was memorising English vocabulary and grammar. As illustrated in Ding’s Week 1 diary, memorising English vocabulary was one of the most important parts of her English studies. Another example of the learners’ emphasis on vocabulary memorising was found in Jia’s Week 3 diary: “I want to memorise as much English vocabulary as possible, it is quite important for me”. Similar expressions could be found in other learners’ diaries, such as those of Zhang and Zhou, which revealed that memorising English vocabulary and grammar was a highly valued task for English reading studies. The learners’ diaries suggested that their beliefs in task value did not change greatly throughout the intervention but remained stable.
7.2.4.2 Classroom disciplines

Classroom discipline was one of the most commonly mentioned SRL factors by the participants during the intervention. In other words, following classroom discipline and obeying school regulations were important strategies for the students’ SRL.

Finishing homework was the most commonly mentioned as well as the top priority among various school regulations. An example of this was in Ding’s Week 8 diary. Ding wrote in the diary that “today’s arrangement is to finish assigned homework carefully first, and then I will do some preview for courses tomorrow”. Zhang had similar comments in his Week 10 diary: “finishing home work is important, and after that I will review the classroom material teachers taught today”. Zhu wrote in his Week 2 diary that “I will work hard and make an effort to complete my homework”. Qiu consecutively mentioned effectively and carefully finishing homework from Weeks 2 to 6.

The second most commonly mentioned classroom discipline was listening to teachers carefully during classes. An example of this was found in Zhu’s fourth and fifth diary entries, where he emphasised the importance of listening to teachers and considered it an important learning strategy. In a similar case, Miao regarded listening to teachers as an important SRL factor as she reported it in more than half of her diaries.

This factor was reported and emphasised by the students in most of their diaries, so it did not show any apparent change over the intervention. One subtle change identified in their beliefs about classroom discipline was that the students were more likely to report it at the beginning and end of the intervention than at the mid-stage.
7.2.4.3 Control of learning beliefs

Control of learning beliefs was an important motivational belief for the learners in their studies. The students believed that their efforts in learning would lead to positive results. Zhou’s diary was a good illustration of this belief:

Study, study, study, study, study, I am a student who loves study. I study hard. I can get better academic achievement. Yes, (keep on) studying. (Zhou, Week9)

In Jia’s diaries, she wrote:

I need to work hard to get good marks… (Week 3). I spend more time on study to improve my scores…(Week 6). Work hard (so I could get better achievement, then) to go to a good senior junior secondary school… (Weeks 8 & 9).

It was common in the participants’ diaries to see comments such as “work hard/hard working”, “make efforts” or “try my best” when describing their learning activities. For example, in Miao’s diary, she mentioned, “I will try my best to do well” (Week 2). In Qiu’s seventh week diary entry, he wrote “(I will) work hard to solve the problems that I do not understand, and to understand what teachers taught thoroughly”. Li also mentioned trying his best to understand teaching materials (Week 14).

Similarly to their understanding about classroom discipline, the students’ reported control of learning beliefs did not show any significant change after the intervention. However, the students’ control of learning beliefs showed a slight increase in the practising weeks in comparison with the introductory and the learning weeks.
7.2.4.4 Lack of self-regulation

Although the learners showed low to medium levels of self-regulation and they performed well in the above-mentioned SRL factors, their diaries indicated their passive SRL behaviours.

Ding wrote in her 10th week diary entry that she was very tired and lazy so she did not want to do any studying. Li reported in his Week 7 and 11 diaries that he would not study because he did not want to. Li also reported passive SRL behaviours:

I find it is not possible to finish my work independently. Some learning tasks are just too hard for me, I cannot stop myself from copying someone else’s work… (Week 4).

I want to finish my homework independently, but I cannot. How can it be possible not to copy from other students? (I think) everyone copies from others… I could probably stop copying if I were a good student. (Week 13).

In total, a small number of lack of self-regulation behaviours were found in learners’ diaries, and the number remained at a low level throughout the intervention. No apparent changing patterns were found. One difference was that the reported passive self-regulation behaviours were more likely to be found in the mid- to end of the intervention programme.

7.2.4.5 Test anxiety

The students were sensitive to tests and examinations, as demonstrated by their reported worries, and negative or positive thoughts about their coming examinations or important
examinations in the future (e.g., senior secondary school or national college entrance examinations).

An examination of the learners’ diaries showed that the students could be classified into three types in relation to their test anxiety. The first type referred to learners who showed their anxiety around tests or examinations. Those students’ learning performance and motivational beliefs were closely related to the examinations. For example, Ding reported a week before mid-term examinations, “I have to review previous English examination papers today to prepare for the coming mid-term exams… I could probably obtain higher scores”. Zhao was another participant whose motivation and affection were influenced by examinations. Lead up to examination weeks, Zhao wrote that she did exercises to achieve better scores and she expressed her willingness to obtain more than 95 points (out of 100 points in total) in her next examination. This type of participant was likely to learn for ability improvement in daily studies, but for score enhancement leading up to examination weeks.

The second type of student included those who were influenced by tests at all times during their studies. They studied to achieve better scores in tests and their learning performances were always influenced by scales and tests. Zhang was a typical examination-oriented learner since he placed emphasis on senior secondary school entrance examinations throughout the intervention and he frequently reported about his preparations for the entrance examinations. He made different learning plans for achieving higher scores in the examinations, and expressed his focus on improving his learning scores. Miao was also an examination-oriented learner. In more than half of her diary entries, she mentioned enhancing test scores or aiming at obtaining better scores. For instance, in Miao’s 10th week
diary entry, she wrote, “I would like to improve my English achievement so I can (enhance the possibility to) go to a good university in the future”.

The third type of learner included those who were not largely influenced by tests but showed stronger motivation to enhance their learning ability and knowledge. A typical example was Qiu, who frequently mentioned understanding knowledge, solving problems and strengthening abilities, while seldom discussing learning for higher scores.

7.3 DIFFERENCES AMONG CASES

So far, this chapter has focused on tracing changes in the participants’ perceived SRL by examining key SRL factors and learning strategies. The current section investigates the differences between the male and female students, and between the higher and lower achievers. The differences were examined through case study data.

7.3.1 Gender Differences in the Case Study

Differences between the female and male students are examined first. The diaries’ data revealed that the female learners spent more time on their studies ($M = 9.76, SD = 1.43$) than their male counterparts ($M = 6.05, SD = 4.42$), although the difference was not significant. The female learners also set more learning goals ($M = 26.25, SD = 4.99$) and employed more strategies ($M = 42.50, SD = 14.80$) than the male learners ($M_{goals} = 21.50, SD = 4.44; M_{strategies} = 33.50, SD = 10.97$), and differences were also not significant.

The female and male students did not vary considerably in their perceived SRL. One difference found between genders was their preferred strategy. The female learners preferred strategies such as Rehearsal and Memorising, and Reviewing Examination.
Exercises, and they considered these two strategies the most effective among the various strategies. The male learners used a Self-consequences strategy more than the female learners and considered it an effective strategy.

7.3.2 Differences between High- and Low-Achieving Learners

Considerable differences were identified between the higher and lower achievers. Firstly, the high achievers and the low achievers differed in their learning goals. The high achievers set more goals \( (M = 27.75, SD = 3.30) \) than their low-achieving counterparts \( (M = 20.00, SD = 9.44) \) for each week during the intervention, \( t(6) = 3.503, p = .013 \). The students’ goal setting indicated that when dealing with tasks they were not interested in, the high-achieving learners would continue doing the tasks and achieve their goals. However, the low-achieving learners might not finish the task or achieve their goals. Another difference found in learning goals between achievers was that the lower achievers were more likely than their higher achiever counterparts to set goals regarding academic improvement in their diaries.

Secondly, the higher achievers also differed from the low achievers in SRL strategies. One apparent difference was that the higher achievers employed more SRL strategies \( (M = 47.75, SD = 8.77) \) than the lower achievers \( (M = 28.25, SD = 7.93) \), \( t(6) = 3.298, p = .016 \). For 14 out of 18 categories of SRL strategies, the higher achievers used strategies more frequently than the lower achievers. The total frequencies of strategy employment by the higher achievers were more than twice those of the lower achievers, especially in Goal Setting and Planning, Keeping Records and Monitoring, and Environmental Structuring. Only for organising and transforming did the lower achievers report more use.
In addition to the differences in the total frequencies of strategy employment, the two achieving groups held different views on learning strategies. Firstly, they had different opinions about effective strategies. The high-achieving students believed *Goal Setting and Planning, Seeking Information* and *Reviewing Examination Exercises* were effective strategies. However, few of these strategies were reported as effective by the low-achieving learners (see Table 7.3)

### Table 7.3 Descriptive Statistics of Effective Strategies Reported by Learners

<table>
<thead>
<tr>
<th>Total Count</th>
<th>High-achieving</th>
<th>Low-achieving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal setting &amp; planning</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td>Seeking information</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Reviewing exam exercises</td>
<td>22</td>
<td>7</td>
</tr>
<tr>
<td>Seeking peers’ help</td>
<td>19</td>
<td>12</td>
</tr>
<tr>
<td>Rehearsing &amp; memorizing</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Self-evaluation</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Environmental structuring</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Keep records and monitoring</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Self-consequences</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Reading books</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Listening to the class</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

Secondly, they showed different ways of dealing with their reported effective and ineffective strategies. It was illustrated in the diaries that the high-achieving students paid more attention to, made more effort in and had more considerations about strategy selection and employment. Specifically, the higher achievers intended to continue using strategies
that they reported as effective in their previous diary entries and to stop using the ineffective strategies. In contrast, the low-achieving students tended to continue using their reported ineffective strategies. For instance, higher achiever Ding reported in her Week 7 diary that keeping records and monitoring was not an effective strategy for her and she did not use this strategy in the next five weeks. Conversely, lower achiever Zhu reported in his Week 7 diary that reviewing notes was an ineffective strategy for his study, but he continued using it for the rest of the semester (i.e., in Zhu’s Week 8 diary).

Moreover, the two groups of learners showed different attitudes towards their reflections on strategy use. When reviewing strategies that the learners had employed in their studies, the higher achievers were likely to provide more reflective comments and summaries on their strategy employment, while the lower achievers did not provide reflections on their studies but more often put “I don’t know” or “I did not think about it” in their diaries. Additionally, regarding learning SRL strategies during the intervention, only the higher achievers mentioned that they spent extra time on learning and practising SRL strategies deliberately because they thought this might be helpful in their studies. However, no lower achievers mentioned about this in their diaries.

Another difference found between the high- and low-achieving learners was the time they spent on their studies. Although the total number of hours spent on learning did not show any significant statistical difference between the two groups of learners ($M_{\text{high}} = 8.52, SD = 3.78; M_{\text{low}} = 7.29, SD = 3.93; t(6) = .449, p = .669$), it was shown in the diaries that in contrast to the higher achievers, who had a more fixed time spent on their studies, the hours spent on studies by the lower achievers fluctuated dramatically during the intervention. For instance, higher achiever Ding usually spent about 10 hours on her studies in these 16
intervention weeks. However, for lower achiever Li, his study time varied from one to 15 hours with no changing patterns identified.

**Figure 7.15 Higher Achieving Learners’ Strategy Adjustment**

13. How you would like to adjust your strategies for the study next time. Please be as specific as you can.

“I will not use ineffective learning strategies.”

“I will continuously explore good learning strategies, and work hard on practicing them.”

“Use effective strategies, and further adjust and improve them”

### 7.4 SUMMARY

This chapter has examined the participants’ perceptions of SRL during the intervention with data derived from the eight selected cases. In the first part of this chapter, six key SRL factors were examined in terms of their general conditions as well as their changes during the intervention. The results showed that the participants improved in their Goal Setting, Strategic Planning and Task Strategies. Factors such as Classroom Discipline, Task Value and Control of Learning Beliefs continuously influenced the participants’ learning over the course of the intervention.
The participants’ strategies were examined separately, focusing on the most and least used strategies, and the most effective and ineffective strategies. The results showed that the most used strategies were *Seeking Information* and *Reviewing Examination Exercises*, and the least used strategy was *Organising and Transforming*. The most effective strategies reported by the students were *Seeking Information, Seeking Peers’ Help and Reviewing Examination Exercises*, and the most ineffective ones were *Seeking Peers’ Help* and *Reviewing Examination Exercises*.

In the last section of the chapter, differences between genders and between the higher and lower achievers were examined. The results indicated that there were no apparent differences in terms of changes between the female and male learners, but considerable differences were found between the higher and lower achievers in terms of learning goals, their perceptions and employment of SRL strategies, and the time they spent on learning.

The results from the case study provide further evidence in examining the changes to students’ perceptions of SRL during the intervention, supplementing the results of the quantitative analysis presented in the previous chapter. With both quantitative and case study data, a more comprehensive understanding of the learners’ development in SRL was obtained.
8 DISCUSSION OF FINDINGS

8.1 CHAPTER OVERVIEW

As reported in Chapter 7, the current study found that the Chinese EFL learners were not advanced self-regulated learners, and their perceptions of SRL were positively related to their academic achievement. As expected, the SRL intervention was beneficial to the students’ perceptions of SRL, their use of SRL strategies and their English reading achievement. Interestingly, there were no significant differences found between genders in their perceptions of SRL or their reading motivation. Nor were any significant differences found between the higher and lower achieving students in their reading motivation.

In this chapter, the results of the quantitative analysis and the findings of the case study in the wider context of the theoretical framework and relevant empirical studies on SRL are discussed. Discussions are presented in the order of the research questions. Each section begins with a brief summary of the key findings presented in the results chapters, followed by discussions referring to theories, previous empirical studies and the context of the current study.

8.2 CHINESE EFL LEARNERS’ PERCEPTIONS OF SELF-REGULATED LEARNING AT A LOWER LEVEL THAN AVERAGE

8.2.1 A Low to Moderate Level of Self-Regulated Learning Perceptions

Descriptive statistics of the participants’ perceptions of SRL indicated that the Chinese junior secondary school students reported a low to moderate level of SRL. This finding
differs from that of E. Liu and Lin (2010), who found that Chinese students in Taiwan had a low level of SRL, but it is broadly consistent with previous research into Mainland Chinese learners (e.g., Neber et al., 2008; Teng, 2016; L. J. Zhang, 2008).

There are a number of reasons for such an observation. One possible explanation for the low to moderate level of SRL is the teacher-centred instructional approach. The traditional Chinese classroom is teacher-centred, where teachers are labelled as the representatives of truth and knowledge and students are responsible for absorbing knowledge from their teachers (Huang, 2007; Yu, Lee, & Mak, 2015). Students in this teaching and learning context are likely to be spoon-fed by their teachers, as few opportunities are provided for them to be self-regulated learners in their own learning process.

Another possible explanation for it is the examination-oriented environment in the context of China. For secondary school students, most of the teaching and learning activities in classrooms centre on examination preparation and test score improvement. Students in such circumstances are likely to passively devote themselves to homework and extracurricular exercises rather than proactively conducting SRL in managing their own learning.

This result may also be explained by the cultural values in contemporary China. The cultural values in the Chinese context belong to a hybrid value system that includes both collectivist values, such as obedience and socialness, and individualist values, such as independence and excellence (Fong, 2007; S. W. Kim et al., 2017). According to S. W. Kim et al. (2017), this hybrid value system, on one hand, cultivates Chinese students’ self-regulation and encourages them to be autonomous, while at the same time restraining their independent learning and requiring them to be disciplined and obedient. On one hand, with collectivism
and Confucianism values embedded in cultural and school context, learners’ perceptions of SRL are constrained. On the other hand, the development of individualism facilitate learners’ self-regulation. Thus, learners’ perceptions of SRL in the current study was found slightly higher than Liu and Lin (2010) with Taiwan learners.

Additionally, this result may be related to disciplinary differences. English is a school subject that differs from others in terms of the content, the teaching and learning methods and assessment, and the cognitive processes involved (White & Liccardi, 2006). Among three main school subjects in China, mathematics learning focuses more on reinforced facts, principles and concepts, and uses methods of logical reasoning and numeric calculation. Chinese language learning focuses more on argumentation skills and critical thinking, using methods involving a broad command of intellectual ideas. However, Chinese EFL learners’ English learning puts more emphasis on vocabulary and grammar through the methods of rote memorisation (Smith, Torres-Ayala, & Heindel, 2008; White & Liccardi, 2006). Accordingly, compared with learning other subjects, learning English in the context of a Chinese junior secondary school is less likely to cultivate or develop students’ SRL abilities.

Some authors have speculated that psychometric differences in instruments used might lead to variations among results. The self-reported scales employed in SRL studies have varied: some have used a five-point Likert scale, some have used a seven-point Likert scale and some have employed a structured interview. These differences might have led to the disparities in measuring participants’ SRL (Teng, 2016).

Finally, the participants in the current study were junior secondary school students, who differed from college or postgraduate students in terms of their learning goals, tasks,
activities and strategies, as well as their ages and levels of maturity. According to Broadbent (2017), the higher education context has less structured class time per week, less direct contact with teachers and greater reliance on SRL than the secondary education context, so university students are more likely to learn and use strategies and be self-regulators in their studies than secondary school students. Thus, it is conceivable that university students have more opportunities to self-regulate their learning in both academic and non-academic aspects.

Taken together, the Chinese students’ SRL was at a low to medium level, which is lower than that of Western students. The discrepancy is mainly attributed to the cultural, social and school context in China, the subject the study focused on, the measurement tools and the school types. Moreover, these explanations corroborate Pintrich’s conceptual framework in that contextual factors, including both social context and tasks, had an influence on the learners’ SRL.

8.2.2 Higher Levels of Perceptions of Self-Regulated Learning Motivational Beliefs than Strategies

Further examination of the learners’ perceptions of SRL revealed that they reported higher levels of SRL motivational beliefs than SRL strategies. This result triangulates with and corresponds to the findings of the validation of the MSLQ, which indicated that Chinese junior secondary school students have better understanding of motivational strategies than of learning strategies (see Chapter 5). However, although it broadly supports the work of some studies in this area (e.g., Huang, 2008; Neber et al., 2007; Saks, Leijen, Edovald, & Öun, 2015; Teng, 2016; Vandevelde, Van Keer, & Rosseel, 2013), it differs from others (e.g., L. J. Zhang, Gu, & Hu, 2008).
There are several possible explanations for this result. Firstly, the result is likely to be related to the teaching content and materials. Regarding the teaching content and materials in Chinese junior secondary schools, SRL strategies are neither listed on teaching syllabuses nor included in key teaching materials. It is not surprising that students’ knowledge of learning strategies is insufficient. This explanation reflects the participants’ pre-intervention reporting that around 60% of them learned SRL strategies from their teachers, and their understanding of SRL strategies before the intervention was limited to “review, preview and practice”. At the same time, although SRL motivational beliefs are not taught in class, students actually perceive them frequently in teachers and parents. For instance, students often receive positive persuasive feedback from teachers and parents, such as “you can do this” and “you can have better academic performance if you make more effort”, or encouraging comments, such as “you can surpass your peers” (Schunk, 1994). All these provide sources of motivational beliefs for students. Additionally, this information helps students enhance their self-efficacy, especially in the context of China, where teachers and parents have a large influence on students. Therefore, it is understandable that the Chinese students reported a higher level of SRL motivational beliefs than SRL strategies.

Secondly, the inconsistency may be due to the contextual differences typically embodied in the national curriculum. L. J. Zhang et al. (2008) conducted a study in Singapore, where English was offered as students’ L1 and was the medium of instruction in the education system. Therefore, English reading was an essential skill for Singaporeans and those students might have higher reading proficiency than those whose L1 was not English. In contrast, English was taught as a foreign language in China, and students rarely used English outside the English classroom. Moreover, the participants’ English in the current study were
at the beginner’s level. Thus, the differences in the curriculum and learners’ proficiency led to the differences between studies.

Therefore, all the above-discussed reasons together with the differences in cultural and social context, school levels, specific discipline rules and psychometric differences of the instruments mentioned in Section 8.2.2 may explain the students’ imbalanced perception of motivational beliefs and learning strategies.

8.2.3 High Levels of Perceptions of Control of Learning Beliefs and Classroom Disciplines

Under a closer examination of each SRL motivational belief, the results seem to agree with the findings of other studies (e.g., Huang, 2008), in that the Chinese junior secondary students obtained the highest levels of understanding of Control of Learning Beliefs, but the lowest of Self-Efficacy.

These results may be explained by the new hybrid value system in the context of China. Firstly, the current Chinese value system places great emphasis on effort and hard work (S. W. Kim et al., 2017). In contemporary Chinese society, although students are encouraged to develop “foreign” values, such as pursuit of personal interest and ambitious individualism, the core values that have always been emphasised are working hard and enduring hardships. S. W. Kim et al. (2017), in an investigation of the first generation of children born under the one-child policy, found that although the rapid changes in Chinese culture and context due to the Western influence through globalisation have brought in more individualist values and multiplied education and working opportunities, “hard work” has remained on the list of the most important characteristics that can help to secure students’ academic and future
success. To some extent, individuals believe that effort and hard work, rather than their inner ability, are responsible for their ultimate academic achievement and success (Huang, 2007; Lau & Ho, 2016; Rao et al., 2000).

Secondly, Chinese students work hard and make an effort to rid themselves of low academic achievement (Huang, 2007) as a result of a fear of failure. As students’ innate ability does not account for their academic success or failure, according to our understanding of Chinese culture, it is understandable that their efficacy does not relate to their academic achievement (Hu, 2010).

In examining SRL strategies, we can see that the students were more likely to follow classroom disciplinary rules and school regulations and less likely to employ SRL task strategies in their learning. The students’ preference to follow classroom rules could be explained by the Chinese context and Chinese culture of learning. In China, discipline is regarded as the single most important determinant of education success (Fong, 2004). Since the college and secondary school entrance exams test cumulative knowledge, it requires or “forces” students to discipline themselves or to be disciplined by parents or teachers in order to memorise information and keep practising exam questions. Failure to be disciplined or to control themselves would contribute greatly to their academic failure. In the Chinese learning culture, it is important for students to obey social norms, maintain group harmony, and avoid tension and disagreement between hierarchical superiors and peers (Bempechat, Li, & Ronfard, 2018; Cortazzi & Jin, 1996; Shi, 2006). Thus, students always put great emphasis on discipline, school regulations and obedience in addition to learning (Shen, 2005).
That the learners reported the lowest level of employment of task strategies might be explained by the teaching content and methods in the Chinese context. Teaching content is selected from classics and authoritative textbooks, where teachers believe true knowledge resides. Teaching methods are largely expository in that teachers transmit the true knowledge to students according to the demands of examinations and assessments (Hu, 2002). For typical English classes in China, teachers mainly adopt the grammar-translation or audiolingualism method instead of a strategy-based instruction approach as these approaches are more effective. Correspondingly, students’ learning processes are mainly about reading books rather than learning or using their knowledge of strategies (Hu, 2002; Teng, 2016; L. J. Zhang, 2008). Regarding English reading specifically, knowledge is often transmitted by developing learners’ reading ability indirectly through an intensive recitation of prescribed texts (Lau & Ho, 2016). As neither teaching content nor methods emphasise strategy instruction and use, it is not surprising that the learners reported lower levels of task strategies.

It is interesting to find that among the students’ limited knowledge of strategies before the treatment, “preview, review, practice and help seeking” were the most reported strategies. These findings are consistent with the ideas of Hu (2002), who demonstrated that strategies such as repetition and review are commonly practised in the Chinese culture of learning


8.3 **CHINESE EFL LEARNERS’ PERCEPTIONS OF READING MOTIVATION AT MODERATE LEVEL**

8.3.1 **A Moderate Level of Perceptions of Reading Motivation**

Following the discussion on the students’ perceptions of SRL, this section discusses their perceptions of reading motivation. Descriptive statistics on the participants’ perceived reading motivation implied that the Chinese junior secondary school students reported a moderate level of motivation for English reading. This finding is consistent with that of previous research investigating L2 reading motivation (Lin, Wong & McBride-Chang, 2011; Tercanlioglu, 2001).

One possible explanation is that the students’ moderate motivation is a result of mixed motivation dimensions in the Chinese context. Students are strongly extrinsically motivated to achieve higher scores and to have better academic performance in the competitive social context in China. However, at the same time, they are not intrinsically motivated to learn but study to follow teachers’ instructions, to satisfy parents’ expectations and to obey social norms. Moreover, students do not show a strong motivation for learning reading for social reasons. Thus, it may be that the combination of learners’ high extrinsic motivation with their low intrinsic and social motivation results in a moderate level of reading motivation.

Another possible explanation for students’ moderate reading motivation is their demands for learning English. The participants in the current study were junior secondary school students. In contrast to university students, who have an urgent demand for good English because it is regarded as an important criterion for job recruitment and career development, junior secondary school students’ demands for English learning are not that urgent but more
related to examination preparation. Thus, the differences between college students’ and junior secondary school students’ motivation could be attributed to their different demands for learning English.

The students’ reported motivation before intervention was mainly extrinsically goal oriented, such as improving academic achievement, having a better future and realising their dreams. This finding corroborates the idea of Hu (2002) that Chinese students are encouraged to be high academic achievement learners who will be useful to society, to glorify their ancestry and to bring pride to their family.

8.3.2 More Extrinsically Than Intrinsically Motivated Learners

In a comparison of the major constructs of the learners’ reading motivation, the results indicated that the Chinese junior secondary learners were more extrinsically than intrinsically motivated. The learners were most motivated towards reading for grades, and least towards reading for efficacy. Although these findings differ from those of Lau (2009), who reported that Chinese students were more intrinsically motivated, they are in agreement with those of Huang (2008), Rao et al. (2000) and Salili (1996).

A possible explanation for the learners placing high value on achievement is the educational and social context of China. In terms of educational context, as discussed above, the Chinese educational system is characterised as examination oriented, and high academic achievement is regarded as the most important pathway to career and future development (Salili, 1996). Especially for students in secondary school, their intrinsic motivation declines as the competition increases (Lau, 2009). In terms of the social context, Chinese people emphasise filial piety, and it is students’ filial obligation to achieve good academic
results because Chinese parents put considerable emphasis on their children’s academic achievement and have high expectations of their performance (Rao et al., 2000; Salili, 1996). Therefore, it is inevitable that Chinese students display high levels of motivation for good academic achievement (Lin et al., 2011).

The finding that the Chinese learners reported lower levels of reading efficacy differs from that of Huang (2007), who found that Year 7 Taiwanese students reported medium levels of reading efficacy. This contradictory result could be explained by the differences between L1 and L2 reading. In Huang’s (2007) study, students’ reading efficacy was examined on the basis of their L1 reading. However, the current study investigated the students’ reading in their L2. According to Lin et al. (2011), English in China is mainly taught and used in formal classroom settings and rarely used in daily life communication. Thus, reading in students’ L1, Chinese, may enhance their sense of control and decrease their perceived obstacles, but reading in an L2 has a rather different purpose or goal. Students in L2 reading are likely to meet more obstacles and do not have a good sense of control (Lin et al., 2011). In this circumstance, it is not surprising that students do not feel confident about their English reading.
8.4 Significant Positive Relationships among Learners’ Perceptions of SRL, Reading Motivation and Academic Achievement

8.4.1 Significant Positive Correlation between Students’ Perceptions of Self-Regulated Learning and Reading Motivation

In general, the finding of the current study aligns with the social cognitive theoretical framework and supports the idea of earlier work that students’ perceptions of SRL are closely related to their motivation (Erhan, 2016; Pintrich, 2004). Furthermore, students’ reading has been proven to be helpful in determining whether they are good self-regulators (Pintrich, 2004; Pintrich & de Groot, 1990; Zimmerman, 2001).

In terms of each SRL factor, it seems that nearly all SRL factors were positively correlated with those of reading motivation except the context-based SRL factor, Classroom Discipline, and two negative SRL factors, Test Anxiety and Lack of Self-Regulation. These findings generally suggest that the more the students suffered from test anxiety and lack of self-regulation, the less likely they were to be motivated in English reading.

Interestingly, Test Anxiety was positively correlated with Importance of Reading, and Lack of Self-Regulation was positively correlated with Reading Work Avoidance. These findings suggest that the students who assigned more importance to reading tended to have higher levels of test anxiety, and those with low self-regulation were less likely to read English.
These results broadly confirm that SRL is positively correlated with reading motivation, and suggest that learners with higher levels of motivation are more likely to be self-regulated learners and deploy more SRL strategies (Cho & Heron, 2015).

In terms of factors in reading motivation, Reading for Enjoyment was found to be closely related to all positive SRL factors. This finding is in agreement with previous studies. The students who perceived L2 learning to be more enjoyable were higher level SRL learners (Ardasheva et al., 2017). Specifically, the results suggest that the learners who reported being highly motivated by enjoyment were likely to employ more strategies. In other words, the students who read for personal pleasure intended to challenge and master English reading by using more strategies. Similar results were demonstrated in Schunk (2005) and Peacock and Ho (2003), where it was found that learners with a greater personal interest in a task are more inclined to use SRL strategies.

Another reading motivation factor that was closely related with learners’ SRL is Reading for Competition. This result matches those found in earlier studies, that competition is a strong motivator for learners’ EFL learning, especially for Chinese students’ English learning (Huang, 2007; Komiyama, 2013). The result suggests that learners who attempt to outperform others in reading are likely to be more self-regulated in their learning. However, these findings differ from a study by Pintrich (2004) that suggested that competitive learners are likely to employ fewer SRL strategies. The current study found that the competitive students used more SRL strategies. This discrepancy might be attributed to the competitive learning environment in the context of China.
Although previous studies have suggested that students who learned for mastering knowledge rather than surpassing peers were more likely to be self-regulators, since those students are assumed to be more engaged in learning and comprehending the material (Pintrich & de Groot, 1990), this might not be the case in the Chinese context. Specifically, the Chinese education system is highly competitive and examination oriented, and students have to compete with their peers for better education opportunities from a very young age (Rao et al., 2000; Salili, 1996). As contextual factors have proven to have important roles in social cognitive theory, the learning environment may continuously influence students’ learning processes and behaviours. Therefore, the differences in the relationship between Reading for Competition and perceptions of SRL could be explained by the different learning contexts of China and Western societies.

Interestingly, both Reading for Enjoyment and Reading for Competition were significantly correlated with the students’ perceptions of SRL. In other words, the students with high levels of either intrinsically or extrinsically oriented motivation might have high levels of SRL. Further discussions on Chinese students’ intrinsic and extrinsic motivation are conducted in Section 8.4.3.

One unanticipated finding was that Reading for Social Reasons was negatively related to Classroom Discipline. That is to say, the students believed that reading for sharing the meanings obtained from reading with peers, teachers and family were not proper performances in class and probably against the classroom disciplinary rules. Although earlier studies have not provided evidence of a relationship between these two factors, social motivation has been previously found to be positively related to academic performance (Huang, 2007). This inconsistency may be explained by the classroom learning environment.
as well as the interpersonal interactions in class. According to Wentzel (1994), teachers’ support and peer acceptance are highly correlated with middle school students’ academic performance. In Chinese large class environments, teachers are authorities who provide “commands” rather than “support” to their students. Moreover, similarly to the previous discussions about Reading for Competition, peer relations of Chinese students are inclined to be competitive rather than supportive, as they need to outperform their peers and increase the opportunities for entering better universities. Therefore, it is not surprising that Reading for Social Reasons, to some extent, is inconsistent with the conventional Chinese learning environment and interaction.

8.4.2 Significant Positive Correlation between Students’ Self-Regulated Learning and Academic Achievement

In accordance with predictions based on previous studies, the present study showed that the students’ perceptions of SRL were significantly positively correlated with their English reading achievement. In particular, the students’ perceived SRL explained 24% of the variance in their English reading scores. This finding suggests that learners with higher levels of SRL are likely to achieve better academic performance in English reading. However, the relationship between individual SRL factors and academic achievement implied mixed results.

The present finding seems to be consistent with other research that has found that self-efficacy is an important predictor of achievement (e.g., Cleary & Kitsantas, 2017; Pardo et al., 2017). In the current study, the Chinese junior secondary school students with more confidence in their ability to master a task were more likely to achieve good academic performance. This is because self-efficacy can provide learners with “staying power” to
persist longer in the face of obstacles and distractions and a stronger commitment to task
(Anam & Stracke, 2016). Moreover, learners with higher self-efficacy are likely to set more
appropriate goals and implement more effective strategies (Wolters & Pintrich, 1998).
According to Li and Wang (2010), Chinese EFL learners’ self-efficacy is significantly
associated with their reading strategy employment as well as other key SRL components,
such as goal setting, time management and material selection. Therefore, self-efficacy could
be a major factor predicting Chinese junior secondary school students’ English reading
achievement.

The findings on the relationship between SRL strategies and achievement in the current
study differ from those of some earlier studies (i.e., Yamada, Yin, Shimada, Kojima, Okubo,
& Ogata, 2015) that strategy is a strong predictor of learners’ academic performance.
However, they are consistent with those of Rao et al. (2000) and Lau and Ho (2016). Rao
et al. (2000) examined Hong Kong Year 10 students’ SRL, and the results implied that there
was no significant relationship between students’ academic performance and their uses of
SRL strategies. Similarly, Lau and Ho (2016) investigated Hong Kong secondary school
students’ SRL by comparing it with that of other countries, and the results showed that
memorisation and control strategies were strong predictors of students’ academic
performance. Both Rao et al. (2000) and Lau and Ho (2016) attributed the differences to
cultural and contextual factors. As discussed in the previous section, the knowledge
transmission approach and teachers’ authority in traditional Chinese classes impede
students’ SRL development. It might result in students’ reciting prescribed texts rather than
employing different strategies (Lau & Ho, 2016). It is possible that students’ hard work and
efforts compensate for their lack of SRL strategies; thus, those with low levels of SRL strategies may have a high academic performance in the Chinese context (Lau & Ho, 2016). The present finding seems to be consistent with that of Pintrich and de Groot (1990), that test anxiety is positively correlated with, though not significantly, academic performance. In other words, the highly anxious students were found to be less self-regulated and had lower academic performance. This observed correlation between test anxiety and academic achievement may be explained in this way. High- and low-anxiety students may have similar levels of SRL strategies and academic performance, but their test anxiety may “engender worry about their capabilities that interferes with effective performance” (Pintrich & de Groot, 1990, p.38).

8.4.3 Significant Positive Correlation between Students’ Reading Motivation and Academic Achievement

In this study, a weak, positive, but significant correlation was found between the learners’ motivation and their English reading achievement. Four of the seven motivational factors that were positively significantly correlated with EFL reading achievement are Reading for Grades (extrinsic), Reading for Enjoyment (intrinsic), Reading for Competition (social), and Importance of Reading (intrinsic). The finding confirms that both intrinsic and extrinsic motivation are important motivating forces for Chinese EFL learners (Huang, 2007). It also corroborates Wigfield and Guthrie’s (2007) reading motivation theory that learners with higher levels of motivation are likely to obtain higher academic achievement.

However, the findings of the current study do not support previous studies regarding the relationship between reading efficacy and achievement. In Huang’s (2007) study with Year
7 Chinese students’ reading performance, a positive significant relationship was identified between efficacy and achievement. However, no significant correlation between reading efficacy and achievement was found in the current study. In other words, high English reading achievement students may not have high reading efficacy, and students with high reading efficacy may have low reading achievement.

It is possible that these results are related to the hybrid value system in the context of China. Similarly to traditional Chinese culture, contemporary Chinese individualism remains in regard to diligence and hard work as an important value that can help students to stand out in a competitive schooling system and help them to secure a good job in the future (S. W. Kim et al., 2017). However, although Western values have been widespread and some have become dominant in China, Chinese learners still attribute their academic achievement or failure to effort rather than ability (Hu, 2010; Li, 2001). Hence, it explains the insignificant correlation between students’ efficacy and their achievement.

It is worth noting that the students’ self-efficacy was a predictor of their academic achievement, whereas reading efficacy was not. In the current study, Self-Efficacy is a factor that measures learners’ self-appraisal and judgement in general, such as the ability to accomplish a task and confidence in one’s skills to perform a task (Pintrich et al., 1991), and Reading Efficacy specifically refers to students’ belief that they can be successful at reading (Wigfield et al., 1996). Since the two factors measure different aspects of students’ beliefs, it is not surprising that they indicated different relationships with students’ academic achievement.
The results of the multiple regression analysis indicated that although the students’ total motivation did not significantly predict their L2 reading achievement, both intrinsic and extrinsic motivation were predictors of the learners’ reading achievement. Extrinsic motivation explained more variances (5.3%) in the students’ reading performance than intrinsic motivation (4.5%). The findings of the current study partially support the previous research.

Specifically, the present finding differs from the results of some published studies (Komiyama, 2013; Takase, 2007) in that intrinsic motivation was the strongest predictor for learners’ L2 reading. For instance, in Komiyama (2013), intrinsic motivation explained more than 50% of the variance in L2 reading. However, it is in agreement with Lin, Wong, and McBride-Chang (2012), in that extrinsic motivation played the most important role in characterising L2 reading motivation.

The discrepancy might be explained in part by the participants’ year level and culture of learning. The participants in my research and in Lin et al.’s (2012) study were from secondary and upper elementary schools who were studying in an intensively competitive environment and considered English an important subject and the means for future success. In such cases, extrinsic motivation such as learning for grades and for competition, and the importance of reading played a more significant role in helping carry forward learners’ academic achievement. Therefore, although prior studies have implied that intrinsic motivation leads to better and longer standing engagement in learning than extrinsic motivation (Mori, 2002; Takase, 2007), extrinsic motivation is more influential in promoting elementary and secondary students’ learning in the Chinese context. It is unknown, however, how long such effects last. It is highly possible that students who have
high levels of extrinsic motivation will lose interest in reading if they do not see a need for reading anything that is of practical value to them. In other words, the finding reported here might have different meanings to different scholars according to their perspective on intrinsic and extrinsic motivation.

8.4.4 Mediating Role of Self-Regulated Learning in Relationships between Reading Motivation and English Reading Achievement

The results of the current study provide support to the hypothesised model in that SRL played a mediating role in the relationship between the learners’ reading motivation and their English reading achievement (see Section 3.4). In other words, the Chinese EFL learners perceived that SRL explained how their motivation related to their academic achievement. It was shown that the relationship between the learners’ motivation and achievement was not direct but operated through an increase in their SRL. The findings provide further support to the mediating role of SRL mentioned in Pintrich’s conceptual framework.

The result corresponds with findings in the previous section and corroborates the findings of earlier studies that learners’ reading motivation influences their SRL (i.e., Pintrich, 2000; Schunk, 2005). Researchers believe that learners with higher levels of motivation are more likely to be self-regulators, to engage in learning activities and to employ SRL strategies (S. H.-J. Liu, Lan, & Ho, 2014; Zimmerman, 2000). For instance, in Hadwin’s (2008) study, learners’ motivation knowledge influenced their SRL goal setting and strategies, as well as their task persistence.
This finding also supports those of previous studies that there is a mediated relationship between motivation and academic achievement (Ardasheva et al., 2017). It is apparent from the mediation analysis that motivation in students is not enough to ensure their academic success. According to Ardasheva et al. (2017), motivation is an important and manipulatable-by-instruction component, and its impact on L2 learning may be directed or mediated by learning strategies. To be more specific, students may be preliminarily motivated to be self-regulators, such as by setting more appropriate goals, employing more effective SRL strategies and having better self-evaluation skills, and then the improvement in SRL will probably bring about better academic performance (Ping, Baranovich, Manuelli, & Siraj, 2015).

However, the results of the current study do not support previous research that found that learners’ SRL and academic achievement will react to their motivation. Hadwin (2008) demonstrated that engagement in SRL produces new knowledge about motivation that influences students’ engagement in current and future tasks, and students also regulate their motivation during their learning. In Masi’s (2016) study, motivation was reported as an interdependent process with SRL. Learners were not passively reacting to their achievement but were self-initiating the pursuance of benefits from their learning activities for self-improvement.

This discrepancy may be attributed to the main resources of motivation. It seems that Chinese students are mainly motivated by social norms, teachers’ requirements and parents’ expectations rather than themselves, which corroborates previously reported extrinsically motivated orientation among Chinese students. For instance, S. W. Kim et al. (2017) found that Chinese parents project their hopes for their children to succeed academically and
frequently cultivate hard projective individualism in their children, which are important motivation sources for children’s effective learning. Especially for Chinese secondary school students, who are in a competitive education system, whose primary goals are achieving high marks in examinations, they are “pushed” to pursue this goal for following norms, obeying teachers’ requirements and satisfying parents’ expectations. Thus, in this case, the learners’ motivation may not have been easily influenced by their improvements in SRL or academic performance, but are more likely to have been influenced by parents’ and teachers’ comments (Hadwin, 2008; Schunk, Pintrich, & Meece 2008).

Previous studies investigating SRL, reading motivation and English reading achievement have revealed different relationships among them. Some researchers have treated motivation as an important component of SRL, and others have considered motivation an interdependent process with SRL. In the current study, a positive relationship was found between SRL and reading motivation, SRL and academic achievement, and motivation and academic achievement. The students’ SRL significantly predicted their academic achievement, whereas their reading motivation did not. Furthermore, SRL was found to be a mediator in the relationship between motivation and academic achievement.

8.5 Effects of Intervention on Learners’ Self-Regulated Learning, Reading Motivation and English Reading Achievement

This section discusses the results for the third research question and explains in what ways and to what extent the intervention changed the students’ perception of SRL. The section also further explores how the changes in the students’ perceptions of SRL led to changes in
their reading motivation and English reading achievement. The discussion starts with the effectiveness of the SRL intervention.

8.5.1 Effectiveness of the Self-Regulated Learning Intervention

As summarised in Table 8.1, the results of this study showed that for the two experimental groups, the students’ perceptions of SRL and reading motivation, and their English reading achievement were enhanced through the intervention.

Table 8.1 Comparisons between Pre- and Post-Intervention in Learners’ Perceptions of SRL, Reading Motivation and English Reading Achievement for Control and Experimental Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Before</th>
<th>After</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>38.01 (7.12)</td>
<td>39.60 (8.20)</td>
<td>1.59</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$p = .077$</td>
</tr>
<tr>
<td>Experimental</td>
<td>39.88 (8.30)</td>
<td>40.71 (8.26)</td>
<td>0.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$p = .022$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$d = .101$</td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>16.58 (2.89)</td>
<td>16.34 (2.00)</td>
<td>-0.24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$p = .654$</td>
</tr>
<tr>
<td>Experimental</td>
<td>16.20 (3.00)</td>
<td>16.64 (2.49)</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$p = .008$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$d = .159$</td>
</tr>
<tr>
<td>Achievement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>9.10 (2.92)</td>
<td>9.58 (3.02)</td>
<td>0.48</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$p &lt; .001$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$d = .162$</td>
</tr>
<tr>
<td>Experimental</td>
<td>9.15 (1.94)</td>
<td>10.40 (1.99)</td>
<td>1.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$p &lt; .001$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$d = .639$</td>
</tr>
</tbody>
</table>
It can be seen that the students in the control group did not show any significant increases in their perceptions of SRL or reading motivation, but had a significant increase in their English reading achievement with a small effect size. However, for the experimental groups, significant increases were found in their perceptions of SRL and reading motivation as well as in their English reading achievement with small to medium effect sizes. These findings support the idea that the designed SRL intervention works effectively in improving participants’ perceptions of SRL (i.e., Dignath & Büttner, 2008; Hoops et al., 2016; Stoeger & Ziegler, 2008). Furthermore, it helped the students improve their reading motivation and English reading achievement. The effectiveness of the SRL intervention could be attributed to the following two factors: the design and the implementation of the intervention.

8.5.1.1 Design of the self-regulated learning intervention

The effectiveness may be first explained by the design of the intervention. The intervention programme design was based on a social cognitive theoretical framework with particular attention focused on the learning loop, learning strategies and motivational and contextual factors. The four-month intervention clearly presented the cyclical SRL processes, from the forethought, to the performance, to the self-reflection phases. Corresponding exercises with a “pre-during-post” design were added to provide the students with opportunities to practise the SRL loop. After each exercise, a class discussion was conducted for the students to share their experience of their SRL.

In addition to the emphasis on the cyclical learning processes, SRL motivational beliefs and strategies were addressed during the intervention. The teachers were required to explain each motivational belief and strategy to the students repeatedly. Especially for the SRL
strategies, the students were required to go over the strategies before doing English reading exercises.

Moreover, the training sessions were tailored to the English reading subject. SRL intervention has been previously employed in different subjects, such as writing (Teng, 2016) and mathematics (Otto & Kistner, 2017). The intervention in the current study built SRL into English reading learning in terms of learning materials, corresponding practices and teaching methods. For instance, the SRL loop and strategies were taught in the context of English reading. Each English reading practice text was selected with careful consideration of its difficulties and topics with suggestions from the teachers (see Chapter 4). Furthermore, the teachers intended to establish a student-centred learning environment with many interactions with other teachers and between peers.

Another advantage of the intervention design is that the SRL intervention included three main stages: introductory weeks, learning weeks and practising weeks. During these three stages, the students were assigned different goals and learning materials, and participated in different activities. This arrangement provided the students with an organised learning and practising plan that enabled them to learn SRL step by step.

8.5.1.2 Implementation of the self-regulated learning intervention

The effectiveness of the programme may also be due to the implementation of the intervention. Firstly, the teachers who participated in the programme were prepared with sufficient knowledge of SRL because they were trained in advance. Previous studies have demonstrated that interventions conducted by researchers are more effective in improving students’ SRL than those conducted by teachers. This is because researchers usually have
more understanding about SRL than teachers, and some teachers involved in the intervention have not been well-prepared in understanding the relevant knowledge and theory (Dignath & Büttner, 2008). In the current study, SRL training was provided to the teachers before the intervention with continuous support during the intervention. Thus, the teachers were well-prepared for teaching their students SRL and integrating SRL with English reading. Several additional advantages of a teacher-led intervention are that teachers are more familiar with their students, they have more experience in teaching than researchers and they have more authority than researchers from the students’ perspective.

Secondly, the duration of the SRL intervention was sufficient. As demonstrated in previous studies, training that lasts for longer might lead to more effective results in improving students’ SRL (Dignath & Büttner, 2008; Huh, 2016). The intervention conducted in the current study lasted four months, a whole academic semester, which provided the students with sufficient time to learn and practise their knowledge of SRL.

Thirdly, the training included two main ways of promoting the students’ SRL: (1) directly through instruction, and (2) directly or indirectly through elicited practice (Huh & Reigeluth, 2017; Paris & Paris, 2001). In the intervention, the students learned SRL knowledge from the teachers’ explicit instructions as well as by their engaging them in exercises. The teachers in the current study, in particular, provided plenty of direct and explicit instruction to the students. Taken together, the effective implementation led to the effective intervention to prompt the students’ SRL.
8.5.2 Effects of Intervention on Students’ Perceptions of Self-Regulated Learning

The results obtained from the quantitative analysis of the students’ perceptions of SRL indicated a significant increase throughout the intervention. As shown in Table 8.2, for the experimental group, there were significant differences in their perceptions of SRL between their pre- and post-intervention results. Particularly, there were significant differences in their awareness of SRL strategies, which accords with the students’ diary data.

In Table 8.2, it can be seen that the experimental group students’ post-intervention data indicated great changes compared with their pre-intervention results, especially in their perceptions of strategies and strategy employment. These changes were in accord with the results of the case study. For instance, the participants’ answers before the intervention showed that their pre-perceptions of SRL strategies were limited to “review, preview and doing exercises”, which indicated their vague understanding of strategies. Then, their strategy use showed a tendency from novice to expert as the intervention went on: the students started to employ more strategies, and choose more appropriate strategies according to the context and specific tasks.

As SRL strategies play particularly important roles in Zimmerman’s socio-cognitive model (see Chapter 2), the following sections focus on discussing the students’ SRL strategy use in terms of their most and least used strategies, as well as their reported most effective and ineffective strategies. Through these discussions, the current study traces the students’ changes during the intervention, and explores possible patterns of changes.
Table 8.2 Comparisons between Pre- and Post-Intervention (Experimental Group)

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Pre</th>
<th>Post</th>
<th>Changes</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Discipline</td>
<td>4.96 (1.26)</td>
<td>5.51 (1.06)</td>
<td>.55</td>
<td>&lt;.001</td>
<td>.476</td>
</tr>
<tr>
<td>Learning Strategies</td>
<td>23.08 (5.14)</td>
<td>24.18 (5.2)</td>
<td>1.1</td>
<td>.001</td>
<td>.214</td>
</tr>
<tr>
<td>Self-Instruction</td>
<td>4.5 (1.19)</td>
<td>4.76 (1.23)</td>
<td>.26</td>
<td>.038</td>
<td>.214</td>
</tr>
<tr>
<td>Total MSLQ</td>
<td>39.88 (8.3)</td>
<td>40.71 (8.26)</td>
<td>.83</td>
<td>.022</td>
<td>.101</td>
</tr>
<tr>
<td>Intrinsic Goal Orientation</td>
<td>4.74 (1.23)</td>
<td>4.46 (1.25)</td>
<td>-.28</td>
<td>.027</td>
<td>-.222</td>
</tr>
</tbody>
</table>

Note: Only items with statistically significant cohort differences are shown (p < .05); M = mean, SD = standard deviation; items ordered by strength of effect size.

8.5.2.1 Effectiveness of the intervention of students use of self-regulated learning strategies

Following the above-mentioned effectiveness of the SRL intervention, detailed information on the students’ SRL strategies during the intervention are discussed in this section. In general, the total amount of used strategies reported by the students experienced a sharp increase as the intervention programme went on, and the range of used strategies became much wider. The following section discusses the strategies regarding the most used, the least used, the most effective and the most ineffective strategies reported by the students. An overview of the students’ strategies and the change trends is presented.

8.5.2.1.1 Most used self-regulated learning strategies reported by students

The results of this study show that the most commonly used strategies reported by the learners was Seeking Information, Reviewing Examination Exercises, Seeking Peers’ Help,
and Goal Setting and Planning. The results partially corroborate Hu’s (2010) findings that review is perceived as one of the key elements of Chinese students’ successful learning.

The students’ strategy preference could first be attributed to their pre-perceptions of SRL strategies. Compared with other strategies listed on the intervention brochure, the students’ most used strategies were essentially similar to the most commonly reported strategies before the intervention programme. Thus, it seems that the students preferred using strategies that they were familiar with and were less likely to employ newly learned strategies.

The learners’ preference for the above-mentioned strategies may also be related to the teachers’ understanding about SRL strategies. In the pre-intervention discussions between the teachers and the researcher, the teacher in the experimental group demonstrated that she had previously heard of or were familiar with strategies such as review examination exercises, Help Seeking and Seeking Information. Thus, the teacher may have unconsciously place more emphasis on these strategies during the intervention. With the typical teacher authoritarianism of the Chinese learning culture, there is no doubt that the students would have preferred using those strategies. One typical example of this is that when reviewing the students’ diaries, the strategy Deduction suddenly appeared in most of the learners’ Weeks 5 to 7 diaries, and this was because the teacher emphasised this strategy in her SRL training sessions around those weeks.

Another possible explanation for this is that these commonly used strategies are easier to learn and employ than other strategies. In addition to the two strategies Reviewing Examination Exercises and Goal Setting and Planning, which the learners already knew
before the intervention, *Seeking Information* and *Seeking Peers’ Help* were resource management strategies, which are easier for Chinese students to learn than cognitive and metacognitive strategies. These results echoed the findings of the MSLQ validation that students’ perceptions of SRL that Chinese secondary school students’ perceptions or awareness of cognitive and metacognitive strategies were at low levels.

### 8.5.2.1.2 Least used self-regulated learning strategies reported by learners

The least used SRL strategies reported by the students were *Organising and Transforming* and *Self-consequences*. *Organising and Transforming* refers to “student-initiated overt or covert rearrangement of instructional materials to improve learning” (Zimmerman & Martinez-Pons, 1986, p. 618). The low use of the strategy Organising and Transforming could be attributed to the lack of perception of cognitive and metacognitive strategies, which echoes the discussions about students’ most used resource management strategies in the previous section (see Section 8.4.2.1.1). Another possible explanation is that the students were not used to rearranging teaching materials by themselves since usually the teachers did this for them. Over time, the students were more likely to rely on their teachers for the material rearrangement rather than considering it a “must do” task for themselves.

The other least used strategy, *Self-consequences*, refers to students arranging rewards or punishment for their academic success or failure. Only a few times during the intervention did students mention that they would like to treat themselves with snacks or movies for their good academic performance, and nobody reported that they would punish themselves for their bad academic performance. It is possible that this result can be explained by the students’ motivation. As discussed in the previous sections, Chinese secondary school
students learn to obey social norms, fulfilling parents’ expectations and completing tasks set by the teachers. In other words, students’ rewards or punishments also come from these aspects, such as positive or negative comments from society, increased or decreased pocket money from parents, and criticism or praise from teachers. As the students’ rewards and punishments came more from external resources than internal resources, it is possible that the students did not often use the Self-consequence strategy.

8.5.2.1.3 Most effective self-regulated learning strategies reported by learners

The participants mentioned a great number of effective strategies and the most effective ones reported by them were Seeking Information, Seeking Peers’ Help and Reviewing Examination Exercises, which are consistent with their most used strategies.

There are several possible explanations for this result. Firstly, similarly to the reason for the most used strategies, the effective strategies were those that had been consciously or unconsciously emphasised by the teachers in the class. Because of the teacher-centred classroom and their authority, the students may have considered the strategies that were repeated or highlighted by the teachers more effective.

Secondly, it is possible that those strategies were effective at helping the students improve their academic achievement during the intervention. Specifically, the students employed Reviewing Examination Exercises for examination preparation, and used Seeking Peers’ Help and Seeking Information for quickly and accurately finishing their homework. As these strategies are much more result targeted than the other strategies, which are more process targeted, they may indicate more marked effects in academic achievement and thus be regarded as effective strategies.
In addition to the above-mentioned effective strategies, the students nominated several strategies as effective strategies at different stages of the intervention. For instance, at the earlier stage of the intervention, *Goal Setting and Planning* was reported as an effective strategy, and at a later stage, *Rehearsal and Memorising* was mentioned as an effective strategy. These results may be explained by the school calendar. The earlier stage of the intervention was the beginning of a school semester, when the students intended to set goals and plans for the coming learning activities. The later stage of the intervention was the end of a school semester, when the students preferred to *Rehearsal and Memorise* strategies to help them prepare for their examinations. This result supports previous studies’ findings that memorisation is Chinese students’ most valued learning strategy (Hu, 2010).

### 8.5.2.1.4 Most ineffective self-regulated learning strategies reported by students

Compared with effective strategies, the total number of reported ineffective strategies was much smaller and the range of strategies was narrower. One unanticipated finding regarding the ineffective strategies is that the participants’ reported ineffective strategies partially overlapped with their most used and effective strategies. For instance, the students often used *Seeking Peers’ Help* and *Reviewing Examination Exercises* strategies and considered them very effective, but they also reported them as ineffective strategies.

It is difficult to explain this result, but it may be related to their employment of strategies. It is possible that the effectiveness of some strategies was limited by conditions. For instance, *Reviewing Examination Exercises* is a strategy that was reported as the most effective strategy leading up to examination weeks. By reviewing relevant examination exercises, the students could gain a quick and preliminary understanding of the test form and content. In
this circumstance, the reviewing relevant examination exercises strategy could help the students better prepare for their examinations and probably achieve higher test scores. However, in other weeks without examination preparation, the effectiveness of the strategy could not be easily and quickly evaluated. Thus, the students may have reported it as an ineffective strategy.

The overlap between the students’ reported effective and ineffective strategies may be attributed to their understanding of some strategies. The strategy *Seeking Peers’ Help* refers to student-initiated efforts to solicit help from peers. However, according to the students’ diaries, some students interpreted the strategy as learning from peers, some of them interpreted it as asking peers for help when having difficulties, while some interpreted it as copying peers’ homework or examination paper. Since the students perceived the strategy in different ways, it is possible that they referred to different meanings of “seeking peers’ help” when reporting it as an effective or ineffective strategy. For example, one student reported in his diary that he copied his friends’ homework and reported it as an ineffective strategy. Thus, the overlap between effective and ineffective strategies may have resulted from the students’ different understandings of the same strategy.

*The Self-evaluation* strategy was also reported as one of the most ineffective strategies. *Self-evaluation* refers to students’ evaluation of the quality or progress of their work. The ineffectiveness may be explained by the fact that both students and teachers in China believe that teachers have the sole right to evaluate students’ performance (Hu, 2010). In a context where teachers’ authority has a large influence on students’ performance, it is possible that students will not conduct self-initiated evaluation frequently.
Another possible explanation for the reported ineffectiveness of *Self-evaluation* is the students’ low levels of metacognitive knowledge. Evaluation has been categorised as a metacognitive strategy, and the evaluating process is metacognitive in nature, which helps to develop metacognition regulation (Chamot, 2006; Livingston, 2003). Since the participants showed a vague awareness of metacognition and their reported metacognitive knowledge indicated a low level, it is possible that their understanding of the *Self-evaluation* strategy was limited and their metacognition regulation was not well developed. Therefore, because it is a metacognitive strategy, it is not surprising that the students held negative opinions about Self-Evaluation.

The ineffectiveness of *Self-evaluation* might also be attributed to the difficulty of choosing proper criteria. According to Zimmerman (2000), students make comparisons with different standards or criteria for their self-evaluation, such as their previously set goal, their prior performance, others’ performance and an absolute standard. These comparisons have different influences on students’ emotion, motivation and learning performance. Inaccurate comparisons may decrease learners’ satisfaction and their motivational beliefs, and probably prompt reactive learning behaviour. In contrast, appropriate comparisons may help to improve learners’ satisfaction and their self-efficacy, provide evidence of their improvement and motivate them to put more effort into future learning (Zimmerman, 2002). As Chinese students usually refer to an absolute standard (full marks in an examination) or peers’ academic results, which are not proper comparisons for their studies, it is possible that the students were influenced by Self-Evaluation in a negative way and regarded it as an ineffective strategy.
8.5.2.2 Development of self-regulated learning learning loop on the basis of Zimmerman’s Social-Cognitive Model

One important finding of this study was that the students’ SRL loop improved in various aspects. Their improvements were closely related to the stages of the intervention and the arrangement of the school calendar.

This section first discusses how the students’ learning loop developed and then how the intervention and the school arrangement influenced the students’ learning loop. The discussion is based on Zimmerman’s (1992) conceptualisation of learning progression (see Figure 8.1).

8.5.2.2.1 Development in forethought and performance phase

Regarding the SRL loop, the students indicated a greater improvement in the forethought and performance phases than in the self-reflection phase. For instance, in the students’ diaries, there was a larger amount of information about goal setting, strategic planning and strategy employment than self-evaluation and adaptive inferences. The students also showed a tendency from being novices to being skilful SRL learners in the aspects of goals and strategies. However, their self-reflection remained at a low level and no apparent changes were identified.
Figure 8.1 Changes in SRL Factors Based on SRL Learning Loop (Adapted from Zimmerman, 1992)

### Forethought

<table>
<thead>
<tr>
<th>Factors</th>
<th>Main Themes</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal-Setting</td>
<td>homework &amp; school activities</td>
<td>unspecific to specific; academic achievement</td>
</tr>
<tr>
<td></td>
<td>academic achievement</td>
<td>distal to hierarchical</td>
</tr>
<tr>
<td></td>
<td>English reading</td>
<td></td>
</tr>
<tr>
<td>Strategic Planning</td>
<td>seeking information, and goal-setting &amp; planning</td>
<td>unspecific to specific; unfocused to focused</td>
</tr>
</tbody>
</table>

### Performance

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>most used</td>
<td>simple to complex; irregular to regular;</td>
</tr>
<tr>
<td>least used</td>
<td>unspecific to specific</td>
</tr>
<tr>
<td>most effective</td>
<td></td>
</tr>
<tr>
<td>least effective</td>
<td></td>
</tr>
</tbody>
</table>

### Self-Reflection

<table>
<thead>
<tr>
<th>Self-Evaluation</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>earlier performance</td>
<td>No significant changes</td>
</tr>
<tr>
<td>graduated sequence</td>
<td></td>
</tr>
<tr>
<td>personal goals</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adaptive Inferences</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>remain/increase use of effective strategies</td>
<td>No significant changes</td>
</tr>
</tbody>
</table>
In the forethought and performance phases, the students’ SRL strategies indicated a more remarkable improvement than their SRL motivational beliefs. For example, the students’ goal setting and strategic planning showed a tendency to move from unspecific to specific. However, their motivational beliefs such as self-efficacy and intrinsic goal orientation remained at a lower level throughout the intervention.

One possible explanation for these results is the method of instruction. In the intervention, the students learned the SRL strategies through both direct instruction and direct or indirect practice. However, the students learned the SRL motivational beliefs mostly through direct instruction, and not many exercises that could help integrate motivational beliefs into tasks were provided. In other words, the students may have had more opportunities to learn and practise their knowledge of SRL strategies than that of motivational beliefs.

The discrepancy might also be explained in part by the measures of motivational beliefs and strategies. During the intervention programme, the students were required to keep weekly diaries to trace their SRL. In the diary, strategies were mainly examined by open-ended questions, while motivational beliefs were mainly examined by Likert-scale questions. In this case, more detailed information was collected regarding the students’ strategies. For instance, the students reported the specific strategies they planned and actually used in their learning, but they answered, “Today, I said to myself: I am able to do it” with number 1 to 5 (disagree to agree). Thus, subtle changes may have been much easier to identify through the learners’ employment of strategies. It is possible that the discrepancy is due to the difference between measures.
One interesting finding from the students’ diaries is that their SRL development was closely related to the school calendar. The students’ perceptions of SRL showed an upward trend at the beginning of the school semester until the weeks leading up to the mid-term examination. Specifically, the number of reported SRL strategies increased, and their strategy employment indicated a tendency to move from being novices to being experts (Zimmerman, 2008). However, after the mid-term examination, a downward trend was identified in the above two aspects.

The large influence of examinations on the students’ behaviour might be explained by their importance. School-administered mid-term and final examinations are designed to mimic college or senior secondary school entrance exams. Thus, although the results of these examinations do not have any impact on college or senior secondary school admission, they are considered important indicators of students’ academic achievement in the real entrance examinations (Fong, 2004).

Moreover, the development of the students’ SRL seems to have been influenced by the different stages of the intervention. In general, the data showed a general uptrend in the students’ SRL in the introductory and learning weeks, followed by a downward trend in the practising weeks. Additionally, the development of the students’ motivational beliefs and strategy use differed in those stages. In the introductory and learning weeks, although both motivation and strategy use showed an increasing trend, a negative relationship was found between these two aspects. Specifically, in most cases, an increase in the learners’ motivation was commonly accompanied by a decrease in their strategy use. However, in the practising weeks, the students’ motivation and strategy use showed a similar change.
tendency. In other words, an increase in the learners’ motivation appeared alongside an increase in their strategy use.

The imbalanced changing patterns might be attributed to the course content and teaching methods at different intervention stages. In the introductory and learning weeks, the students learned SRL from the teachers’ direct instructions. Key knowledge and detailed information about SRL were explicitly transferred to the students. In contrast, in the practising weeks, the students were expected to acquire SRL indirectly through practising and doing English reading exercises. It is possible that the students’ various changes in motivational beliefs and strategy use were due to the differences in teaching content and practice methods between intervention stages.

**8.5.2.2 Development in the self-reflection phase**

Another important phase of Zimmerman’s learning loop is the self-reflection phase, a phase for students to review and evaluate their performance in the previous two phases and then create effective and suitable plans for their current and future learning. The findings of the students’ self-reflection phase indicated that the students did not often revise or adjust their strategy employment or goal setting based on their self-judgement or evaluation. For instance, for their reported effective strategies, the students increased or at least maintained their use of those strategies. However, for their reported ineffective strategies, they did not actually cut down their usage but even increased their use of some ineffective strategies. It is difficult to explain the result, but it might be related to the students’ perceptions of SRL strategies, the context of the strategy employment and their insufficient knowledge of strategy adjustment.
In terms of the students’ perceptions of SRL strategies, it is possible that although their awareness of SRL increased during the intervention, the students’ perceptions of SRL were still at a lower level, which may have initiated contradictory results in the diaries. Particularly in the first several weeks of the intervention, the students’ reported SRL showed that they were still in the novice stage and did not have a good understanding of self-regulatory processes (see Section 7.2.2.2).

In terms of the context of strategy employment, it is possible that they continuously used some ineffective strategies because of certain or particular conditions. For instance, the students believed that they should employ the Reviewing Examination Exercises strategy leading up to examination weeks no matter whether they were effective or not. Additionally, they continuously used Seeking Peers’ Help because they considered it a common and daily-use strategy that had been emphasised by their teachers. Thus, to some extent, the students’ use of those strategies may not have been influenced by whether they considered them effective or ineffective.

Another possible explanation is that the students did not have sufficient knowledge about how to revise or improve their strategies or have experience in doing so. It was shown in the students’ diaries that during the whole intervention programme, the students had not been provided with much information about how to adjust their strategies according to the context or task. Especially in the first few weeks, the students rarely had ideas about how to revise or adjust their strategies for their future strategy employment. Some of them continued using strategies they were familiar with regardless of whether they were effective or not. Some of them considered that it was the way they use the strategy instead of the
strategy itself that results in ineffectiveness; thus, they did not intend to adjust the strategy but would have liked to employ it in a more effective way.

Similar to their reflections on strategy employment, the students’ self-reflections on their goal settings and the time they spent on studies also indicated an inconsistency between their performance and their plans. For instance, the students did not revise or enhance their goal setting on the basis of their previous learning experiences. Some students consistently set the same goals, such as “improve reading speed” and “answer more questions correctly”. The hours they planned to spend on study were also relatively stable during the intervention. If the students’ actual study hours were longer or shorter than their expectations, they did not change their learning time accordingly. In addition to the explanations for the inconsistent strategy employment discussed above, their inflexible study plans on goal setting and time management might be explained by their common goals to achieve higher scores and their common beliefs that longer time and more effort could lead to better achievement.

It was found that the students showed greater improvement in the forethought and performance phases than in the self-reflection phase. Since self-reflection is an important aspect of metacognition, this result corroborates the finding of L. J. Zhang (2010) and further supports the findings and discussions in previous sections, that Chinese secondary school students’ perceptions of metacognition stand at a low level.

8.5.3 Effects of Intervention on Reading Motivation

In the current study, the SRL intervention programme resulted in an increase in the learners’ reading motivation. The students in the experimental groups indicated significant increases
in their reading motivation when their pre-intervention results are compared with their post-results. However, their counterparts in the control group did not show any significant change.

Table 8.3 Comparisons between Pre- and Post-Intervention in Reading Motivation

(Experimental)

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Pre M</th>
<th>Pre SD</th>
<th>Post M</th>
<th>Post SD</th>
<th>Changes</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading for Social Reasons</td>
<td>2.44</td>
<td>.62</td>
<td>2.67</td>
<td>.63</td>
<td>0.23</td>
<td>.007</td>
<td>.367</td>
</tr>
<tr>
<td>Reading Efficacy</td>
<td>2.35</td>
<td>.7</td>
<td>2.56</td>
<td>.63</td>
<td>0.21</td>
<td>.017</td>
<td>.311</td>
</tr>
<tr>
<td>Importance of Reading</td>
<td>2.64</td>
<td>.86</td>
<td>2.87</td>
<td>.64</td>
<td>0.23</td>
<td>.035</td>
<td>.296</td>
</tr>
<tr>
<td>MRQ</td>
<td>16.2</td>
<td>3</td>
<td>16.64</td>
<td>2.49</td>
<td>0.44</td>
<td>.008</td>
<td>.159</td>
</tr>
<tr>
<td>Reading for Grades</td>
<td>3.13</td>
<td>.55</td>
<td>2.97</td>
<td>.56</td>
<td>−0.16</td>
<td>.038</td>
<td>−.287</td>
</tr>
</tbody>
</table>

Note. Only items with statistically significant cohort differences are shown (p < .05); items ordered by strength of effect size.

As displayed in Table 8.3, for the experimental group, the participants’ perceptions of reading motivation indicated great improvement from pre- to post-intervention. Particularly, significant increases with medium to large effect sizes were found in students’ Reading Efficacy and Reading for Social Reasons, and their understanding of the Importance of Reading.

One possible explanation for the improvement in the learners’ reading motivation is their increasing understanding of SRL. The strong relationship between motivation and SRL has been emphasised by previous researchers (e.g. Pintrich, 2004; Zimmerman, 1990). Pintrich et al. (1994) demonstrated that there is a reciprocal relationship between SRL and motivation. Jado (2015) mentioned that successful learners can manage their motivation by using SRL strategies. As the intervention programme significantly improved the learners’
perceptions of SRL, it is possible that the improved SRL brought about the enhancement in their motivation.

Another possible reason for the increase in reading motivation might be the students’ year levels at that time. The participants in the current study were Year 8 students, who would attend the senior secondary school entrance examination in a year. As it is a highly competitive examination, the students may have been strongly motivated to achieve success in it. Thus, the influence of the contextual factors cannot be excluded when analysing changes in the students’ reading motivation.

8.5.4 Effects of Intervention on English Reading Achievement

Regarding the students’ English reading achievement, both experimental groups indicated improvement in their English reading test scores. This finding corroborates the findings of previous studies, that the SRL intervention programme is effective in improving students’ academic achievement. The experimental group students indicated greater increases than the control group students in English reading scores. The results corroborate those of Ardasheva et al. (2017) in that the experimental group students’ language scores were largely improved when compared with the control group students.

The result triangulates with previous findings and supports the positive relationship between SRL and academic achievement. It further supports the social cognitive model view that students’ SRL, motivation and academic achievement are interrelated (Pintrich et al., 1993).
Table 8.4 Comparisons between Pre- and Post-Intervention in Students’ English Reading Achievement

<table>
<thead>
<tr>
<th>Achievement</th>
<th>Group</th>
<th>Before</th>
<th>After</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control</td>
<td>9.1 (2.92)</td>
<td>9.58 (3.02)</td>
<td>0.48</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>9.15 (1.94)</td>
<td>10.4 (1.99)</td>
<td>1.25</td>
</tr>
</tbody>
</table>

In summary, the SRL, motivation and academic achievement of the experimental group students increased through their participation in the intervention. The results provide evidence on the effectiveness of the SRL intervention and further corroborate the theoretical framework of the current study.

8.6 NO SIGNIFICANT DIFFERENCES BETWEEN MALE AND FEMALE LEARNERS THROUGH THE INTERVENTION

As mentioned in the literature review, a mixed result has been reported regarding gender differences in SRL and motivation. In this study, no significant differences were found between the male and female students in their perceptions of SRL or reading motivation.

Regarding the students’ perceptions of SRL in general, this finding differs from the findings in Hong et al.’s (2016) and H. Zhao et al.’s (2014) studies of Chinese students’ SRL, which suggested that male students had higher levels of SRL than female students. It also differs from the findings of Zimmerman and Martinez-Pons (1990) that female learners have higher
SRL abilities than male learners. The finding of the present study suggests that the male and female students had similar levels of SRL.

**Table 8.5 Gender Differences in Perceptions of SRL and Reading Motivation, and English Reading Achievement**

<table>
<thead>
<tr>
<th></th>
<th>F/M</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>86</td>
<td>37.23</td>
<td>8.41</td>
<td></td>
<td>0.144</td>
<td>0.357</td>
<td>−0.023</td>
</tr>
<tr>
<td>Female</td>
<td>74</td>
<td>37.05</td>
<td>7.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation</td>
<td>Male</td>
<td>86</td>
<td>14.75</td>
<td>3.33</td>
<td>−1.01</td>
<td>0.453</td>
<td>0.162</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>74</td>
<td>15.30</td>
<td>3.48</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The gender differences in SRL strategy employment that were observed in the present study differ from those observed by Mofrad and Pourghaz (2015), but broadly support the studies of Mahmoodi et al. (2014) and Garrido-Vargas (2012). In this study, the Chinese female learners employed more SRL strategies than their male counterparts. In particular, they employed more strategies such as rehearsal and memorising, and reviewing examination exercises, while the male students employed more self-consequences strategies.

Regarding the students’ perception of reading motivation, the results are in line with Abdullah’s (2016) finding that female students have a higher motivation than male students, although the difference was not significant in the current study. The finding also aligns with that of Lau (2009) in that the female students reported higher intrinsic motivation than the male students, and the boys were more likely to avoid work or failure than the girls. However, in contrast to Lau’s (2009) study, no evidence of the female learners reporting higher social motivation than the male learners was detected.
Regarding the students’ academic achievement, the finding of the current study is in agreement with other studies in that the female students scored higher than the male students on reading achievement tests. Additionally, it is interesting that the female students spent more time on their studies than the male students, but the difference is not significant.

The above-mentioned discrepancy and consistency can be mainly attributed to the participants’ age and year level as well as the Chinese context.

For instance, the participants in the study of Hong et al. (2016) were mature learners over 20 years old. Compared with the secondary school students in the current study, mature learners are more likely to be self-motivated and autonomous in their studies because they are pushed less by examinations, are required less to achieve goals set by other people and society, have more freedom in their learning and have more experience in self-management (H. Zhao et al., 2014).

H. Zhao et al. (2014) attributed male learners’ higher levels of SRL to the traditional Chinese patriarchal system that places different social divisions of labour for males and females. According to H. Zhao et al. (2014), females in China are family oriented, dependent on men, and required to be obedient and disciplined. In contrast, males are responsible for family income, independent and required to out to work. In this circumstance, males are more likely to develop their SRL abilities than females.

However, the participants for the current study were junior secondary school students. Although they may have had some awareness of gender stereotyping in Chinese society, their learning behaviours and motivation at this stage were more examination and
achievement oriented. Moreover, the Chinese schooling system is a comparatively enclosed system, so young learners are not overly exposed to such gender stereotyping.

More importantly, in contemporary Chinese culture, the gender stereotyping that dictates that males take responsibility for the family while females remain family oriented has been reduced. The transition of the hierarchical society in China and the shifts in Chinese culture have led to changes in women’s values and beliefs, and they now seek higher education and are more concerned about their career development (Y. Hu & Scott, 2014). Additionally, the favouring of boys from the previously patrilineal family system and heavy-industry-based economic system has gradually diminished through the implementing of the one-child policy and economic restructuring (Fong, 2004).

Furthermore, globalisation has led to cultural interaction in society and dynamic cultural identification in individuals. Multicultural individuals may switch cultures depending on the place where they are located (e.g., home, school, workplace) and the person with whom they are speaking (from their native language country or not), which leads to different behaviours in different situations (Salili & Hoosain, 2007). It is possible that young Chinese EFL learners adopt more individualist cultural values in their English learning, which helps to reduce gender differences in their studies. Thus, although different cultures have different expectations of boys and girls (Mak, 2010), such influence on the secondary school boys’ and girls’ SRL was not significant in the current study. Together, the transitions and changes in Chinese culture and the participants’ year levels explain the reason why the female and male learners indicated similar levels of SRL in the present study.
Besides the similarities between genders in their perceptions of SRL, in accordance with the previous studies, the current study indicated that the female students outperformed their male counterparts in English reading. Reading has been regarded as a more feminine activity, on which girls place a higher value (McGeown, Goodwin, Henderson & Wright, 2012; Meece & Jones, 1996). Especially in Chinese culture, the model of femininity supposes girls to be good at the humanities and social science since they are considered more patient, meticulous and good at memorisation, whereas the model of masculinity supposes boys to be good at science since they are bad at memorisation and are unable to sit still (Fong, 2004). In addition, female learners are identified with higher efficacy in reading and enjoying learning more than male learners (Abdullah, 2016; Garrido-Vargas, 2012).

8.7 SIGNIFICANT DIFFERENCES BETWEEN HIGH AND LOW ACHIEVERS THROUGH THE INTERVENTION

Prior studies have noted the differences between high- and low-achieving students in their SRL and reading motivation, and the results of this study match those found in earlier studies.

The current study found that the high- and low-achieving students were significantly different in their perceptions of SRL. The findings of both the quantitative and the case study data are in agreement with those of other studies. They suggest that higher achievers are more self-regulated than lower achievers. They further confirm that SRL is positively associated with academic achievement (e.g., Rao et al., 2000).
Table 8.6 Differences between Achievers in Their Pre- and Post-Perceptions of SRL and Reading Motivation, and Their English Reading Achievement

<table>
<thead>
<tr>
<th></th>
<th>F/M</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>13</td>
<td>13</td>
<td>41.72</td>
<td>7.62</td>
<td>-2.952</td>
<td>0.05</td>
<td>0.767</td>
</tr>
<tr>
<td>Low</td>
<td>16</td>
<td>16</td>
<td>36.46</td>
<td>6.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>13</td>
<td>13</td>
<td>15.83</td>
<td>3.33</td>
<td>-0.008</td>
<td>0.994</td>
<td>0.003</td>
</tr>
<tr>
<td>Low</td>
<td>16</td>
<td>16</td>
<td>15.82</td>
<td>2.67</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The high-achieving students outperformed the low-achieving students in the quality and quantity of their goal setting, strategy planning and strategy use. In terms of goals, the high-achieving students set a higher number of learning goals, which were more specific and task- or context-based than those of their low-achieving counterparts. This finding matches those reported in DiFrancesca et al. (2016) that high-achieving students set more specific goals for their courses.

In terms of strategy use, the results of this study are in agreement with those of prior studies that high-proficiency learners use more strategies with greater variety and adequacy (DiFrancesca et al., 2016; Garrido-Vargas, 2012; McDonough, 2001). In other words, their uses of strategies not only demonstrate their knowledge but also the flexibility with which they used these strategies for achieving goals and purposes in completing the learning tasks. Consistently with Park et al. (2016), the results of the current study indicated that the high-achieving students employed more SRL strategies than the low-achieving students. The result is also in agreement with the suggestions of DiFrancesca et al. (2016) that low-achieving students are more likely to use low-level or “superficial” strategies while high-
achieving students are more likely to use high-level or “thoughtful/meaningful” strategies. The findings of the current study further support that high-proficiency learners are more adaptive in planning and using strategies than low-proficiency learners (Dörrenbächer & Perels, 2016). Similarly to DiFrancesca et al.’s (2016) study, the high-achieving students in the current study were more likely to change strategies that were specific to their performance and select more effective strategies.

In terms of time spent on learning, the findings of the current study are consistent with those of Rao et al. (2000) that lower achievers spend less time and effort in learning and examination preparation.

Taken together, the differences between high and low achievers in their goal setting, strategy arrangements and employment, and time and effort suggest that high-achieving students are more strategic and more diligent in their learning. The high-achieving students were more likely to regard learning as a comprehensive and connected process. They continuously adjusted their goals or strategies according to the context, task and specific situation of their learning activities, and spent more time and effort on learning. In contrast, the low-achieving students were more likely to consider each learning process separately, mainly relied on several “low-level” strategies without considering or adapting to specific learning tasks or situations, and spent less time and effort on their studies.

However, in contrast to earlier studies, this study has been unable to demonstrate that higher achievers have higher levels of motivation than lower achievers. No significant differences were found between the high- and low-achieving students’ motivation. This finding may be explained by Chinese secondary school students’ motivation.
As discussed in a previous section (Section 8.2), Chinese students seem to be more extrinsically than intrinsically oriented and have a lower level of self-efficacy. For most Chinese students, especially for secondary school students, their learning behaviours are motivated by better academic achievement no matter whether they are high or low achievers. As an old Chinese proverb Xue wu zhi jin said, Chinese students are seldom satisfied with their academic performance or achievement, but continuously expect to obtain a higher achievement. In addition, Chinese students are not very confident in their abilities. They believe that their understanding or knowledge are insufficient regardless of their proficiency. Thus, it is possible that even when learners have significantly different levels of academic achievement, their motivation remains at similar levels.

Moreover, this finding further supports the previously observed relationship between learners’ academic achievement and their motivation (see Section 8.4). As the current study found that the Chinese students’ motivation did not largely predict their academic achievement, it is not surprising that high and low achievers reported similar levels of motivation. Additionally, the results provide evidence to support the view of Pintrich’s conceptual framework that time and effort regulation are important SRL components, and learners with better time and effort regulation ability are likely to obtain higher academic achievement in their studies.

The discrepancy between current and previous studies might be due to the specific discipline that was investigated. The current study focused on investigating Chinese students’ English reading. English teaching and learning in Chinese junior secondary schools mainly focuses on vocabulary and grammar, and not too much attention is placed on English reading itself. Moreover, English reading materials are limited in quality and quantity. Students’ reading
materials are mostly from their textbooks, exercise books and examination preparation materials. As these reading materials lack variety, they do not stimulate or maintain students’ learning interest. Previous research investigating learners’ SRL in other disciplines, such as mathematics and science, or other components of English, such as writing, have indicated a positive relationship between motivation and academic performance (e.g. Basila, 2016; Shukor, Jasmi, & Noor, 2013). This finding supports that of Wolters and Pintrich (1998) that motivation is context specific and students’ reported motivation varies across different school subjects.

The less time and effort devoted by low achievers might be attributed to their fear of failure (Garcia & Pintrich, 1994; Rao et al., 2000). Collectivism places a high value on family and group goals; thus, poor academic performance brings shame and loss to a family and high academic performance makes the family proud. Therefore, students are highly influenced by academic achievement and fear of poor performance. However, the structure of the education system in China includes nine years of compulsory education from primary to junior secondary school, junior secondary school study is highly competitive and pressured since the admission rates to senior secondary school are less than 50% and academic achievement is positively related with future success (Liu, 2008). Therefore, academic achievement plays a particularly important role for students, which leads to their fear of failure.

According to a study by Elliot and Church (2003), students’ fear of failure triggers their avoidance strategies. Therefore, low-achieving learners might deliberately spend less time or withdraw effort on learning, which allows them to attribute their academic failure to lack
of effort or time rather than their abilities and thereby protect their self-worth and self-esteem (Chen, Wu, Kee, Lin, & Shui, 2009).

Furthermore, the Chinese culture model supposes a positive correlation between time spent on studying and performance in exams (Fong, 2004). Since college and senior secondary school entrance exams test cumulative knowledge, it is important that they spend as much time as possible in memorising information and practising solving exam questions. Fong (2004) and Abar and Loken (2010) demonstrated that higher achieving students eschew leisure and devote all their time to study whereas low achievers are less disciplined and self-regulated and spend less time on studying.

The results of this study show that although both the high and the low achievers had improved SRL and motivation following the intervention, there were no significant differences in their improvement. These findings do not support those of Ardasheva et al. (2017) that higher achievers benefit more from SRL instruction than lower achievers. Specifically, the two groups of achievers differed in their changes during the intervention. The higher achievers showed significant increases in test anxiety, lack of self-regulation and reading for social reasons, while lower achievers did not show any significant changes in these factors. In contrast, the lower achievers showed a significant change in reading enjoyment, which was not found among higher achievers.

8.8 Summary

This chapter has discussed the key findings of the current study within the wider context of the theoretical framework and key empirical studies. Some of the key findings of the current study are in agreement with previous studies, whereas others are not. The context and
culture of China, the specific focus on the English reading subject, the participants’ age and year level, the design and implementation of the SRL intervention programme, and the measurements used in the current study are the main reasons for the similarities and differences.
9 CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS

9.1 SUMMARY OF MAIN FINDINGS

The current study investigated Chinese junior secondary school students’ SRL and reading motivation, and the relationships among learners’ SRL, motivation and academic achievement in English reading. Additionally, the study employed an SRL intervention and aimed to identify the effects of the intervention on learners’ SRL, motivation and academic achievement.

9.1.1 Chinese Students’ Self-Regulated Learning, Reading Motivation and Academic Achievement

The current study examined Chinese junior secondary school EFL learners’ perceptions of SRL, reading motivation, and the relationships among their SRL, reading motivation, and English reading achievement, the results indicated that:

1) The Chinese students had low- to medium-level perceptions of SRL. Specifically, they had a high-level perception of Control of Learning Beliefs and Classroom Discipline, but a low-level perception of Task Strategies.

2) The Chinese students had a medium level of motivation towards English reading. They were most motivated by Reading for Grades and least motivated by Reading Efficacy.

3) The Chinese students’ perceptions of SRL were moderately, positively and significantly correlated with their academic achievement in English reading. Their
motivation towards reading was weakly, positively and significantly correlated with their academic achievement. Most of the SRL factors were positively correlated with motivation factors.

4) The students’ perceptions of SRL explained a significant amount of variance in their English reading achievement. Regarding each SRL factor, only Self-Efficacy and Lack of Self-Regulation significantly predicted the learners’ English reading achievement.

5) The Chinese students’ perceptions of SRL acted as a mediator between their motivation and academic achievement in English reading. The learners’ SRL mediated the relationship between their reading motivation and their English reading achievement.

9.1.2 The Effects of the Self-Regulated Learning Intervention

This study also intended to find out whether SRL intervention would help learners improve their perceptions of SRL, as well as promoting their reading motivation and English reading achievement. The results showed that:

1) Overall, the SRL intervention was effective in facilitating the learners’ perceptions of SRL, particularly in improving their SRL strategies. Regarding the control group and experimental group 1, which had the same basic level of SRL before the intervention programmes, the experimental group with treatment had significantly higher levels of Control of Learning Beliefs and Classroom Discipline.

2) The SRL intervention was effective in facilitating the learners’ reading motivation. Although no significant difference was found between the control group and
experimental group 1 in reading motivation, the experimental group indicated a larger increase than the control group.

3) The SRL intervention was effective in improving the learners’ English reading achievement. The experimental groups showed a larger growth in English reading scores than the control group.

9.1.3 Gender Differences

Gender differences have been investigated regarding male and female learners’ perceptions of SRL, their motivation, and the relationship between those two variables and English reading achievement. The findings indicated that:

1) The male and female learners did not significantly differ from each other in their perceptions of SRL and reading motivation, either before or after the SRL intervention.

2) No significant difference was found between genders in the relationship between their perceived SRL and academic achievement. Nor was a significant difference found in the relationship between reading motivation and academic achievement.

9.1.4 Differences between Higher and Lower Achieving Learners

Moreover, the differences between learners with different levels of achievement were examined. By comparing higher and lower achieving learners, it was suggested that:

1) The higher and lower achieving learners had a significant difference in their perceived SRL; however, there was no significant difference found in their motivation towards English reading.
2) No significant difference was found between the higher and lower achieving learners in the relationship between their perceived SRL and academic achievement. Nor was a significant difference found in the relationship between reading motivation and academic achievement.

9.2 IMPLICATIONS

Several implications can be derived from this study, especially in relation to the research methodology, pedagogy and theoretical contributions. Firstly, the theoretical implications are presented. Then, the practical implications regarding pedagogy are provided. Thirdly, the methodology contributions are discussed. As the current study has limitations in sampling and methods (see Section 1.7), the implications derived from the study may not be able to make generalisations to the entire junior secondary school students in China. Particularly, the implications for teaching and learning are discussed on the basis of the analysis of relatively high achieving students’ performance, thus it is not possible to make generalisations of the implications to studies in other context or studies with other student samplings.

9.2.1 Theoretical Implications

This experimental study has a number of important theoretical implications, including theoretical applications and verifications. Overall, the present study supports the applicability of SRL theory in the context of China and enriches our understanding of SRL theory in the field of L2 learning, particularly EFL reading. Previous studies of SRL have tended to focus on learners’ perceived SRL rather than the cultural and contextual influences on learners’ perceived SRL, and most empirical studies of SRL have relied upon SRL theory
that was established and developed in Western societies. This study makes a contribution to understanding SRL in the context of China as well as Chinese learners’ perceived SRL. It shows that the Chinese context, especially with the recently developed individualism, influences Chinese EFL learners’ perceptions of SRL. The underlying factors of SRL based on Western society have been found to be less suitable for the Chinese context and further adjustments are required.

The present study has provided empirical support to the SRL theory that SRL processes include three determinants—personal, behavioural and environment processes—which establish a triadic interplay (Teng, 2016; Zimmerman, 1989). Furthermore, the intervention implemented in the current study strengthens the idea that SRL is a dynamic cyclical process in which learners go through the phases of forethought, performance and self-reflection (Zimmerman, 2011).

This work also contributes to existing knowledge of the nature of SRL, which includes cognition, behaviour and context, and extends our knowledge of motivation and how it works with SRL. This study has demonstrated that SRL plays a mediating role between learners’ motivation and their academic achievement. The results of this research support Pintrich’s idea that SRL activities are mediators between personal, contextual characteristics and actual academic achievement or performance (Pintrich, 2000).

This study also has provided a deeper insight into the contextual features that are highlighted in Pintrich’s model. The findings have demonstrated that the context of China and Chinese cultures of learning influence how learners regulate their motivation and behaviours. Moreover, the findings provide additional evidence for understanding the influence of
school subjects on learners’ perceived SRL. The learners’ perceptions of SRL in English reading differed from that in other school subjects such as mathematics, science or L1 learning.

9.2.2 Methodological Contributions

The semi-structured weekly diary used in this study is an innovative method for tracing students’ development of SRL. The current study provides evidence that a writing diary is an effective way to measure SRL. A diary can also be regarded as a tool for SRL, especially for self-reflection (Otto & Kistner, 2017). The application of diaries provides students with opportunities to review their learning activities, reflect on their learning processes and encourage their self-monitoring (Schmitz & Perels, 2011). Moreover, learning diaries can serve as a reminder of the taught strategies and enable students to transfer the taught strategies to their learning routine (Otto & Kistner, 2017). According to Boud (2002) and Teng (2016), keeping diaries can help develop students’ critical thinking and their questioning attitude.

The current study employed a mixed-method design, including both a quantitative method with a self-report and a case study method with a diary to examine the students’ SRL. This mixed-method design, with both a traditional questionnaire and an innovative diary, increased the reliability of the measurements. The mixed-method design reduces the possible response biases and inaccuracies of the self-report (Cleary & Kitsantas, 2017). In addition, the mixed-method approach not only captures students’ SRL at static conditions but keeps track of their learning processes to present a dynamic view of the whole learning experience (McCardle & Hadwin, 2015). Thus, this study should prove to be particularly valuable to studies of SRL with a mixed-method research design.
9.2.3 Implications for Teaching and Learning

The findings of the current study have important practical implications for EFL teaching and learning. Firstly, this study provides insights into Chinese EFL learners’ SRL and motivation, which enables both teachers and students to have a better understanding of their learning. According to the quantitative findings, although the students had a strong belief in making effort and obeying school disciplinary rules, their Self-Efficacy and Lack of Self-Regulation were the only two factors that predicted their learning outcomes. Thus, more emphasis could be placed on improving students’ self-efficacy as well as enhancing their understanding of SRL in general. Meanwhile, teachers could, to some extent, challenge students’ strong beliefs in the relationship between effort or classroom discipline and academic achievement. For instance, lessons regarding self-regulation and how it facilitates students’ learning could be provided. Another finding from the quantitative analysis is that the relationship between the students’ motivation and academic achievement were mediated by their perceived SRL. Learners who are internally motivated are more likely to achieve higher grades; however, Chinese secondary school students are strongly motivated by external factors such as grades and completions. Therefore, training could be provided to foster students’ motivation, especially their internal motivation.

Regarding the cyclical process of SRL, the results suggest that the students did not have a good knowledge of activities before, during or after learning. Regarding SRL strategies specifically, the evidence from this study suggests that Chinese students have limited knowledge of SRL strategies and do not know how to apply them to their own studies. Hence, relevant training and supplemental exercises could be provided inside or outside
classrooms to increase students’ knowledge and for them to practise their perceived SRL strategies.

Another implication from this study is related to the influence of school subjects. The present study investigated English reading, which differs from other school subjects such as mathematics, science and even L1 learning. When applying SRL theory to a specific subject, the characteristics of the subject should be considered and the practical implementation of SRL theory should be adapted to specific disciplinary differences. For instance, L2 learning has been regarded as a “soft pure” subject that requires SRL to be used in a more qualitative and flexible way (White & Liccardi, 2006).

The present study has demonstrated the effectiveness of an SRL intervention in improving learners’ SRL, motivation and grades, and the design and implementation of the SRL intervention could be used in teaching and learning activities. Thus, EFL teachers could design suitable SRL lessons and activities for students, and provide them with sufficient time to practise their SRL strategies and motivational beliefs. However, learners should not rely entirely on teachers’ instruction, but learn independently with more self-regulation. Students could try to employ SRL strategies and apply the SRL loop in their learning. Specifically, they could set appropriate learning goals and plan strategies for themselves that they keep adjusting according to their real performance, and they could use diaries or journals to record their learning activities, including strategies, time and resources used. After that, learners could reflect on and evaluate their performance to further refine their goals and strategies.
9.3 **Recommendations for Further Research**

This study has thrown up some questions in need of further investigation and has recommendations for future research in the area of SRL. Firstly, in terms of the aspect of contextual influence on SRL, it is recommended that future research be undertaken in different contexts, including in different cultural contexts, educational contexts and social contexts. Such a study could help to provide a holistic picture of SRL in different contexts and to see how the Western developed theory is adapted or adjusted to different contexts. It might also further our understanding of how context influences learners’ perceived SRL or their use of SRL strategies. Additionally, it is recommended that future research be undertaken with different samplings, such as learners with relatively high or low achieving, or learners from different levels.

Secondly, in terms of the measurement of SRL, future work could employ more innovative methods to give a more comprehensive view of learners’ SRL. For instance, in addition to the self-report questionnaires, qualitative methods such as the think-aloud technique, classroom observation and unstructured interviews could be conducted to better reveal the hidden pattern of learners’ development of perceived SRL. Another recommendation regarding measurement is to reduce the length of the questionnaires and increase the validity of the questionnaire for younger or lower school level students.

Thirdly, future study should optimise the SRL intervention. Studies regarding how teachers and researchers work collaboratively to offer SRL training to students, how to better modify the intervention design and content according to learners’ prior knowledge and requirements, and how to integrate the knowledge of SRL with the school subject would be worthwhile.
It is also recommended to investigate interventions conducted by teachers with different education background and working experience, and with different pedagogies in teaching SRL.

Moreover, regarding the data analysis, it is suggested that CFA be employed to examine the underlying structures of the self-report questionnaire and SEM be used to explore the relationships among SRL, motivation and learners’ academic achievement.

9.4 CONCLUSIONS

This thesis has reported an experimental study that investigated the relationships among SRL, motivation and English reading achievement within the framework of Zimmermann’s (1990) social cognitive theory. It also evaluated the effectiveness of an SRL intervention in improving learners’ English reading achievement. The findings show that Chinese students’ perceptions of SRL changed positively and their English reading achievement also improved by means of a classroom-based SRL intervention. The study has implications not only for theory and methodology, but also for teaching and learning. It provides possibilities for teachers who are interested in designing and implementing SRL training in their classrooms to help their students develop self-regulation. Teachers and researchers working in other contexts and with different student populations may find some resonance with these findings, particularly in terms of the duration of the intervention. They may find valuable insights into how learners perceive SRL and use SRL strategies for their enhancement of students’ English reading achievement.
REFERENCES


Han, B., & Liu, R. (2008). 我国基础教育阶段英语教育回顾与思考 (一)–政策与目的. *Foreign Language Teaching and Research, 40*(2), 150–155


APPENDIXES

APPENDIX A SELF-REGULATED LEARNING (SRL) BROCHURE

Self-Regulated Learning (SRL) Brochure

自主学习策略手册

SRL Introduction 自主学习简介
SRL Strategies 自主学习策略
English Reading Practice 英语阅读练习 (4 篇)
English Reading Practice 1 __September
English Reading Practice 2 __October
English Reading Practice 3 __November
English Reading Practice 4 __December
1. 什么是自主学习？What is Self-Regulated Learning？

自主学习，是一种主动的、建构性的学习过程。在这个过程中，学生首先为自己确定学习目标，然后监视、调节、控制由目标和情境特征引导和约束的认知、动机和行为。自我调节学习在学生的个体、环境、和总体的成就中起到中介作用。

自主学习者具备以下四个方面的特征：1. 对他人提供给自己的信息作出积极的反应，在学习过程中主动地创设学习策略、目标和意义；2. 能过正视由于个体差异、情境和生理因素给自己带来的局限，监控和调节自己的学习行为；3. 可以根据目标和标准来评估自己的学习效果，必要时会对学习目标和标准进行调整；4. 能够利用自我调节过程来调节外部情境和自身特征所产生的影响，以便于提高学习成绩，改善学习表现。

2. 怎样自主学习？How to Self-Regulated Learning？

在对自主学习的研究中，有些学者认为自主学习是一个循环往复的过程。在每次学习之前，自主学习者处于计划阶段，在此阶段学习者将进行学习任务分析以及自我激励。带着在第一阶段对学习任务的分析和自我激励，学习者进入学习之中，即学习的实施阶段，在此阶段学习者将对自己的学习进程进行控制和观察。学习结束之后，自主学习者对自己的学习进程进行自我反思，在此阶段，学习者将对自己的学习进行自我评价和反思。需要注意的是，自主学习并不会在自我反思阶段之后结束，学习者自我反思的结果将对于下一次学习之前的计划起到很大作用和影响。这样来看，三个自主学习阶段形成了一个循环往复的自主学习圈（如下图所示）。
通俗来说，自主学习学生有学习的动机，树立自己学习的目标，有自己的学习计划，掌握自己的学习进程，能够使用学习策略，在学习过程中能根据具体学习困难调整自己的学习计划，并能够在学习结束之后对自己的学习进行总结、思考、检查和评价。

3. 举例说明 Examples:

举个自主学习在生活中例子，你今天早上准备吃一个苹果。吃这个苹果的动机可能是——妈妈告诉你苹果含有丰富的维生素，吃了之后有利于身体健康；吃苹果的目标可能是——以促进身体健康；吃苹果的进程可能是——你准备花15分钟吃一个苹果，且在早餐之后吃；吃苹果可能使用的策略是——把苹果切成块状再吃。当你在准备把苹果切成块状再吃时，遇到一个问题——时间不够，如果花15分钟切块再吃就会迟到了，于是你决定改变计划——直接削皮吃；事后你反思到，如果想早上花15分钟先切
再吃苹果，要么得更早的起床，要么就得让妈妈帮我切好，要么早餐吃得快一点，或者你放弃吃切块的苹果，直接改为削皮吃，或者你相处更好的其它解决办法。

再举一个自主学习在学习中的例子，你是一名初二学生，你的各科成绩都不错，但是数学成绩让你不是很满意，所以这学期你希望能够提高数学成绩。你学习数学的动机是—数学成绩不好，希望通过学习可以提高，最终有利于提高总分；你的数学成绩的目标—从平均 80 分，提高到平均 90 分；你学习数学的进程是—计划用两个月的时间获得提高，每天从学习英语的时间里，挪出一个小时来学习数学；你学习数学采用的策略是—多做数学习题，准备一个错题本，将做错的题目写下来反复研究；在这样学习数学的过程中，你遇到一个问题—，学习数学的时间挤占的学习英语的时间，导致英语成绩下滑，你准备对原来计划进行调整—你决定不再占用学习英语的一个小时，而是晚睡一个小时，用这个时间来学习数学；两个月后，你的数学成绩提高到了 85 分，取得了一定的进步，但与你所期望的仍有所差距，你又开始重新思考提高数学的计划—报名参加数学补习。

4. 为什么要自主学习？ Why we need to learn Self-Regulated Learning？

自主学习在很多研究中被证实与学习成绩有一定关联。从 90 年代以来，以美国为首的西方国家率先尝试对自主学习与学习成绩关联的研究，在对各年级、各年龄阶段的学生、以及不同科目的研究中证明：自主学习能力高的学习者更可能取得好的成绩。这一研究结论也逐渐被亚洲国家学生所证明。因此本学期，我们将英语阅读为目标科目，进行自主学习能力的培养，借以提高学生的英语成绩。学生也可根据此方法学习其他科目的学习，以进一步提高学习成绩。
阅读完以上关于自主学习的定义、特征，以及进行自主学习的原因之后，你是否对自主学习有一定的了解呢？请继续阅读，了解更多关于自主学习的知识。
## SRL Strategies 自主学习策略

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<tr>
<th>策略种类</th>
<th>定义以及举例</th>
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<tbody>
<tr>
<td>1. 自我评价</td>
<td>学生自主对其学习的质量或者进程进行评估。例如：我检查了一遍我的作业，确定没有错误。</td>
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<tr>
<td>2. 组织以及改变</td>
<td>学生通过自主的、明显 / 不明显的重新整合学习资料的活动来提高学习。例如：我在写作之前列了提纲。</td>
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<tr>
<td>3. 设定目标以及计划</td>
<td>学生自发设定学习目标以及分目标，并对学习的顺序、时间、以及为实现目标所需要完成的任务进行计划。例如：我在考试两周以前开始复习，在这两周里我一步一步慢慢复习。</td>
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<tr>
<td>4. 寻找信息</td>
<td>学生在进行学习时自主通过努力从非社交的（即，非朋友、同学等社交资源）资源处寻找信息。例如：在我学习这个内容之前，我去图书馆参考了很多与之相关的内容。</td>
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<td>5. 进行记录并管理纪录</td>
<td>学生自发对一些事件和结果进行纪录。例如：我把做错的题目都纪录下来。或：我对今天的课堂讨论进行了纪录。</td>
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<tr>
<td>6. 环境建造</td>
<td>学生自主为自己选择或者安排适宜学习的地点。例如：我远离所有有可能分散我注意力的东西。或：我关掉收音机以免声音影响我学习，这样我才能集中注意力。</td>
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<tr>
<td>7. 结果管理</td>
<td>学生会依据自己学习的结果－成功 / 失败，对自己进行奖励或者惩罚。例如：如果这次考试考得好，我就奖励自己看一部电影。</td>
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<td>8. 排练以及记忆</td>
<td>学生自主努力通过明显 / 不明显的练习来记忆学习材料。例如：为了准备这次数学考试，我一直默写数学公式直到我完全记住。</td>
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<td>9-11</td>
<td>寻求社会帮助</td>
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<td>12-14</td>
<td>复习记录</td>
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<tr>
<td>15</td>
<td>其它</td>
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**9-11. 寻求社会帮助**
学生自主地向同学（9）、老师（10）、以及其他成年人（11）寻求帮助。例如：如果我在英语上遇到什么问题，我就去请教我英语好的朋友。

**12-14. 复习记录**
学生为了上课或考试，自主地复习考试题（12）、笔记（13）、或者课本（14）。例如：我准备考试的时候，我会复习我的课堂笔记。

**15. 其它**
其他策略，包括一些由他人（如父母或者老师）主导的学习行为等。例如：老师怎么说，我怎么做。
English Reading Practice 1__September

请在练习前回答以下问题

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A

Many people like to travel by plane, but I don't like it because an airport is usually far from the city. You have to get there early and wait for hours for the plane to take off and it is often late. You cannot open the window. You cannot choose the food. Planes are fast, but they still take hours to go out of the airport and into cities.

I like traveling by train. I think trains are sage. Railway stations are usually in cities. When you are late for a train, you can catch another one. You can walk around in the train and open the windows. You can see many interesting things on your way. I know it takes a little more time.

I also like cars. You can start your journey when you want to, and you don’t need to get to a railway station or a bus station. Also you can carry many things with you in a car. But sometimes there are too many cars on the road.
1. Why do many people like to travel by plane?
   A. Because it’s fast.
   B. Because it’s safe.
   C. Because you can walk around in the plane.
   D. Because it's cheap.

2. Which in NOT the good thing about the train?
   A. It’s safe.
   B. It takes a little more time.
   C. You can open the windows.
   D. You can walk around the train.

3. If you want to take a lot of things with you, what do you take to go out?

4. What is the bad thing about the car?
   A. You needn’t go to a station.
   B. You can start your journey when you want to.
   C. There are too many cars on the road.
   D. You needn’t go to a bus station.

5. What does the writer think about the plane?
   A. He thinks it takes a lot of time to go to and get out of the airport.
   B. He likes to take a train because it takes a little more time.
B

Every year there is the Spring Festival in China. Usually it is in January or February. It is the most important festival in China. So before it comes, everyone has to prepare things. They buy beef, pork, chicken, fruit and many other things. And they often make a special kind of food called ‘dumplings’. It means ‘come together’ in Chinese. On the day before the festival, parents buy new clothes for their children and children also buy presents for their parents. On the festival eve, all the family members come back to their home. This is a happy moment. They sing, dance, and play cards. When they enjoy the meal, they give each other the best wished for the coming year. They all have a good time.

(6). Which is the most important festival in China? ________________.

(7). The Chinese usually have their Spring Festival in ________________.

(8). What is the special kind of food for the Spring Festival in China? _______.

(9). The food ‘dumplings’ mean ‘_________________________’.

(10). When they are having dinner on the festival eve, the Chinese people __________________________.
Receptionist (酒店前台): Good afternoon, ABC Hotel. May I (11)._______ you?

Mrs. Smith: Yes, I would like to (12)._________ a room, please.

R: Sure, When for, madam?

M: April 15th.

R: How (13)._________ will you be staying?

M: Three days.

R: What kind of (14).________ would you like, single or double?

M: (15)._________ please, I will stay here with my husband.

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课后思考：

| 本次练习实际达到目标 |
| 本次练习有效策略 |
| 本次练习无效策略 |
| 下次练习将如何调整 |
In China, many people are leaving the countryside to find jobs in the cities, because the countryside is much poorer than the city, and often there isn’t much work there. Services such as hospital and transport (交通) are usually much better in the city than in the countryside. They hope that their lives will improve when they move to the city.

But in big cities of Europe like London or Paris, people are moving out of the city. These rich families want to live a quieter life. They are tired of the noise and the dirt (尘土) of the city, and they are tired of the crowed streets, crowded trains and buses. They don't want to live in the cities any more. They want a house with a garden in the countryside, and breathe the fresh air there.

So they move out of the cities. Some don't go very far, just a little way out of the city, to the towns near the cities, other people move to the real countryside with sheep, cows, and green fields. There, they start new lives and try to make new friends.

Not all those who move from the city to the countryside are happy. After two or three years, many people who have done this feel that it was a big mistake. They don't make so
much money and there isn’t much work to do. People in the countryside are very different and aren’t always very friendly.

As a result, quite a lot of people who have moved to the countryside move back to the city. “It is wonderful to see crowds in the streets and cinema lights,” they say.

1. Which is NOT the reason for people moving to the cities in China?
A. The countryside is much poorer than the city.
B. People in the countryside don't have enough to eat.
C. People don't have much work to do in the countryside.
D. Services in the cities are better than those in the countryside.

2. Why do some rich families in Europe move to the countryside?
A. Because they will find good jobs there.
B. Because they are tired of living in the city.
C. Because they can make more money there.
D. Because they like feeding sheep and cows.

3. Which is true about families in Europe move to the countryside?
A. They always enjoy their lives in the countryside.
B. They could make a lot of money in the countryside.
C. They don't have much work to do in the countryside.
D. People in the countryside are usually friendly.

4. The underlined sentence in the last paragraph shows ____________
A. they are happy to move back to the city
B. they miss their friends in the countryside
C. they still want to move to the countryside
D. they don't really like the life in the city

5. The best title of the passage may be “________”
A. A happy life
B. Living in the city
C. Moving out or moving back
D. Living in the countryside

B

American people like to say ‘Thank you’ when others help them or say something kind to them. People of many countries do so, too. It is a very good habit.

You should say ‘Thank you’ when someone passes you the salt on the table, when someone walking ahead of you keeps the door open for you, when someone says you have done your work well, or you have bought a nice thing, or your city is beautiful. ‘Thank you’ is used not only between friends, but also between parents and children, brothers and sisters.

‘Excuse me’ is another short sentence they use. When you hear someone say so behind you, you know that somebody wants to walk past you without touching you. It is not polite to break others when they are talking. If you want to speak to one of the, say ‘excuse me’ first, and then begin talking. You should also do so when you begin to cough or make any noise before others.

Let’s learn to say ‘Thank you’ and ‘Excuse me’.

(6). From the passage we know _____________ is a good habit of American people.
(7). When you need to break others when they are talking, you should say ______________.

(8). Before you want to cough, you should say ______________.

(9). When someone says you have bought a nice present, you should say ______________.

(10). Do we need to say ‘thank you’ to our mothers or fathers? __________.

C

It was very late last Monday, but Tom was still (11)._________ TV in his room. There was a wonderful football match on TV. (12)._________ excited(激动的) he was! That night he did not (13)._________ until twelve o’clock. The next morning, it was a (14)._______ to eight. It was too (15)._______ for Tom to get to school on time.
English Reading Practice 3__November

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China has three economic areas(经济区): eastern China, central China, and western China. Shanxi, Gansu, Qinghai, Xinjiang, Ningxia, Sichuan, Chongqing, Yunnan, Guizhou and Tibet are in western China. It covers 5, 385, 700 square kilometres, making up 56.4% of Chinese territory(国土) and is home to 230 million people. It is 23% of China's population.

The western area is rich in mineral(矿产) and energy resources(能源) (water, coal, sun energy, and wind power). It also has large grassland, ice and snow resources waiting to be developed. It is home to many wild animals and plants, and it gives us with important medicinal resource.

The Chinese leaders have decided to develop the western area. Jiang Zemin said, “Without development of the western area, how can we modernize the whole country, and how can China become an economic power?”
Since 1949, when the People's Republic of China was founded, it is not the first time for China to develop its western part. China will make its western area a long-term base for economic development and use its rich resources to develop economic power.

1. The territory of western China is _______.
   A. as large as that of eastern China
   B. as large as that of central China
   C. as large as that of eastern China and central China
   D. the largest one of the three areas

2. Do you know why we develop western China?
   A. Because the people of western China are rich
   B. Because it has 230 million people
   C. Because it makes up 56.4% of Chinese territory
   D. Because we will modernize the whole country

3. An economic power means _______.
   A. a rich and strong country
   B. a large country
   C. a country with much more population
   D. a large country without economic development

4. What is the best advantage(优势) of West China?
   A. Its rich resources
   B. Animals
‘Cool’ is a word with many meanings. Its old meaning is used to express a temperature that is a little bit cold. As the world has changed, the word has had many different meanings.

‘Cool’ can be used to express feelings of interest in almost anything. When you see a famous car in the street, maybe you will say ‘it’s cool.’ You may think, ‘He is so cool,’ when you see your favorite footballer.

We all maximize the meaning of ‘cool’. You can use it instead of many words such as ‘new’ or ‘surprising’. Here is an interesting story we can use to show the way the word is used. A teacher asked her students to write about the waterfall they had visited. On one student’s paper was just the one sentence, ‘it’s so cool.’ Maybe he thought it was the best way to show that he saw and felt.

But the story also shows a scarcity of words. Without ‘cool’, some people have no words to show the same meaning. So it is quite important to keep some credibility. Can you think of many other words that make your life as colorful as the word ‘cool’? I can. And I think they are also very cool.
(6). In this passage, the word ‘express’ means _____________.

(7). If you are __________ something, you may say, ‘it’s cool.’

(8). Previously(之前), the word ‘cool’ means that __________.

(9). The story about ‘waterfall’ indicates(表明) that ___________.

(10). The writer takes the ‘waterfall’ example to show he is _______ the way the word is used.

C

Lucy is not feeling well today, so she cannot (11). _______. Mum asked her to stay (12). ___________ . This morning, Lucy went to (13). ________ together with her Mum. The doctor asked Lucy to open her mouth and said ‘Ah’. He looked over Lucy carefully, and said to her, ‘You have caught a bit of cold. Take this (14). _________ three times a day and drink more water. You will (15). __________ soon.’

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<td>本次练习实际使用策略</td>
</tr>
<tr>
<td>课后思考:</td>
</tr>
<tr>
<td>本次练习实际达到目标</td>
</tr>
<tr>
<td>本次练习有效策略</td>
</tr>
<tr>
<td>本次练习无效策略</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>下次练习将如何调整</td>
</tr>
</tbody>
</table>
English Reading Practice 4__December

请在英语练习前回答以下问题

<table>
<thead>
<tr>
<th>Questions 问题</th>
<th>Answers 答案</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test 练习前：</td>
<td></td>
</tr>
<tr>
<td>本次练习目标</td>
<td></td>
</tr>
<tr>
<td>本次练习结果预判</td>
<td></td>
</tr>
<tr>
<td>本次练习预计使用时间</td>
<td></td>
</tr>
<tr>
<td>本次练习预计使用策略</td>
<td></td>
</tr>
</tbody>
</table>

A

Jay Chou was born on January 18, 1979, in Taiwan, China. He grew up with his mother, and was a quiet and shy kid. He did not do well in study, so people thought he would never be successful in life.

As a small child, Jay took a great interest in music. His mother sent him to learn the piano when he was only three years old. He loved it and kept on practicing. When he was in high school, he could play the piano quite well. At the same time, he showed his talent for writing songs.

Before Jay became a singer, he worked as a songwriter. For two years, he spent most of his time writing for singers. Some of them were very famous, like Coco Lee and Jacky Cheung. Jay released (发行) his first album (专辑) in 2000 and soon he got quite popular.

Now Jay is one of the most famous singers in Asia. However, he is still shy and does not speak clearly when he sings or talks, but he has a lot of fans. Most of his fans like him because he is really good at music and never follows (仿效) others.
(1). When Jay Chou was a small kid, ___________
1. he was quiet and shy       2. he lived with his parents
3. he did not study well       4. he loved music
A. 1、3   B. 1、4   C. 1、3、4   D. 2、3、4

(2). Jay Chou’s mother sent him to learn the piano _______.
A. in 1982   B. when he was in primary school
C. when he was five   D. when he was in high school

(3). Jay Chou wrote songs ______ for two years.
A. for himself   B. for his friends
C. for his mother   D. for Coco Lee and some other singers

(4) Which of the following is true?
A. When he talks or sings, Jay can both speak clearly.
B. When he sings, Jay can’t speak clearly. When he talks, he can’t either.
C. When he talks, Jay can’t speak clearly. But when he sings, he can.
D. When he sings, Jay can’t speak clearly. But when he talks, he can.

(5). Which of the following about Jay is NOT true?
A. He is a good-looking singer.   B. He has a lot of fans.
C. He hardly ever smiles.   D. His songs are different from others.

B

In England, people can go to see a doctor nearby when they are ill. When the doctors see them, they usually ask about their troubles and soon give them a prescription for some medicine.

Usually, when people feel ill, they go to see their doctors. But when they only have a cold, they don't go to see their doctors. They usually go to the medicine shop to buy some medicine. Only when they are terribly ill, the doctor will go to their houses. In an
emergency(紧急), people can call 999 for an ambulance. The ambulance can take them to the hospital very soon. When they are in hospital, their friends or families can go to see them at a certain time, but they cannot stay long.

Usually people have to pay for the doctors’ prescriptions. And the price is the same for any kind of medicine. But when children, students, old people or people without jobs go to see their doctors, they don't have to pay for their prescription.

(6). When people are ill in England, they will ______________.

(7). If people have a cold, they usually ________________.

(8). What does ‘ambulance’ in the article mean? ________________.

(9). When people without jobs go to the doctors, they ________.

(10). Doctors will go to patients’ house when ________________.

C

Grace and I are good friends. We (11). ______________ with each other, though sometimes we fight. I remember last year we didn't talk with each other for a long time. But then we met each other and became (12). __________ again. Grace is tall and thin, I am (13). ____________ than Grace. We both study well. We like talking about (14). ________ in our studies. If we don't know something very well, we (15). ________ each other. So we never have any problem in our studies.
| 本次练习有效策略 | 无 | 无 |
| 本次练习无效策略 | 无 | 无 |
| 下次练习将如何调整 | 无 | 无 |
**APPENDIX B ASSENT FORM (STUDENTS)**

This form will be held for a period of 6 years.

Project title: A Study of Chinese Junior Secondary School EFL Students’ Self-Regulated Learning and English Reading Achievement

Name of Researcher: Xiao Wang
Name of Supervisor: Dr Lawrence Jun Zhang

I have read the Participant Information Sheet, have understood the nature of the research and why I have been selected. I have had the opportunity to ask questions and have them answered to my satisfaction. I agree to be a participant in the research and understand that my participation is voluntary.

- I agree to take part in this research. Please circle “YES/NO” to show which one you would like to participate in.

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Questionnaires &amp; Tests (YES/NO)</td>
<td>Intervention Programme (YES/NO)</td>
</tr>
</tbody>
</table>
I understand that I am free to withdraw participation at any time and to withdraw any data traceable to me up to January 1st 2016.
I understand that the assurance has been given by the School Principal that participation/non-participation will not affect my school grades or relationship with school.
I understand that if I choose to participate in the intervention programme, the research intervention will take 16 weeks.
I understand that the research is confidential to the researcher and that my identity will not be made public in any publication arising from the research.
I understand that in Phase 1 and 2 I will be asked to complete two questionnaires and one English reading comprehension test at the beginning of September and the end of December.
I understand that if I were in the intervention programme I may be selected to participate in think-aloud protocols and writing weekly diaries. The recordings of my think-aloud recordings will be transcribed by the researcher.
I understand that if I would like to participate in the case study in Phase 2, I will be recorded by digital voice recorder when carrying out the think-aloud.
I am aware all the paper data collected for the classrooms will be stored securely and electronic data will be stored on the researchers’ university servers and both will be destroyed after six years.
I understand that a one-page summary of this research will be provided to the School Principal and he will then distribute it to me and my parents.

Name ___________________________
Signature ___________________________
Date _________________

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE ON 19 JUNE, 2015 FOR 3YEARS. REFERENCE NUMBER 014709.
PARTICIPANT INFORMATION SHEET (STUDENTS)

Project title: A Study of Chinese Junior Secondary School EFL Students’ Self-Regulated Learning and English Reading Achievement

Name of Researcher: Xiao Wang
Name of Supervisor: Dr Lawrence Jun Zhang

Dr Lawrence Jun Zhang is Professor of Linguistics in Education (Applied Linguistics & TESOL) in the School of Curriculum and Pedagogy and Associate Dean International Partnerships for the Faculty of Education. His research programme spans cognitive, linguistic, sociocultural and developmental factors in reading/ biliteracy development, critical reading awareness in language education, metacognition, self-regulated learning (SRL) and reading development in L1 and L2 contexts, bilingual/biliteracy acquisition and bilingual/biliteracy education in primary and secondary schools, and learning and teaching English as a second/foreign language at university settings, the effects of self-regulated reading and writing instruction on bilingual/biliteracy development, and teacher identity and cognition in language teacher education.

My name is Xiao Wang. I am studying for my doctorate in the Faculty of Education and Social Work at the University of Auckland. I am currently undertaking a study of the relationship between Chinese junior secondary school English as a foreign language (EFL) students’ self-regulated learning (SRL) and their English reading comprehension achievement over four months.

This research project intends to explore the relationship between Chinese Junior Secondary School EFL learners’ SRL (students aged from 14 to 16) and their English reading comprehension achievement. The study will include two groups of students. One group (the control group) of student will participate questionnaires of SRL and motivation towards reading, and English reading achievement test twice at the beginning of September and end of December, 2015. The other group (the intervention group) will attend the above
mentioned questionnaires and English tests, and also participate in a 16-week teacher-directed intervention programme from September to December, 2015. If your classroom is chosen as the intervention group and you also would like to participate in this intervention. If your classroom is chosen as the control group, there will be no influence on your everyday study, and no intervention trainings will be provided. If you are in the intervention group, you may be invited to participate in a case study, where a think-aloud protocol and semi-structured diaries will be carried out. Your participation/non-participation in the intervention programme and in the case study is voluntary. The assurance has been given by the School Principal that participation/non-participation will not affect your school grades or relationship with school.

If you would like to participate in this study, you will be expected to do the following things:

1. You will be asked to complete one questionnaire about self-regulated learning (20 to 25 minutes approximately), one questionnaire about motivation towards reading (20 minutes approximately), and an English reading comprehension test (30 minutes approximately) at the beginning of September 2015.

2. If your class is chosen as the intervention group, and you would like to participate in the 16-week teacher directed intervention programme, you will be involved in this programme. In this programme, your English teacher will provide 15-minute instructions on SRL knowledge as well as its applications on English reading comprehension twice a week. In the first two weeks, the basic introduction of SRL will be provided. Then in the next five weeks, the further introduction of SRL in terms of its components, features, and strategies will be taught. In the following nine weeks, SRL knowledge will be applied in English reading comprehension exercises. This intervention programme will start from beginning of September 2015 to the end of December 2015. If your class is chosen as the control group, there will be no intervention programme offered and you study will continue as usual.

3. If you are involved in the intervention group, during the intervention programme, four students will be invited to attend a case study according to the scores achieved on the English test at the beginning of September. These four students will be asked to think-aloud when they are carrying out their English reading comprehension exercise once every four weeks. This think-aloud protocols will take about 10 to 15 minutes, and your think-aloud process will be recorded by digital voice recorder and then be transcribed by researcher for data analysis. Also, these four students will be asked to complete a semi-structured weekly diary concerning their English reading comprehension learning.

4. You will be asked to complete one questionnaire about self-regulated learning (20 to 25 minutes approximately), one questionnaire about motivation towards reading (20 minutes approximately), and an English reading comprehension test (30 minutes approximately) at the end of December 2015.

5. Your questionnaires will be numbered from 1 to 120 and a list is maintained to link participants with the questionnaire.
6. You will be offered with the questionnaires and recordings, and you will be offered the opportunity to edit the transcripts of the recordings. You will be provided with the scores of English reading comprehension test in September and December 2015.

All the materials (questionnaires, English reading tests, and diaries) will be provided in age-appropriate language. All the data I have collected from this research can be accessed only by my supervisor and me. The questionnaires, tests, and diaries will be stored securely, the recordings will be stored on the university servers, and will be destroyed after six years by paper shredder and deletion from the university servers. Pseudonyms will be used and participants will not be able to be identified in any publications arising from this research.

If you wish to take part in this study, please fill in the assent form. Your participation is voluntary. You can withdraw from the research at anytime and to withdraw any data traceable to yourself up to January 1st 2016. All the information you provide in the research will remain confidential and your name will not appear in any reports or publications based on this study. A one-page summary of this research will be provided to the School Principal and he has assured that this summary would be distributed to you and your parents.

If you have any queries or concerns (or you wish to know more), please phone me (Xiao Wang) on 09 373 7599 or e-mail me at wang.xiao@auckland.ac.nz. My local contact in China is 0551-637300095.

The contact details of my supervisor are as follows:

Professor Lawrence Jun Zhang
Faculty of Education and Social Work
The University of Auckland
Auckland, New Zealand
Phone: 09 373 7599 extn. 48750
Email: lj.zhang@auckland.ac.nz

The Head of School is:

Dr. Helen Hedges
Faculty of Education and Social Work
The University of Auckland
Auckland, New Zealand
Phone: 09 373 7599 extn. 48606
Email: h.hedges@auckland.ac.nz

For any queries regarding ethical concerns please contact:
The Chair
The University of Auckland Human Participants Ethics Committee
The University of Auckland, Research Office
Private Bag 92019, Auckland 1142
Phone: 09 373 7599 extn. 83711
Email: ro-ethics@auckland.ac.nz

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE ON 19 JUNE, 2015 FOR 3 YEARS, REFERENCE NUMBER 014709.
I. 基本信息：

性别: 男（ ） 女（ ）
年级: 7年级（ ） 8年级（ ） 9年级（ ）
姓名: ____________ 学号: ____________ 年龄: ____________

1. 你以前是否对自主学习有所了解: 是（ ） 否（ ）

2. 你是通过什么途径了解到自主学习的:
   老师教授（ ） 家长教授（ ）
   自己学习（ ） 其他，请说明: ___________

3. 你以前是否对学习策略有所了解: 是（ ） 否（ ）

4. 你是通过什么途径了解到学习策略的:
   老师教授（ ） 家长教授（ ）
   自己学习（ ） 其他，请说明: ___________

5. 请列出您知道的学习策略:
   ___________________________________________________________________

6. 你以前是否对学习动机有所了解: 是（ ） 否（ ）

7. 你是通过什么途径了解到学习动机的:
   老师教授（ ） 家长教授（ ）
   自己学习（ ） 其他，请说明: ___________

8. 请列出您知道的学习动机:
   ___________________________________________________________________
II. 英语阅读学习动机策略调查问卷：

问卷说明：问卷不是一项测试，没有正确或者错误的答案，答案因人而异。请认真地依照你的个人状况真实作答，选出最符合自己、最准确的答案。本次问卷调查为匿名，我们不会透露任何你的信息。非常感谢你的帮助。

在问卷中，希望你从 1 至 7 中圈出一个数字来对应问卷中该描述符合你的程度：从“非常不符合你”到“非常符合你”。请不要遗漏任何一个句子。

请参照以下说明为例：

<table>
<thead>
<tr>
<th>非常不符合我</th>
<th>不符合我</th>
<th>有点不符合我</th>
<th>中立</th>
<th>有点符合我</th>
<th>符合我</th>
<th>非常符合我</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

例如：如果你认为以下描述非常符合你，就像这样圈出数字：

我喜欢踢足球。  1  2  3  4  5  6  7

第一部分：学习动机

以下问题是询问关于你学习英语的动机和态度。

<table>
<thead>
<tr>
<th>非常不符合我</th>
<th>不符合我</th>
<th>有点不符合我</th>
<th>中立</th>
<th>有点符合我</th>
<th>符合我</th>
<th>非常符合我</th>
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<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1</td>
<td>在英语阅读中，我更喜欢具有挑战性的学习资料，这样我可以学习到新的知识。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>如果我使用正确的学习方法，我就能够掌握课堂学习资料。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>在考试时，我会想到和其他同学相比，我的成绩不尽人意。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>我认为我可以将在英语阅读中学习到的知识运用到其他课程中。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>我相信我可以在英语阅读上取得出色的成绩。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>我确信课程中最难的阅读材料我也能理解。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>当下，在英语阅读中获得高分是最能满足我的事。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>考试时，在做某一道题的时候，我会想到试卷其它部分我答不出来的题目。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>如果我不能掌握课堂学习资料，那是我自己的问题。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>在英语阅读的学习上，我认为掌握学习资料中的知识是非常重要的事。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>我的当务之急是提高我的英语总分，所以我现在主要关注点是在英语阅读上获得好的成绩。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>我有信心理解英语阅读中老师所教授的基础知识。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>如果可以，我希望在英语阅读的考试中能比其他大部分同学获得更高的分数。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14</td>
<td>我在考试时会去想考砸的后果。</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
15. 我有信心理解课堂上老师所教授的最复杂的知识
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

16. 在英语阅读中，我更喜欢能够引起我好奇的学习资料，即使这样学习起来会有困难。
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

17. 我对英语阅读的学习内容很感兴趣。
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

18. 如果我足够努力，我就会掌握课堂知识。
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

19. 我在考试时会感到不安和紧张。
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

<table>
<thead>
<tr>
<th>非常不符合</th>
<th>不符合</th>
<th>有点不符合</th>
<th>中立</th>
<th>有点符合</th>
<th>符合</th>
<th>非常符合</th>
</tr>
</thead>
<tbody>
<tr>
<td>我</td>
<td>我</td>
<td>我</td>
<td>我</td>
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<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

20. 我有信心在英语阅读的考试和作业中表现出色。
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

21. 我期待在英语阅读中能取得好成绩。
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

22. 在学习中最能让我满意的地方就是我能够尽可能彻底理解学习内容。
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

23. 我认为英语阅读的学习资料对我的学习是很有帮助的。
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

24. 在英语阅读的学习中，我会选择去做能够学习到知识的练习材料，即使在这些练习中我不一定能获得高分。
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

25. 如果我不能够掌握课堂学习，那是因为我不够努力。
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

26. 我喜欢英语阅读时所教授的内容。
   | 我 | 我 | 我 | 我 | 我 | 我 | 我 |
   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

27. 能够理解这门课所教授的内容对我来说很重要。
<p>| 我 | 我 | 我 | 我 | 我 | 我 | 我 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |</p>
<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>在考试时我会感到心跳加速。</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>我确信我可以掌握英语阅读中老师所教授的技巧。</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>30</td>
<td>我希望在英语阅读上成绩出色，因为向家人、朋友以及其他人展现我的能力是很重要的事情。</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>31</td>
<td>考虑到英语阅读学习的难度，以及老师，和我自身的能力，我认为我能够在班级里表现出色。</td>
<td>1 2 3 4 5 6 7</td>
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</table>

第二部分：学习策略

以下问题是询问关于你学习英语的策略和技巧。

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</thead>
<tbody>
<tr>
<td>32</td>
<td>当我学习课堂内容时，我会列出材料来帮助我理清思路。</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>33</td>
<td>在课堂上我经常会因为想其它事情而错过所教授的重要内容。</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>34</td>
<td>在学习英语阅读时，我经常尝试去向同学或者朋友讲解学习内容。</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>35</td>
<td>我通常在能够让我集中精力学习的地方进行学习。</td>
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<tr>
<td>36</td>
<td>在阅读课程相关材料时，我会通过拟造问题的方式帮助自己集中精力阅读。</td>
<td>1 2 3 4 5 6 7</td>
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<td>37</td>
<td>在英语阅读的学习中，我经常感觉很懒散或无聊，所以我在学习计划完成之前就放弃了。</td>
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<tr>
<td>38</td>
<td>我经常发现自己会质疑在英语阅读的学习过程中学到或者学习到的知识，我会判断它们是否有说服力。</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>39</td>
<td>我学习英语阅读时，我会自己反复诵读学习资料。</td>
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</table>
即使我在学习课程中遇到困难，我也会尝试自己解决，而不向其他人寻求帮助。

当我对课程的阅读材料产生疑惑时，我会重新回顾并且试图去解决这个问题。

当我学习英语阅读的时候，我会通读阅读材料和课堂笔记，并且试图从中找出最重要的概念。

<table>
<thead>
<tr>
<th>非常不符合</th>
<th>不符合</th>
<th>有点不符合</th>
<th>中立</th>
<th>有点符合</th>
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我充分利用自己的学习时间来学习英语阅读。

如果学习资料难以理解，我会改变阅读学习资料的方法。

我尝试和班里其他同学一起完成课堂作业。

在学习英语阅读的过程中，我反复阅读课堂笔记和资料。

当课堂或阅读材料中出现了理论、阐释、或者结论时，我会尝试去发现是它们是否有充足的证据支持。

即使我不喜欢我所做的事情，我也会努力学习，在英语阅读中取得好成绩。

我会通过制作简单的图表的方法来帮助我整理学习资料。

在学习英语阅读时，我经常安排时间与班里其他同学讨论学习资料。

我将学习材料作为出发点，并试图在其上发展我个人的观点。
我发现要严格遵循学习计划是一件很难的事情。

在学习英语阅读的过程中，我会把从不同学习渠道，如课堂，阅读，和讨论中获得的信息整理总结。

在详尽学习新的知识之前，我经常会通过略读的方法了解它的构成。

我会通过向自己提问的方法来确定自己是否掌握已经学了的内容。

我会尝试改变学习方法来适应课程要求和老师的授课形式。

我经常发现自己阅读了材料，但仍不知道内容是什么。

我会去要求老师讲解清楚一些我不理解的概念/内容。

我会通过记关键词的方法来提示自己一些重要概念。

当作业很难的时候，我会放弃，或者只做其中简单的部分。

我会尝试详尽思考一个学习内容，并且决定我要从中学习到什么，而不仅限于学习时对该内容的简单浏览。

只要时机合适，我便会尝试将英语阅读中的观点与其它课程中的相应观点相联系。

当我学习这门课程的时候，我会复习课堂笔记，并列出重要的内容。

当阅读这门课的材料时，我会尝试将材料和已知内容建立关联。

我有一个固定的学习场所。

我试图让我的个人观点和学习中的相应的内容发生碰撞。
当我学习英语阅读时，我会从阅读和课程中总结出关键信息和概念。

当我不明白课程内容时，我会向班里其他同学寻求帮助。

我将阅读材料和课堂内容建立联系，来尝试理解阅读材料。

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我确定我能跟上每周布置的阅读和作业。

无论何时，当我在学习英语阅读时读到或者听到一个主张或结论时，我会思考是否有别的可能。

我列出在英语阅读学习中的重要内容，并加以记忆。

我按时上课。

即使作业没有意思或者很无趣，我也会努力尝试让自己把作业做完。

我尝试找出班级里，在必要时可以给予我帮助的同学。

学习英语阅读时，我尝试去判断哪些概念我没有完全理解。

我常发现自己因为一些其它的活动安排，而没有花很多的时间在英语阅读上。
在学习英语阅读时，我为自己设立目标，来指导我在每一个学习阶段的活动安排。

如果我在记课堂笔记时产生疑问，我一定会在之后解开这个疑问。

在考试前，我几乎没有时间复习课堂笔记或者阅读学习资料。

我尝试将阅读材料中汲取的概念应用到其它课程活动，如讲座和讨论中。