Implementing Collaborative Strategic Reading (CSR) in an EFL Context in Taiwan

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Abstract

The purposes of this study are to investigate the impact of Collaborative Strategic Reading (CSR) on Taiwanese university students' reading comprehension, explore the process of how they collaborate for text comprehension, and examine their perspectives of the CSR intervention. The participants were 110 students from two intact classes who had low-intermediate to intermediate level of English. This study adopted a mixed-method design and multiple types of data were collected including a standardised reading measure pre-test and post-test, the participants' responses to a questionnaire survey, field notes, transcription data of group discussions during CSR, and group interviews.

The statistical results did not confirm CSR to be more effective than the traditional teacher-led reading approach which focuses on vocabulary and grammar teaching in improving the students' reading comprehension scores. However, the findings indicated that CSR had a positive effect on the Taiwanese university learners' reading comprehension particularly in relation to the comprehension questions on getting the main idea and finding the supporting details. A detailed analysis of qualitative data suggested that the learners with relatively homogenous English ability provided collaborative scaffolding for text comprehension through co-construction, elaboration, appeal for assistance, corrective feedback and prompts. The findings also illustrated that limited vocabulary was the key to comprehension obstacles for the EFL university learners. Although they demonstrated some degree of interactively strategic reading behaviours, dictionary consultation and translation were the most frequently used strategies to deal with the text impediments. On the whole, the participants had a positive attitude towards CSR. They acknowledged the beneficial impact of CSR on their English learning and the feasibility of CSR in the university setting. However, problems and dilemmas were also identified. Some pedagogical implications for English instruction at university level in Taiwan are provided and suggestions for future research to further validate the impact and effectiveness of CSR are proposed at the end of this study.

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Chapter One

Introduction

1. 1 Background of the Study

Reading has been considered the most important skill for second and foreign English learners in academic contexts especially at the tertiary level because they need to access professional knowledge written in English (Anderson, 1999; Huckin & Bloch, 1993). With fluent reading proficiency, students are likely to not only gain greater success in English learning but also attain better academic performance (Chang, 1998). Based on reading research into how proficient readers achieve comprehension, it has been found that good readers monitor their reading process carefully and consistently apply different reading strategies to comprehend the ongoing text (Almasi, 2003; Grabe, 1991; Koda, 2004; Lenski & Nierstheimer, 2002; Paris et al., 1991; Pearson et al., 1992; Pressley, 2006). Good readers possess a repertoire of self-monitoring reading strategies ranging from bottom-up vocabulary strategies, such as determining meanings from word parts and finding information from structural clues, to more comprehensive strategies, for example, activating background knowledge of related themes, skimming for the main ideas, making inferences, summarising and determining the tone or purpose of the texts (Chang, 1998; Gambrell et al., 2002; Janzen & Stoller, 1998; Sweet & Snow, 2002). In other words, strategic readers are aware of the interactive nature of reading and integrate both holistic techniques and decoding approaches in the process of reading. They read for general ideas and make sufficient inferences about the text by the application of their prior knowledge. Simultaneously, they perform automatic word recognition, extracting meaning from syntactic and lexical clues for text comprehension.

Before elaborating on why strategic reading is important for language learning, the fundamental construct should be defined. Duffy & Roehler (1983) view strategies as flexible actions readers take to construct meaning from the text. Almasi (2003) defines strategies as "actions an individual selects deliberately to attain a particular goal" (p.1). In Wenden's (1991) perspective, reading strategies are "mental steps or operations that learners use to process both linguistic and sociolinguistic content" (p. 19). On the other hand, Sinatra et al. (2002) describe strategies as "goal-directed cognitive operations over and above the processes that are a natural consequence of carrying out a task" (p. 63). These statements share the common conceptual ground that reading strategies are cognitively intentional behaviours initiated by learners to attain the goal of problem-solving. Through careful and deliberate planning, learners can be efficient in attaining, processing, storing and retrieving new sources of information.

In the past decades, many reading researchers have stressed the importance of training language learners to be strategic readers. For example, Paris et al. (1983) highlight that learning to be a strategic reader can promote reading comprehension and "failure to be strategic in reading may result from either developmental inability or poor learning" (p.293). Palincsar & Brown (1984) suggest that strategic reading helps students, especially low-achieving learners, avoid comprehension failure and enhance their retention of the text. Similarly, Koda (2004) points out that strategic reading can not only compensate for learners' comprehension deficiency but also develop their critical thinking. Pressley (2006) contends that language learners should be taught strategic reading through explicit instruction. In another study, Paris et al. (1991) state six reasons why teaching strategic reading should be incorporated into reading instruction:

- Strategies allow readers to elaborate and evaluate information derived from the text.

- The acquisition of reading strategies coincides and overlaps with the development of multiple cognitive strategies to enhance attention, memory, communication, and learning.

- Strategies are personal cognitive tools that can be used selectively and flexibly.

- Strategic reading reflects metacognition and motivation because readers need to have both the knowledge and disposition to use strategies.

- Strategies that foster reading and thinking can be taught directly by teachers.

- Strategic reading can enhance learning throughout the curriculum. (p. 609)

Janzen & Stoller (1998) adopt the same perspective and maintain that strategic reading instruction is rewarding to both second language learners and their teachers. They argue that it cultivates learners' autonomy and self-awareness of the meaning constructing process and it also prepares pre-university students for academic reading performance. They also indicate that reading strategy instruction provides an efficient method for teachers to motivate students' participation in their learning and teach them how to read effectively.

In a large number of research studies conducted in the past three decades, comprehension strategy instruction including multiple reading strategies has been justified to be beneficial in helping students become strategic readers and improve their reading comprehension (Klingner et al., 1998; Koda, 2004; Lee, 2003; Lenski & Nierstheimer, 2002; Palincsar & Brown, 1984; Pressley, 2006; Rosenshine & Meister, 1994; Song, 1998). Nuttall (1996) contends that skimming and scanning are reading strategies which should be included into foreign language reading curricula to help EFL learners read for main ideas and search for specific information or details in the

text. Carrell (1988) suggests that comprehension instruction should incorporate reading strategies to develop readers' grammatical skills, vocabulary development, text-mapping and prediction. Grabe (1991) proposes automatic recognition skills, lexical knowledge, formal discourse structure knowledge, evaluation and metacognitive strategies. On the other hand, Dole et al. (1991) propose five strategies in L1 or L2 reading curricula – determining importance, summarising information, drawing inferences, generating questions and monitoring comprehension.

Based on the empirical results, it is advocated that language learners should be equipped with various reading strategies through instruction (Almasi, 2003; Carrell, 1988b; Eskey & Grabe, 1988; Lee, 2003; Mikulecky, 1990; Pressley, 2000). Therefore, comprehension strategy instruction which focuses on teaching reading strategies to students to help them become strategic readers and more self-regulated learners seems not only promising but also necessary.

In Taiwan, reading instruction has been the central focus in EFL learning contexts as English is a required subject for students wishing to enter higher education. In most of the classes, one of the primary foci of the English curricula is often accurate translation from the texts. Students rely heavily on decoding skills and they tend to read in a word-by-word, sentence-by-sentence fashion (Chen, 2005; Chern, 1993; Shang, 2007). This is echoed in the studies of Chang (1998) and Chen & Yeh (2004) who show that, to deal with text difficulty, Taiwanese learners at the tertiary level often consult the bilingual dictionary for a translation. This analytical reading behaviour is perhaps influenced by their past learning experience. As Wei (1997) points out, the traditional grammar translation method is the most prevalent approach in most of the Taiwanese classroom settings, especially in junior and senior high schools. Students are trained to focus on grammatical rules, lexical knowledge and literal translation from English to Mandarin Chinese or vice versa. Arden-Close (1999)

criticises the deficiency of this teaching method by stating that "reading lessons had been used as a means to an end – the end being the learning of grammar or vocabulary, not learning how to read in a foreign language" (p. 343). Consequently, after entering university, students find it extremely difficult and frustrating to read their academic textbooks written in English because they rely heavily on local decoding skills and have limited knowledge of reading strategies to help them comprehend the text they are encountering.

Another dilemma that English teachers have to face in Taiwanese universities is large classes consisting of perhaps 50 or even 60 students with different learning styles, expectations, interests and motivation in English learning. It is almost impossible for teachers to meet every student's need or get them all involved in classroom activities under these circumstances. Moreover, because of the prevalent approach to teaching mentioned above, a number of students have developed passive attitudes and will not be able to take responsibility for their learning. They depend on their teachers for the transmission of knowledge and expect them to explain the meaning of the reading materials. Many students do not develop an interest in reading; they only study English for the purpose of passing the exams. The loss of motivation and inactive attitudes may be impediments to their English learning.

For the past couple of years, some research has been conducted to, on the one hand, find out how students' strategic reading could be facilitated (e.g. Chern, 1993; Shang, 2007; Shih, 1991), or on the other, implement group work to solve the plight of large class instruction in Taiwanese university settings (for example, Chi, 2003; Liang, 2000; Wei, 1997). So far, none of the research conducted has been able to make suggestions which might solve the dilemmas related to both enhancing students' strategic reading comprehension and large class instruction of English learning in Taiwanese universities.

Encountering the above-mentioned difficulties in my professional practice gave me the motivation to conduct this study. As an English teacher in the university context, I have been searching for a feasible and effective reading approach which can help students improve their strategic reading in a large class setting and provide opportunities for them to take more responsibility for their own learning.

Among the reading approaches developed by researchers and educators, Collaborative Strategic Reading (hereafter called "CSR") is a reading approach theorising that learners' strategic reading comprehension can be enhanced by teaching them a repertoire of comprehension strategies through collaborative peer-led discussions. Empirically, CSR has been applied in ESL and EFL educational contexts, and the results of studies have shown positive outcomes in the improvement of students' reading comprehension, content learning and English acquisition (Klingner & Vaughn, 2000; Klingner et al., 1998; Lee, 2003; Standish, 2005; Wang, 2008).

However, despite its positive effects in various studies, there has been no study on the impact of CSR in a Taiwanese university context. A more comprehensive investigation of CSR to examine the extent of its effectiveness and feasibility was needed to bridge the gap and add to our knowledge of the place of CSR in EFL reading instruction. This was my reason for undertaking the present study.

1.2 What is CSR?

CSR is a collaborative comprehension strategy instruction proposed by Klingner et al. (1998). CSR derives from the principles of small group peer-led discussions and comprehension strategy instruction, especially reciprocal teaching, all of which will be discussed in Chapter Two. The instructional framework of CSR is based on the

assumption that reading comprehension can be promoted and reinforced through peer collaboration and the application of reading strategies (Palincsar & Brown, 1984; Vaughn et al., 2001). In CSR, four reading strategies are taught – (1) *preview*, (2) *click and clunk*, (3) *get the gist,* and (4) *wrap-up.*

"Preview" is a pre-reading strategy introduced for students to predict what they will read and to activate their background knowledge about the text. A learner's background knowledge, according to researchers such as Dole et al. (1991) and Pressley (2006), is one of the most important factors to affect reading comprehension. The use of previewing is said to facilitate reading comprehension. Carrell & Eisterhold (1988) assert that previewing is particularly important for less proficient ESL readers who need to be trained to read in a more holistic way. Making predictions will help generate hypotheses about the content of the text and set up a purpose for reading (Carrell, 1988b; Lin, 1991; Nuttall, 1996; Mikulecky, 1990).

During the reading, "click and clunk" is the reading strategy implemented to help students deal with "clunks", i.e. unknown words or expressions. A great number of researchers have supported the crucial role of vocabulary learning in second language reading comprehension (for example, Anderson, 1999; Chern, 1993; Eskey, 1988; Grabe, 1991; Huckin & Bloch, 1993; Pressley, 2000). Grabe (1988) and Sweet & Snow (2002) also point out that limited vocabulary knowledge is the greatest hindrance to fluent reading for ESL learners. In dealing with this difficulty, these authors suggest that learners should be taught vocabulary strategies to remedy their comprehension blockage. This is echoed by Pressley's (2000) claim that reading comprehension should not be aimed only at activating learners' background knowledge but also at improving their word-level competences. In CSR, students are taught several vocabulary strategies to help them tackle comprehension obstacles arising from difficult clunks. When they experience breakdowns in understanding the

text, they can use the "fix-up" strategies such as identifying word parts, looking for contextual clues, prefixes and suffixes of the words to aid comprehension.

Another reading strategy used is "get the gist", which helps students to identify the most important idea of the text and exclude unnecessary details. Previous research in the field of reading comprehension places much emphasis on the important role of extracting the main idea of a text in facilitating reading comprehension (Dole et al., 1991; Mikulecky, 1990; Nuttall, 1996). However, finding the gist is not an easy task. It is suggested that this strategy should be taught explicitly through reading instruction (Lin, 1991). As Mikulecky (1990) indicates, English discourse is usually topic-oriented. Teaching students how to find the topic sentence and how ideas are connected can help them distinguish the gist from the supporting information.

After reading, students in CSR use the "wrap-up" strategy to summarise what they have learnt from the text and generate questions to check the understanding of the whole passage. The strategy of summarising is designed to help learners review the most important information they have learned from the text. According to Dole et al. (1991), summarising requires a reader's ability to determine importance and synthesise the central theme of the text. Palincsar & Brown (1984) propose that, to teach students how to summarise a text, deletion of redundancy and using topic sentences as scaffolding are helpful tactics. In CSR, Klingner et al. (1998) suggest that students can generate "five W's and one H" (who, what, when, where, why and how) questions about the crucial information in the text to help them check their reading comprehension.

In the course of CSR, learners practise these four reading strategies through peer-led discussions to facilitate their reading comprehension. To increase their interaction with their peers, they are divided into small groups of 5 or 6 students. Each is assigned a defined role to scaffold their content learning and reading

comprehension. Students stay in the original group during the CSR lessons, but they rotate the roles on a regular basis to experience different responsibilities of the tasks (Bremer et al., 2002; Vaughn et al., 2001). In addition, there are other instructional materials, such as *cue sheets* and *learning logs*, written documentation to assist students in keeping track of their own learning.

1.3 Purposes and Research Questions of the Study

The purposes of this study are, firstly, to investigate the impact of implementing CSR on EFL learners, particularly learners at low-intermediate to intermediate level of English in a Taiwanese university context. Secondly, this study focuses not only on its effectiveness in regard to university learners' reading comprehension but also on the process of how learners help each other to comprehend the ongoing text. Thirdly, this study attempts to provide in-depth insights into Taiwanese university students' perceptions of CSR and to investigate possible strengths and problems with its implementation in an EFL university context. As Rosenshine & Meister (1994) point out, one of the shortcomings of most reading intervention studies is that no evaluation has been made to assess the feasibility and quality of the implementation procedures. This study differs from previous research on CSR and other interventions regarding comprehension strategy instruction in that it examines the feasibility and quality of the implementation so that any potential problems can be recognised and suggestions can be made for further application to Taiwanese university English classrooms. This study will be guided by the following research questions with regard to the Taiwanese context:

1. Is CSR more effective in improving the EFL learners' reading comprehension than the traditional teacher-led reading approach?

2. What is the effect of CSR on the EFL learners' post-test responses to specific types of comprehension questions?

3. How do the EFL learners in CSR collaboratively construct meaning from the texts?

4. What are the strategies used by the EFL learners in CSR to cope with comprehension breakdowns?

5. What are the EFL learners' perceptions of the CSR approach?

Research Hypotheses

Corresponding to the first and second research questions, a set of null hypotheses are as follows:

Hypothesis 1:   There is no significant difference between CSR and the traditional teacher-fronted approach in improving the EFL learners' reading comprehension.

Hypothesis 2.1: There is no significant difference between the control and experimental groups in the post-test scores for comprehension questions on predicting

Hypothesis 2.2: There is no significant difference between the control and experimental groups in the post-test scores for comprehension questions on getting the main idea.

Hypothesis 2.3: There is no significant difference between the control and experimental groups in the post-test scores for comprehension questions on finding the supporting details.

Hypothesis 2.4: There is no significant difference between the control and

experimental groups in the post-test scores for comprehension

questions on dealing with vocabulary.

Hypothesis 2.5: There is no significant difference between the control and

experimental groups in the post-test scores for comprehension

questions on making inferences.

To address the above-mentioned research questions and hypotheses, a mixed-method approach was adopted. Multiple research methods consisting of a quasi-experiment including pre- and post-tests of a reading measure, a questionnaire survey, field notes, recordings of group discussions and group interviews were used to obtain the data from different perspectives. The justification and details of the research design will be discussed in Chapter Three. It is hoped that this study can contribute to the understanding of CSR instruction in the Taiwanese university setting and provide empirical evidence from which implications can be drawn for those who are interested in applying CSR in their own contexts.

1.4 The Structure of the Thesis

This thesis is composed of seven chapters. The first chapter has accounted for the significance and purpose of conducting the study, outlined what CSR is and provided information in relation to the context of the study. In the second chapter the literature concerning the theoretical framework and empirical research relevant to the present study is reviewed. Chapter Three discusses the methodological considerations with regard to the research design used in this study and the justification for adopting a

mixed-method approach. It is followed by two chapters documenting the findings

drawn from the multiple data sources. Chapter Four reports on the quantitative

analysis of the findings from the quasi-experiment and the questionnaire survey, while

Chapter Five focuses on the presentation of the transcription data of the students'

group discussions during CSR. Examining the quantitative data in combination with

the qualitative data, Chapter Six interprets and triangulates the findings with a detailed

critical discussion referring to the relevant literature in more depth. The limitations are

also discussed at the end of the chapter. The final chapter, Chapter Seven, summarises

the major findings of the current study and also pinpoints the pedagogical

implications for English instruction at the tertiary level in Taiwan. Finally, the study

concludes with some suggestions for the future direction of CSR research.

Chapter Two

Review of Literature

This chapter reviews relevant literature concerning theories and empirical research to provide a conceptual rationale for the present study. The review includes: (1) theoretical underpinnings of small group discussions, (2) empirical research on small group discussions, (3) theories of reading comprehension, (4) research on comprehension strategy instruction, (5) Collaborative Strategic Reading (CSR), (6) research gaps related to CSR, and (7) summary of this literature review.

2.1 Theoretical Underpinnings of Small Group Discussions

A small group discussion is a widely adopted instructional approach in L1 and L2 language learning and there is a great deal of empirical evidence to support its beneficial effects on language learning (Alvermann et al., 1987; Cohen, 1994; Cotterall, 1990; Long & Porter, 1985; McDonell, 1992b; Olsen & Kagan, 1992; Webb, 1989; Wei, 1997). Almasi (2002) defines a peer-led discussion as "a classroom event in which students collaboratively construct meaning or consider alternative interpretations of texts to arrive at new understanding" (p. 231). Alvermann et al. (1987) propose three important features of peer discussions: (1) learners can receive different ideas and are ready to modify their misconceptions; (2) students in group discussions are given opportunity to interact with each other; and (3) the length of verbal interaction should be long enough to exchange information.

Theoretically, small group discussions draw on Vygotsky's (1978) work which emphasises the crucial role of social interaction in language learning. According to

Vygotsky, all individual cognitive development arises from the interaction in a social context. In Vygotsky's view, the development of higher cognitive functions, ways of acquiring, processing and manipulating information, is dependent on a process of socialization, and "learning leads development with the gradual internalization of intellectual processes that are activated through social interaction" (Dixon-Krauss, 1996, p.11). In other words, it is through interaction with others and the social environment that cognitive functions such as reading can be developed and become internalised. As such, learning is essentially a socio-cognitive process, internalising thinking from public to private, social to individual (Lantolf & Appel, 1994).

Vygotsky further argues that the human mind is mediated; all human activities are mediated by physical tools which are created by human cultures. In Vygotsky's terms, learners, in collaboration with others, especially more knowledgeable people, use tools such as languages to maximise their learning within the zone of proximal development (ZPD). According to Vygotsky (1978), ZPD is defined as "the distance between a learner's actual developmental level of problem solving and the level of potential development through problem solving under guidance or in collaboration with more able peers" (p.86). In his view, a more advanced guide is needed to support a less competent learners' cognitive development. The guidance may be provided by an adult, teacher or through collaboration with more capable peers. The process of the above-mentioned guidance is known as "scaffolding" (Aljaafreh & Lantolf, 1994; De Guerrero & Villamil, 2000; Foster & Ohta, 2005; Ohta, 1995; Storch, 2007). This metaphoric terminology emphasises the importance of collaboration with adults or more capable peers for the process of learning and it is claimed that by means of expert scaffolding, a learner's higher level cognitive functions can be developed. Successful scaffolding, as Wood et al. (1976) suggest, serves six prominent functions: (1) recruiting interest in the task, (2) making the task manageable, (3) staying on the

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track of the problem-solving task, (4) marking relevant differences, (5) controlling frustration, and (6) providing modelling solutions. Additionally, to maximise language learning effectiveness, scaffolding instruction within the ZPD has to be graduated, contingent and dialogic (Aljaafreh & Lantolf ,1994). More specifically, tutors have to be aware of learners' current linguistic level, offer assistance when it is needed and provide expert modelling through dialogic interaction.

The traditional perspective of collaborative learning and scaffolding, which stresses the role adults or more advanced peers play in fostering learners' cognitive development, seems to neglect the potential contribution that learners can make to their own learning. This asymmetrical assumption of scaffolding interaction has been challenged and expanded by a group of researchers who have adopted a more balanced view and broader interpretation of the concept with respect to collaboration. For example, Tudge (1990) examined the effects of different types of collaboration. One hundred and fifty-four children, ranging from 5 to 9 years old, were paired with a more competent, less competent, or equally competent peer in problem-solving tasks. The results of the study suggested that collaborative learning is not necessarily limited to interaction between experts and less capable learners. Based on Tudge's point of view, the key concern is the quality of interaction, and as long as the instruction is carefully structured, the potential benefit of peer collaboration should not be neglected. More recently, Mercer (2000) has coined the term - Intermental Development Zone (IDZ), a shared communicative space, to expand the Vygotskian construct of the dialogic nature of knowledge construction. According to Mercer, exploratory talk is viewed as a form of linguistic scaffolding. Learners develop and clarify thinking from negotiating and sharing the understanding of knowledge with others. The learning process does not depend on the provision of assistance or guidance from people who are more competent but on the social context where learners can talk and think together.

The work of Forman (1981) has shed some light on the intellectual value of peer collaboration in the learning development process. Forman conducted a longitudinal study to examine the patterns of social interaction and the use of problem-solving strategies when primary school learners engaged in various tasks. The research focused on the interaction between peers with equal competence rather than that between teachers or advanced peers and less able learners. Three dyads of pupils collaborated to complete increasingly more complicated chemical reaction tasks. The peer interaction was classified into three patterns – parallel, associative and cooperative. The results of this study indicated that the collaborative groups outperformed the solitary problem solvers on the analysed tasks, but not on the measures of logical reasoning. Furthermore, it was found that the collaborative groups exchanged a greater amount of support, encouragement, correction and guidance. This study highlights that the most important factor to facilitate learners' cognitive development is the peers' willingness to actively engage in collaboration with their peers to solve the problems. As long as peers work toward a common goal, learners' cognitive abilities develop through mutual support, feedback and guidance.

Similarly, Donato's work (1994) also adds to our understanding of peer scaffolding in language learning within a Vygotskian theoretical framework. Adopting a microgenetic approach, a method of analysis focusing on the investigation of participants' moment-to-moment behavioural changes, Donato audio-taped and analysed how three American university learners collaborated with each other to learn French and to what extent they mutually scaffolded their language development. The result of his study seems to provide supportive evidence that, despite learners' limited linguistic proficiency, peer collaboration, in his term "collective scaffolding", could lead to the same effects of language development in individual learners as produced by expert scaffolding.

In terms of the pedagogical implications, the above-mentioned studies suggest that a language classroom setting should create meaningful social literacy activities that provide the chance for students to collaborate not only with teachers or more advanced learners but also with peers with similar language competence (Dixon-Krauss, 1996; Forman, 1981; Foster & Ohta, 2005; Lantolf & Appel, 1994). By means of collaboration and interaction with others, students can respond to and challenge one another's interpretation and clarify confusing aspects of text understanding.

2.2 Empirical Research on Small Group Discussions

There has been a tremendous amount of research into peer-led group discussions. It is thus beyond the scope of this thesis to conduct an exhaustive review of literature on collaborative group work. Rather, I will focus on empirical research related to the issues addressed by this present study. Three themes I will review in this section include: the benefits of using peer discussions in second language learning, challenges of implementing group work, and research on collaborative peer dialogue.

2.2.1 The Benefits of Using Peer Discussions in Second Language Learning

Previous studies have found that the use of peer-led discussions in L2 language classrooms can promote meaningful communication (Foster & Ohta, 2005; Klingner et al., 1998; Mercer, 2000). Small group discussions have also been used to improve academic performance, increase students' learning motivation and provide the opportunity for learner autonomy (Alvermann et al., 1996; H. Brown, 2001; Gillies,

2003; Janzen & Stoller, 1998; Lee, 2003; McDonell, 1992b; Olsen & Kagan, 1992).

Empirical evidence on collaborative group work has shown a number of positive

effects, especially when compared with the traditional teacher-fronted methods. Skon

et al. (1981) examined the effects of different learning approaches on students'

literacy achievement and the acquisition of cognitive reasoning strategies. Eighty-six

first graders from four classes were randomly assigned to three conditions –

cooperative, competitive and individualistic. In terms of literacy achievement as

measured by free recall, spontaneous retrieval and categorization strategy to

paraphrase and explain metaphors, the findings of the study suggested that students

following cooperative peer interaction performed better and derived a higher quality

of cognitive reasoning strategies when comparing with those who were in competitive

and individualistic groups.

The work of Long & Porter (1985) adds to our understanding of the benefits of

collaborative group work. Long and Porter reviewed a number of prominent studies in

SLA research which compared interlanguage talk and classroom interaction between

group work and teacher-led instruction. They suggest that the use of group work in

second language learning contexts can increase language practice opportunities,

improve the quality of classroom interaction, provide a secure learning environment

to maximise learning potentials and enhance learners' motivation for individual

learning. When comparing with the traditional teacher-led approach which provides

fewer opportunities for student control and interaction, collaborative learning

instruction seems to foster language learning in terms of quantity of practice, variety

of practice, negotiation, accuracy and correction. The major findings of the studies

they reviewed are summarised as follows:

- Collaborative group work as opposed to the traditional teacher-led approach increases quantity of language practice.

- Students in peer-led discussions in comparison with their counterparts in lockstep teaching are exposed to a wider range of language functions.

- More negotiation of meaning occurs when non-native learners are engaged in collaborative group tasks or in an effort to reach mutual understanding than in NS/NNS dyads.

- L2 learners produce the same level of linguistic accuracy in small group work as in teacher-fronted instruction.

- The frequency of other-correction, corrective feedback provided by others, is significantly higher in group work than in whole class instruction.

A study by Lehman & Scharer (1996) argues that peer discussion helps learners develop literacy awareness by moving them from a lower level of recitation and recall of details to a higher level of critical and interpretative thinking. As Lehman & Scharer point out, "collaborative interaction helps learners to stretch beyond their limits and gain new insights" (p. 27). Through engaging in group discussions, learners generate more ideas and are exposed to different perspectives on the texts with which they are confronted.

In addition to teachers' and researchers' interpretations of group work, previous research has also been conducted to investigate peer-led group discussions from the participants' perspectives. These studies made their contributions by providing students' valuable insights into their own experiences. Alvermann et al. (1996) interviewed L2 learners with different culture backgrounds as they participated in text-based discussions. The researchers collected multiple sources of data including

videotaped classroom discourse, focus group interviews, field notes and samples of students' work. The results supported the benefits of collaborative group learning. Students from culturally different sites confirmed that negotiation of meaning with their peer helped them understand what they had read. They also pointed out that the tasks and assigned topics for reading affect their participation and discussion engagement. Interesting and enjoyable topics aroused their willingness to join in the group discussions.

In another study, Wei (1997) implemented group work in three Taiwanese English classes at the tertiary level and explored the EFL learners' reflections by the questionnaire survey method. Overall, most of the students held positive attitudes toward the collaborative instructional approach. The results suggested that group work seems to be effective in enhancing classroom interaction, improving interpersonal relationships, and promoting opportunities for learner autonomy.

While Alvermann et al. (1996) and Wei (1997) underscored the importance of students' perceptions of collaborative group work, Almasi (1995) examined the nature of two different instructional contexts: teacher-led and collaborative group discussions on students' socio-cognitive conflicts. According to Almasi, socio-cognitive conflicts occurring in a social context refer to disagreements which challenge or change learners' interpretations of a reading text. In this study, three types of socio-cognitive conflicts were categorised including (1) conflicts within self, which refers to uncertainty about one's interpretation, (2) conflicts with others, pertaining to inconsistent ideas with other peers, and (3) conflicts with text, defined as misunderstanding of the text. It was found that students in peer-led discussions engaged in more conflicts within self and with text than students in teacher-led groups. However, conflicts with others were not frequent in both of the conditions. This study

provides an interesting discussion regarding the benefit of peer-led discussions from the standpoint of sociocognitive conflicts and contributes to our understanding that peer-led discussions promote greater opportunities for learners to recognise and resolve their cognitive confusion and misunderstanding of the text meaning.

2.2.2 Challenges of Implementing Group Work

Although there are a number of benefits of peer collaboration in language classrooms, a growing body of research has warned us that group work is a complex instructional approach involving numerous factors and it is over-simplistic to optimistically expect small group discussions to be always effective (Almasi, 1995; Alvermann et al., 1987; Chi, 2003; Cohen, 1994; Maloch, 2002; Nystrand et al.,1993). According to Dunston (2002), peer collaboration is a "double-edged sword" (p. 142) and she maintains that there are challenges and dilemmas when implementing this instructional approach. In order to successfully implement collaborative group work, teachers should be aware of techniques to deal with difficulties, including organising classroom collaborative structures to facilitate productive peer talk; getting students to actively participate in discussions and stay on tasks; optimal group size and effective group formation for peer collaboration.

The first challenge is related to classroom collaborative structures. According to Nystrand et al. (1993), not every type of group participation structure is conducive to positive outcomes. They investigated the effects of classroom structures on students' achievement in literacy comprehension. The study involved 54 ninth grade English classes from 9 high schools in L1 contexts. Four types of classroom structures were observed, including classes with no group work, collaborative seatwork with a highly prescribed structure, problem-solving with a semi-prescribed pattern, and autonomous group work where teachers defined the goal to be achieved, but the interaction discourse was not

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pre-determined. The study showed that classes with collaborative seatwork scored lower than those with no group work on literacy achievement. Classes with highly autonomous group work outperformed those following the other three types of classroom structures. Findings from the study suggests that, the degree of autonomy and participation structure seems to determine the effectiveness of collaborative group work.

Getting students to actively participate in group work and stay on tasks appears to be another challenge. In a study examining the reasons why Taiwanese university students struggled in text-based discussions, Chi (2003) found that inactive participation was one of the causes resulting in discussion difficulties. Previous studies related to group work also reported similar problems (cf. Lee, 2003; Lin, 2008; Wei, 1997). Cohen (1994) suggests that role assignment can be used to construct productive group work and avoid inactive members. According to Cohen, role assignment gives every group member a way to contribute to the discussion and it "alleviates problems of nonparticipation or domination by one member" (p. 87).

Group size is another factor to influence the discussion engagement and achievement. In the existing literature, there is no absolute consensus on the optimal number of group members in peer-led discussions. Nuttall (1996) argues that groups should not be more than five in number and members should sit in a circle to increase the effectiveness of learning. Olsen & Kagan (1992) advocate teams of four for group work. Similarly, Gillies (2003) contends that the optimal group size for language learning is 3-4. Any group larger than 5 is more likely to resemble a whole class setting where group members struggle for interaction with each other. This argument is echoed by Alvermann et al. (1996) who suggest that the smaller size reduces anxiety and increases opportunity and responsibility for participation. In sum, the above-mentioned researchers seem to suggest that groups consisting of 3-5 people are the most productive.

Since most of the participants in research on group size are younger learners in primary or secondary schools, more research is needed, particularly for group work consisting of more than 5 adult learners, to add to our understanding of the effects of larger group size on adult learners' learning.

Research on peer collaboration has also focused on the most effective group formation in terms of heterogeneity or homogeneity of language ability. As Cohen (1994) points out, the majority of the researchers in peer-led group learning has advocated heterogeneous ability grouping. Based on the numerous studies cited in the study, Cohen contends that low-achieving students do not benefit from homogeneous low-ability groups but unconditionally perform better in heterogeneous classes because of the benefits they receive from the interaction with high-achieving students. In addition, previous studies have supported the contention that linguistic heterogeneity can facilitate classroom management, enhance academic and social growth, increase interpersonal communication and engage diverse learners in meaningful learning experiences (Dunston, 2002; McDonell, 1992b; Olsen & Kagan, 1992). In contrast, research has shown some contradictory results about the merits of homogeneous ability grouping in the classrooms, particularly for students with medium-ability. For example, Webb (1989) maintains that average-achieving students benefit more in relatively homogeneous groups than in heterogeneous groups. However, Gillies (2003) argues that average achievement students perform equally well in both heterogeneous and homogeneous groups. Since the existent studies have produced inconclusive and inconsistent results, more research is needed to investigate not only the effectiveness of linguistic homogeneity grouping but also how average-achieving students develop their language learning in relatively homogeneous groups.

2.2.3 Research on Collaborative Peer Dialogue

According to sociocultural theory of cognitive development, dialogue plays an important role in the process of language learning (Aljaafreh & Lantolf, 1994; Lantolf & Appel, 1994; Vygotsky, 1978). For the past decades, studies in peer interaction and collaboration have paid much attention to the nature and role of peer dialogue in second language acquisition. Swain (2000) defines collaborative dialogue as "dialogue in which speakers are engaged in problem solving and knowledge building" (p. 102). According to Swain, peer-peer dialogue is a form of output and it is a socio-cognitive process which mediates language learning. Based on Vygotsky's perspective of mind discussed in the earlier section, language is a cognitively mediating tool and knowledge building, such as reading for text comprehension, is dialogically constructed. That is, learners collaborate to negotiate meaning and co-construct knowledge through dialogical scaffolding. They provide assistance to each other and contribute what they know to the process of meaning-making for text comprehension (Donato, 1994; Foster & Ohta, 2005; Maloch, 2002; Mercer, 2000; Ohta, 1995).

As Swain & Lapkin (1998) point out, collaborative dialogue in which learners work together on problem-solving tasks is believed to foster second language learning. The researchers theorise that the more learners negotiate with each other through collaborative dialogue, the more opportunities they have for second language comprehension and learning. In addition, peer-peer dialogue is assumed to provide an ideal milieu for L2 learners to recognise a gap between their interlanguage and the target language in terms of linguistic form and meaning, allow learners to test their hypotheses about the target language, improve fluency through practice and help internalise language learning through the joint construction of linguistic knowledge (Storch, 2007; Swain, 2000; Swain & Lapkin, 1998, 2000).

A large amount of literature related to peer-peer dialogue has focused on L2 writing tasks. Conducting a microgenetic analysis of the dialogic interaction of two eighth graders in a French immersion program, Swain & Lapkin (1998) investigated how L2 learners collaboratively created a storyline and composed the story. Their study focused on the analysis of the occurrence of language-related episodes (LREs), defined as "any part of a dialogue where the students talk about the language they are producing, question their language use, or correct themselves or others" (p. 326). The nature of LREs in the task was classified as form-based or lexis-based. Based on the results of the study, Swain & Lapkin suggest that LREs foster language learning. Peer-peer dialogue emerging during collaborative writing work allows the learners to pool knowledge to achieve the task and monitor their own understanding of specific linguistic forms.

A study by Storch (2007) compared individual and collaborative work and examined the nature of peer dialogue and its impact on tertiary ESL learners as they engaged in a task related to grammar-focused text editing. Sixty-six students from four intact classes were divided into 20 pairs (1 group of 3) and 25 individuals. The analysis focused on the editing work produced collaboratively and individually and transcription of pair talk with regard to LREs as learners discussed the proper forms for the given text. The occurrences of LREs were categorised as grammar, lexis and mechanics-based (writing formats such as punctuation and capitalization). The results showed that group work did not lead to greater accuracy on the target task. However, the analysis of peer dialogue suggested that learners in pair work collaborated to resolve linguistic problems, co-construct knowledge and provide scaffolding for each other for language development.

The research of Storch (2007) and Swain & Lapkin (1998) shares a similar limitation. Although these studies have provided valuable insights regarding how

second language learning occurs through joint construction of L2 knowledge, they did not provide information about the relationship between each type of LREs and learning outcomes. More in-depth analysis of this issue would have helped us build up a clearer picture of the individual impact of LREs.

In another study, Ohta (1995) explored how peer scaffolding affects language use. Two American university learners collaboratively worked to make polite requests in Japanese. The results supported the benefits of collaborative work for L2 learning of grammar features. Ohta claims that the learners increased their language competence through peer-peer dialogic interaction. During the scaffolding process, the expert-novice relationship is not necessarily constant. The construction of the roles relies on the strengths which learners can contribute to the collaborative work. Furthermore, it was found in Ohta's study that corrective feedback in learner-learner collaborative interaction leads to second language development.

In addition to Ohta (1995), other researchers have also investigated the impact of peer corrective feedback as learners co-construct linguistic knowledge. Carroll & Swain (1993) compared the effects of explicit and implicit corrective feedback, defined as correction for erroneous performance offered directly or indirectly, on adult ESL learners while learning the English dative alternation rules. The results indicated that learners benefited more from receiving direct corrective feedback than indirect feedback. Carroll and Swain postulate that implicit error correction requires a large amount of guesswork; whereas explicit feedback provides sufficient information for ESL learners to reduce confusion of the meaning and form that they failed to understand. On the other hand, Storch (2007) values the importance of repetition, one type of indirect corrective feedback. According to her, learners' repetitions signify that they notice their peers' deviation from the target linguistic forms. This kind of implicit

error correction may help raise L2 learners' consciousness of the language use and internalise the new linguistic features.

Additionally, Aljaafreh & Lantolf (1994) provide an alternative view on corrective feedback and suggest that both explicit and implicit negative feedback is necessary for linguistic development depending on learners' proficiency level and the types of erroneous performance. Aljaafreh & Lantolf further highlight the importance of self-correction in language learning and argued that "too much guidance or other repair, might inhibit or at least retard the development of self-repair" (p.480). In other words, excessive amounts of explicit feedback may be detrimental to language development. To achieve a higher level of ZPD, L2 learners need to be trained to self-correct their own erroneous linguistic performance.

Several studies have made contributions to extending our understanding of the facilitative role of L1 in the process of collaborative dialogic interaction (for example, Anton & DiCamilla, 1999; Cotterall, 1990; De Guerrero & Villamil, 1994,2000; Klingner & Vaughn, 1999; Ohta, 1995; Schweers, 2003; Swain & Lapkin, 1998, 2000). In an investigation of the use of L1 in the collaborative peer discussion of Spanish learners whose first language is English, Anton & DiCamilla (1999) found that learners' mother language serves multiple functions in the cognitive development of language acquisition. It helps maintain interaction for collective scaffolding (Donato, 1994), establishes a shared understanding of the tasks and verbalises learners' private thinking (Lantolf & Appel, 1994; Vygotsky, 1978).

In congruence with Anton & DiCamilla's (1999) standpoint, De Guerrero & Villamil (1994, 2000) stress the importance of learners' L1 as a powerful socio-cognitive tool for task control, content generation and quality improvement in peer revision of L2 writing. In another study examining the functions of L1 in her

Puerto Rican university students' English learning, Schweers (2003) found that the use of Spanish is the primary tool for students to negotiate meaning in the classroom and it helps them increase their confidence and motivation to learn English. Swain & Lapkin (1998, 2000) also emphasise the facilitating role of L1 during collaborative problem-solving tasks for second language learning. Likewise, Cotterall (1990) argues that requiring learners to use the target language to discuss in text comprehension tasks may be an additional linguistic burden, particularly for less skilled L2 learners. According to these authors, L1 can be used to enhance efficiency, focus attention and facilitate communication. They go on to strongly suggest that teachers should be aware of the socio-cognitive benefit for students of using their native languages. The prohibition of L1 in the classroom is likely to hamper learners' exploration of the target language (Anton & DiCamilla, 1999; De Guerrero & Villamil, 2000).

Overall, despite the abundance of interesting research examining learner-learner dialogic interaction during collaborative work, much remains unanswered. The studies reviewed in this section, which are relevant to my research, revealed that these studies either focus on form-based tasks with pre-determined grammatical features (for example, Ohta, 1995; Storch, 2007; Swain & Lapkin, 1998) or L2 writing revision tasks (for instance, Aljaafreh & Lantolf, 1994; Anton & DiCamilla, 1999; Deguerrero & Villamil, 1994, 2000). Since different task types and linguistic aspects may prompt students' involvement in dialogic interaction to different degrees, more research is needed to expand our understanding of how L2 learners collaborate in tasks with an open-ended nature such as reading for text comprehension.

Having discussed empirical research concerning collaborative peer dialogue, in the next section, I will discuss the theories of reading comprehension in more details.

2.3 Theories of Reading Comprehension

Reading comprehension is a complicated cognitive meaning-constructing process which involves the interaction of the reader, the text and the context. In the reading literature, there are three main conceptual models of reading processing: the bottom-up, top-down and interactive processing models, which all contribute to our understanding of the nature and complexity of reading comprehension.

The bottom-up framework depicts reading comprehension as a learner's linguistic decoding process where the reader focuses on extracting information from the printed text (Samuels & Kamil, 1988). Gough (1976) provides a prototype for bottom-up processing. In his model, reading is made up of sequentially ordered transactions where the reader works on the recognition of sound-symbol correspondence in a hierarchical order starting from letter-by-letter, word-by-word, sentence-by-sentence to decipher meaning. Grabe & Stoller (2002) describe that this reading process "follows a mechanical pattern in which the reader creates a piece-by-piece mental translation of the information in the text" (p. 32). LaBerge & Samuels (1974) propose another bottom-up model, stressing the importance of automaticity in the reading process. According to the authors, automaticity refers to rapid and accurate recognition of lexical units and automatic processing of word recognition without conscious attention is crucial to reading comprehension. For the bottom-up models, reading comprehension is considered as linear and mechanical starting from lower-level to higher-level linguistic units. The reader decodes the meaning from the print by reliance on the graphic knowledge associated with the phonetic symbols and automatic processing in word recognition and syntactic analysis of linguistic units to understand the meaning of the texts.

Critics of the bottom-up processing models have raised concerns about its over-

simplification of the complex nature of reading comprehension. As Samuels & Kamil (1988) point out, the major drawback of the bottom-up processing models is that it fails to account for some variables such as sentence-context effects and the role of background knowledge in the process of meaning construction. In addition, as bottom-up processing operates in a single direction and each decoding stage is independent from the other, Alderson (2000) adds that "sub-processes higher up the chain cannot feed back into components lower down, for example, identification of meaning does not lead to letter recognition" (p. 16-17).

In contrast to the emphasis on the lower-level discrete skills of reading comprehension in the bottom-up models, top-down processing highlights the reader's prior knowledge and the process of hypothesis-testing or prediction in comprehending the written messages (Alderson, 2000; Grabe & Stoller, 2002; Nuttall, 1996; Samuels & Kamil, 1988). For example, Smith (1971) emphasises the notion of "reduction of uncertainty" in reading (p. 12). He claims that fluent readers predict the content of the text they are going to read and select text information to confirm or reject their predictions. On the other hand, Goodman (1976) describes the nature of the reading process as a "psycholinguistic guessing game" and asserts that reading comprehension is meaning seeking, selective, tentative and constructive. These top-down models of reading posit that readers start to derive meaning from the higher-level of processing such as activating their knowledge of the topic to predict what they are going to read, then selectively sample linguistic clues such as morphological, syntactic and semantic information to confirm or refute their hypothesis.

The top-down processing of reading is not without problems. Several researchers have questioned its application to second language readers. For example, as Samuels & Kamil (1988) point out, ESL readers are not able to generate predictions if they lack background knowledge of the topic. Grabe (1988) maintains that owing to their

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limited linguistic and cultural knowledge, second language readers may be less likely to perform at the same level of reading behaviours as first language readers, for example on tasks such as predicting and making inferences. Likewise, Alderson (2000) indicates that less skilled second language readers tend to have lexical difficulties; therefore, "guessing will not overcome this deficiency and lead to automatic recognition" (p. 19). Based on my personal teaching experience at the tertiary level for more than 15 years, I would support the views of the researchers mentioned above. Indeed, it is difficult for ESL/EFL learners who struggle with limited vocabulary knowledge to conform to the assumptions of the top-down processing model of reading. The evidence regarding these issues will be discussed in Chapters Four, Five and Six in more detail.

Interactive reading models combining the top-down and bottom-up theoretical frameworks provide a more comprehensive picture of how readers construct meaning from the complicated, constructive and interactive nature of the reading process (Bernhardt, 1991; Carrell, 1988b; Eskey & Grabe, 1988; Grabe, 1991; Grabe & Stoller, 2002; Nuttall, 1996; Pressley, 2006). Rumelhart (1977) maintains that reading comprehension requires a set of balancing and coordinating strategies and they interact with each other in the process of meaning-making. According to Rumelhart, information processing is not linear but parallel, a wide range of sources are utilised in combination to facilitate comprehension including visual, lexical, syntactic, semantic and contextual cues. Rumelhart's work provides an important rationale for CSR pedagogy which places a great emphasis on the training of multiple reading strategies for language learners to enhance their text comprehension.

Stanovich (1980) proposes an interactive-compensatory model theorising that readers who have insufficient linguistic knowledge in a particular aspect capitalise on other processes to compensate for their weaknesses. According to Stanovich, good

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readers read for general ideas and make sufficient inferences about the text by the application of their prior knowledge. Simultaneously, they perform automatic word recognition, extracting meaning from grammatical units and integrating the lexical knowledge and syntactic clues to form semantic meaning from phrases, clauses and text.

Deriving from schema theory, the role of schema, or background knowledge is a central issue in interactive reading models (Pearson et al., 1992). Schema theory is concerned with the way knowledge is organised and constructed from our previous experiences related to the specific area. Rumelhart (1980) defines a schema as "a data structure for representing the generic concepts stored in memory" (p. 124), whereas Alderson (2000) perceives it as "a network of information stored in the brain which acts as filters for incoming information" (p. 17). A reader comprehends the text by comparing and mapping the incoming information against their prior knowledge. If there is no existing knowledge available, the reader will encounter a comprehension breakdown. In light of this schema-theoretic perspective, a reader's schemata are crucial to reading comprehension (Anderson, 1999; Grabe, 1991; Pearson et al., 1992; Shih, 1991).

In addition to three theoretical approaches to reading comprehension, another line of research has focused on examining whether L1 reading strategies can be transferred to facilitate L2 reading comprehension. Alderson (1984) questioned why proficient L1 readers have difficulties reading L2 and concluded that L2 readers need to achieve a certain level of linguistic threshold, also known as Linguistic Threshold Hypothesis, before transferring L1 ability to L2 settings. In investigating how ESL native Spanish speakers read English texts, Clarke (1988) found that language transfer is not automatic and limited L2 linguistic knowledge short-circuits the good reader's effective transfer from L1 reading strategies to the target language. These findings

were justified by a large number of researchers who suggest that, although L1 reading ability is a predictor of L2 reading, it is L2 proficiency, particularly grammatical and lexical knowledge which plays a crucial role in successful L2 reading (Alderson, 2000; Bernhardt, 1991; Grabe & Stoller, 2002; Koda, 2004). Despite the common support of language threshold, it is not clear how much linguistic knowledge learners should possess to make effective use of their L1 for L2 text comprehension. As Grabe & Stoller (2002) posit, L2 readers have different language backgrounds, prior knowledge of topics and reading experiences. Therefore, there is no absolute linguistic level which accounts for efficient L2 reading. The threshold will be dependent on several factors such as task complexity, the reader's current linguistic proficiency and the text structure.

2.4 Research on Comprehension Strategy Instruction

The interactive conceptual framework has contributed to shedding some light on the intriguing and complex nature of the reading process, and has had important pedagogical implications for ESL and EFL reading instruction. To help ESL or EFL students become interactive readers, researchers have argued that there is a need for comprehension strategy instruction which emphasises both bottom-up and top-down processing (Cotterall, 1990; Dole et al., 1996; Eskey & Grabe, 1988; Gambrell et al., 2002; Grabe, 1991; Grabe & Stoller, 2002; Janzen & Stoller, 1998; Pearson et al., 1992; Pressley, 2006; Sweet & Snow, 2002).

In the past three decades, a great deal of research has been done in the field of comprehension strategy instruction and there has been a consensus that it should be multi-componential and developmental (Almasi, 2003; Anderson, 1992; Brown et al.,

1996; Carrell,1988b; Dole et al., 1991; Koda, 2004; Pressley, 2000, 2002). Supported by consistent empirical results, some sophisticated instructional models composed of specific reading strategies provide solid frameworks of effective comprehension strategy instruction. Among them, reciprocal teaching (RT), one type of collaborative comprehension strategy instruction, proposed by Palincsar & Brown (1984), is one of the most influential approaches. Reciprocal teaching is designed for students who have basic decoding skills but have difficulties in meaning construction and according to Pressley (2002), it is the first "empirically validated approach to the teaching of a package of comprehension strategies" (p. 12). This instructional model involves teachers' and students' collaborative work to construct text meaning. In practice, teachers model four cognitive reading strategies by using the thinking also technique to help students improve their reading comprehension: summarising, generating questions, clarifying, and making predictions. In classroom settings using reciprocal teaching, students gradually assume the role of being "the teacher" when they become more proficient. This aims to make them more independent in their learning.

Reciprocal teaching has been extended to various age groups and reading proficiencies in laboratories or in first and second language classrooms. Sixteen studies on reciprocal teaching were reviewed by Rosenshine & Meister (1994) in an attempt to investigate its effectiveness. The students in their review range from grade one to eight. Three different types of classes are identified: mixed abilities, good-poor (good in decoding or but poor in comprehension), and below average (in decoding and comprehension). All of the studies were quantitative in nature and involved control and experimental groups. The results of the meta-analysis showed that the studies using researcher-developed comprehension measures had a greater impact than the ones with standardised reading tests. The findings suggested that students who are good at decoding but poor at comprehension benefit the most from this

comprehension intervention.

Moreover, many studies have been conducted in ESL/EFL classrooms for the purpose of examining the effects of reciprocal teaching on adult learners' English learning. Song (1998) found that reciprocal teaching helps Korean university students improve their reading comprehension particularly in the understanding of main ideas and making inferences of the given passages. Conducting a study in a pre-university ESL class, Cotterall (1990) found that learners in reciprocal teaching became better at looking for the main ideas from the texts and activating their background knowledge. Chen (2005) examined the effects of a modified model of comprehension strategy instruction similar to RT on 89 Taiwanese senior school students' reading comprehension. The study concluded that comprehension strategy instruction helped the subjects increase their ability in getting main ideas, making inferences and finding answers for detailed questions, but the students' vocabulary ability did not improve after the intervention.

Although these replications of RT research provide strong empirical support for this instructional approach, there are some methodological limitations. First of all, some of the studies, for example, Chen (2005), Cotterall (1990) and Song (1998) did not include a control group. In spite of the fact that their findings may be seen as indicative of the effectiveness of reciprocal teaching, no comparison can be made between those who do and those who do not receive this reading approach. Another limitation is that most studies with regard to RT are based on a quantitative design with a short experimental period from 2 weeks to 3 months. How students actually construct meaning is still not clear. More qualitative research would be helpful to provide a holistic evaluation.

In another comprehension intervention called direct explanation of comprehension strategies, Roehler & Duffy (1984) stressed the crucial role of teacher

modelling in facilitating learners' reading comprehension. In this approach, teachers explicitly provide declarative knowledge (what the strategies are), conditional knowledge (when to use them) and procedural knowledge (how to use them). Scaffolding in instruction and teachers' feedback is reduced when students become more independent in the application of reading strategies. A series of Duffy and his colleagues' experimental studies suggest that less able students who receive direct explanation of comprehension strategies which characterises direct explanation, teacher modelling and guided practice of reading strategies show positive improvement in conceptual understanding and reading achievement (Duffy et al., 1988; Pearson & Dole, 1987; Roehler & Duffy,1984).

Influenced by Roehler & Duffy's (1984) approach, Pressley et al. (1992) propose transactional strategies instruction (TSI). This strategic reading intervention shares the same features of teacher modelling, direct explanation of reading strategies and guided practice with direct explanation of comprehension strategies, but differs in (1) its emphasis on the interpretative transaction between readers and text and (2) transactions among group members to construct meaning together (Pressley, 2006). Moreover, a major difference between TSI and other comprehension strategy approaches is that TSI not only emphasises cognitive reading strategies but also interpretative strategies. In TSI, a small repertoire of comprehension strategies are instructed and practised over a long period of time including predicting, generating images, seeking clarification and summarising (Pressley, 2002). The long-term goal of TSI is to help students internalise strategic processing through the interaction of group discussion and teacher scaffolding.

Unlike most of the studies in reciprocal teaching, TSI research often adopts a long-term experimental design lasting from one semester to over a year, for example, the studies of Anderson (1992) and Brown et al. (1996). These two studies provide

strong empirical evidence to validate the application of TSI to improve elementary graders' and secondary adolescents' interpretative reading competence. In another TSI study, Loranger (1997) adopted a mixed-method approach to examine the effects of TSI on fourth graders' reading comprehension and engagement during group discussions. Quantitative and qualitative data were gathered including pre/post-test on a standardised reading test, pre/post interviews, videotaped reading discussions and response journals. The findings of this study supported the positive impact of TSI on fourth graders' reading achievement. Students in the experimental group were more interested and engaged in reading task and discussion than participants in the control group.

Having discussed research on comprehension strategy instruction relevant to this thesis, I will now turn to discuss the focus of this present study – Collaborative Strategic Reading (CSR) in the next section.

2.5 Collaborative Strategic Reading (CSR)

CSR is an approach to learner-centred comprehension strategy instruction which has adapted the fundamental framework from reciprocal teaching (Klingner & Vaughn, 1996; Klingner et al., 1998). The aim of CSR is to help learners improve their strategic reading ability and help them take on more responsibility on their learning. The following sub-sections give a detailed discussion of this strategic reading approach including (1) its theoretical orientation, (2) learner autonomy and CSR, and (3) previous research on CSR.

2.5.1 A Socio-Cognitive Model of Comprehension Strategy Instruction

The theoretical framework of CSR is based on the socio-cognitive theory of reading which stresses the important role of social context in the cognitive development of reading comprehension (Bernhardt, 1991; Vaughn et al., 2001). According to this perspective, reading is interactive and both cognitive and social variables influence readers' understanding of the text. In the process of comprehension, readers assume an active role to access background knowledge relevant to the texts, apply cognitive resources available such as reading strategies, and develop their reading comprehension through meaningful social interaction.

Drawing on a socio-cognitive rationale, Langer (1987) contends that the development of conceptual thinking is shaped by the supportive and collaborative instruction and Langer further postulates that cognitive strategies, metacognitive awareness and metalinguistic behaviours which help learners develop self-questioning and self-appraisal abilities should be placed at the centre of literacy learning. In congruence with Langer's point of view, Lenski & Nierstheimer (2002) advocate the incorporation of strategy instruction in particular for learners who are struggling with reading. They argue that, reading blockage does not necessarily result from learners' linguistic deficiencies. Rather, it may stem from learners' lack of strategic knowledge or inexperience of applying reading strategies in appropriate contexts. Through the instruction of comprehension strategies, it is argued that learners can be helped to enhance their self-regulated learning.

The Vygotskian notion of mediation also has a profound impact on CSR. As Vaughn et al. (2001) point out, CSR is peer-mediated instruction, where learners involved in collaborative work co-construct meaning and modify thoughts. Several researchers such as Duffy et al. (1988), El-Dinary (2002) and Pressley (2006)

maintain that this kind of socially mediated interaction has the fundamental characteristics of peer scaffolding, a learning context where learners achieve cognitive development which cannot be performed individually, with the assistance from others who are not necessarily more competent (see the earlier section 2.1 for the detailed discussion of related themes). In collaboration with their peers for meaning negotiation and construction, learners internalise and challenge their cognitive strategic knowledge through small group discussions.

2.5.2 Learner Autonomy and CSR

For the past two decades, researchers have stressed the importance of fostering learner autonomy in first and second language learning (H. Brown, 2001; Cotterall, 2000; Holec, 1981; Kohonen, 1992; Little, 1991, 2000; Sinclair, 2000; Wenden, 1991; Yang, 1998). Holec (1981) defines learner autonomy as "the ability to take charge of one's own learning" (p. 3). On the other hand, Little (1991) suggests that learner autonomy is "a capacity for detachment, critical reflection, decision making and independent action" (p. 4). Based on these definitions, the fundamental feature of autonomous learners is their capacity and positive attitude to be responsible for their own learning. In other words, autonomous learners are self-directed and take the control of their learning. Nevertheless, this capacity is not necessarily inherent. Learners can be trained to become autonomous through various techniques and procedures in formal learning (Holec, 1981; Sinclair, 2000). In a discussion of the principles of promoting learner autonomy, Cotterall (2000) points out that it is important to transfer the control for language learning from teacher to learner in a learner-centred curriculum and it is important for language teachers to promote opportunities and encouragement for students to become autonomous learners who are self- motivated and responsible for their own learning.

Researchers have also pointed out that autonomous learning is not only individual but also arises within social contexts (Almasi, 1995; H. Brown, 2001; Kohonen, 1992; Little, 2000; Maloch, 2002). Kohonen (1992) elaborates this concept by saying:

Autonomy includes the notion of interdependence, that is, being responsible for one's conduct in the social context, being able to cooperate with others and solve conflicts in constructive ways. Its development can be seen as an open-ended dimension involving both personal and social education.

(p. 19)

Kohonen's viewpoint is similar to Little (2000) who sees learner autonomy as a result of social-interactive nature of language learning. They emphasise the crucial role of providing a social context for collaborative autonomy, in which learners can work in a small group to take initiative of their learning, develop an awareness of self-dependence, individual accountability and conscious reflection in the course of the learning process. In addition, researchers such as Wenden (1991) and Yang (1998) stress that developing learners' strategic reading ability is another approach to equip students with autonomous learning skills. Learning strategies not only allow learners to improve their language learning but also help them become autonomous learners inside and outside the classroom.

In line with the above arguments, fostering learner autonomy is one of the important characteristics of CSR instruction. According to CSR proponents, this collaborative reading approach enables students to take responsibility for their own learning and build confidence in their abilities as strategic readers (Klingner et al., 1998; Lee, 2003; Vaughn et al., 2001; Wang, 2008). Learners develop an inventory of

reading strategies and are able to select and employ appropriate strategies as an aid for strategic reading. Through group work, learners practise to construct meaning for text comprehension and make progress moving from dependence toward interdependence through collective scaffolding (Donato, 1994).

However, research evidence has shown that it is indeed not an easy task for teachers to transfer the control of learning to their students in language classrooms where learners are used to collective and passive learning styles. Cotterall (1990) found that pre-university students in a L2 context are not accustomed to taking over the responsibility for their learning. They seem to still rely on the teacher as the knowledge source. In a study to investigate how a teacher introduced literature discussion groups into her third-grade classroom, Maloch (2002) reported the problematic nature of the transition from a teacher-led to a peer-led instructional format in a context where students did not know how to take charge of their own learning. Maloch's study highlighted the need for teachers to develop a deliberate and gradual implementation process so that students have clear guidelines and directions to follow toward taking the leadership in language classrooms.

In spite of the fact that CSR claims solid theoretical ground to support that it is a reading approach which facilitates autonomous learning, more research in different educational and cultural settings is needed to investigate how learners develop as autonomous readers in CSR and how they perceive their learning in terms of self-direction, interdependence and strategic competence.

2.5.3 Previous Research on CSR

Klingner and Vaughn (1996) conducted a study using a modified reciprocal teaching approach involving peer-led cooperative group discussions. The participants were 26 seventh and eighth graders with learning disabilities who used English as a

second language in the United States. Klingner and Vaughn attempted to compare the effects of two reading approaches: (1) reciprocal teaching with cross-age tutoring and (2) peer-led discussions in cooperative learning groups (CSR). The participants were randomly assigned to one of the groups and the intervention lasted for 12 days. The results of the study revealed that the students in both groups made significant gains on reading comprehension. The findings suggest that ESL students with learning disabilities could benefit from CSR with minimal adult or teacher support as much as similar learners who received teacher support in reciprocal teaching.

The effect of CSR was further investigated in a subsequent study. Klingner et al. (1998) conducted another quasi-experiment with 141 American fourth graders who tried to comprehend social studies texts, in 5 heterogeneous classrooms. The experiment lasted for 11 days. Three classes consisting of 85 students in total were assigned to the experimental groups where four reading strategies – preview, click and clunk, get the gist, and wrap-up were introduced and students were engaged in peer-led discussions to help them improve their reading comprehension. The control groups, 56 pupils in total, received teacher-led reading instruction without the introduction of the four reading comprehension strategies and group work. The findings of this study suggest that students in the experimental groups outperformed the control groups in terms of reading comprehension but did not show any significant difference in content learning.

Although the two above-mentioned studies validated the effectiveness of CSR, some issues arose. In both studies, the results revealed that students receiving CSR instruction made great gains in reading comprehension. It is, however, doubtful whether the reading comprehension of learners with reading difficulties can be improved long term by reading interventions of only 11 or 12 days. In addition, in the second study, Klingner and Vaughn, as the developers of CSR, were the evaluators of

the effectiveness of the approach at the same time, which could also be problematic owing to issues related to objectivity and research bias. However, in spite of the limitations just mentioned, their studies suggest that strategic reading instruction combined with collaborative small group discussions could have benefits for students' reading comprehension.

In another study, the effect of CSR on the helping behaviours of fifth graders who are bilingual students with limited English was investigated (Klingner & Vaughn, 2000). Trained teachers who gave CSR instruction were observed and the nature of the group discussions of 37 bilingual fifth-grade ESL students was examined. Students' verbal interactions were analysed quantitatively and qualitatively to examine how students applied reading strategies and how they helped each other during CSR. The results revealed that, in spite of limited proficiency in English, students spent a tremendous amount of time having academic-related strategic discussions and tried to help each other to get the main idea, and to construct the meaning of unknown or difficult words using the fixing up strategies so that they could scaffold their English content learning. These findings seem to suggest that successful peer scaffolding does not depend on whether students have good language proficiency but rather on whether students are self-motivated to engage in the discussion, and whether the instruction provides a participation framework for them within which to learn how to provide mutual assistance in order to enhance group interaction.

Researchers have also been interested in the impact on learners' achievement of integrating CSR with other approaches. Standish (2005) examined how CSR in combination with direct instruction in persuasion affected her six-graders' persuasive writing. Three intact classes were respectively assigned to (1) CSR and direct instruction in persuasion, (2) direct instruction in persuasion only and (3) a control

group. The treatment lasted for 6 weeks. The intervention effects were evaluated in terms of six measures including argument, back-up, coherence and organization, five-paragraph structure and essay length. This study found that the students in the group of CSR and direct instruction in persuasion performed significantly better than the other two groups and they were found to engage more actively in the writing tasks.

In addition to the CSR studies on ESL learners and English as L1 learners, some research has been conducted in Taiwanese contexts. To evaluate the effectiveness of CSR instruction, Wang (2008) examined the effect of CSR on sixth-graders' reading comprehension and learning attitudes. Sixty-two pupils from two intact classes were divided into a control group receiving the traditional teacher-directed reading instruction and an experimental group of CSR instruction in combination with story retelling strategy training for fifteen weeks. Multiple measures were used in this study. They consisted of a questionnaire of English learning background, pre-tests and post-tests of reading comprehension, five post-tests administered after reading stories, a story reading post-test which students had not ever read in the class and a questionnaire of students' attitudes towards the intervention. Based on the results, the author claimed that the modified CSR approach was effective in fostering her six-graders' overall reading comprehension and understanding of the meaning of the stories, and that it increased their English learning motivation.

Implementing CSR in a fifth-grade classroom, Lee (2003) compared the effect of CSR and the traditional teacher-dominated approach on her students' reading comprehension and vocabulary learning. The statistical results showed that CSR helped her students improve their reading comprehension more than traditional instruction, but it did not increase their abilities in terms of grapheme-phoneme correspondences and automatic word recognition. In addition, the analysis of group

discussions revealed that the strategy of translation, followed by elaboration and prompting, was the most frequently used when learners in CSR group tried to work out the meaning of challenging words.

Although the work of Wang (2008) and Lee (2003) contributes to our understanding of the application and effectiveness in Taiwanese primary classrooms, these two studies have a common weakness, which lies in the use of measures of pre-tests and post-tests to evaluate the effect of CSR on learners' reading comprehension. In Wang's study, a detailed description of the reading measures is not provided to help readers build up a clearer picture of the format and nature of the measure. As to Lee's study, although detailed information about the tests is provided, it is problematic to use different items in the tests before and after the treatment. As we are not sure whether the test items are at the same difficulty level, it will not be possible to compare the scores of reading comprehension in the pre-test and post-test.

The effectiveness of CSR has also been investigated in Taiwanese secondary settings; however, the results are inconsistent. Recruiting two classes of 42 ninth graders in her study, Lin (2008) did not find that CSR was successful in enhancing the students' reading comprehension in comparison with the traditional grammar translation method. The data drawn from the post-treatment interviews revealed that only half of the students had positive attitudes towards CSR and thought that it was an interesting method to help them understand the texts. The other half of the learners had negative feelings about the intervention. Some of them revealed that noise distracted their learning, while others were not used to the learner-centred reading approach and did not know how to work in small groups. Based on the findings, the author speculates that it was difficult to balance the content instruction and reading strategy training due to the time constraint and she further concludes that teacher-fronted instruction may still be an appropriate approach for the ninth graders

because it is time-saving and students can benefit from direct teacher guidance.

Another study by Huang (2004) aimed to investigate the feasibility and efficacy of CSR in inquiry-based pedagogy to improve high school students' strategic reading and develop their critical thinking ability. This study involved 2 classes of 42 EFL learners. The quantitative findings derived from researcher-made periodic achievement tests showed that the CSR group did not significantly outperform the control group. However, qualitative data analysis of the post-reading writing samples indicated that CSR was facilitative in developing students' critical thinking and writing ability in terms of content and idea exploration. In addition, a majority of the participants' self-reports from the post-intervention questionnaire considered that CSR was an effective method to promote their autonomous learning and social skills.

2.6 Research Gaps Related to CSR

Although previous research of CSR has added to our understanding of this collaborative reading approach, much remains unaddressed. This present study attempts to bridge the research gaps related to CSR studies as follows:

First, the length of some experimental periods has been inadequate to demonstrate convincingly the effects of a reading approach. Research needs to be conducted over a longer period of treatment. As just discussed, except for the studies by Lee (2003) and Huang (2004), the duration of treatment in most of the current research is less than 3 months. As the application of reading strategies is a learned skill which takes time to become internalized, learners need time to practise in order to become strategic readers (Farrell, 2001; Janzen & Stoller, 1998; Pressley, 2006) Therefore, the length of the period is important.

Second, none of the existing CSR studies has been conducted in large college or university classes. So far, CSR research has been conducted in elementary and secondary classrooms with smaller numbers of students. This raises several questions which need to be answered. For example, does CSR favour younger learners rather than adult learners such as university or college students? Is CSR a viable approach to reading instruction which works in a large university class context? To understand the feasibility of CSR with adult EFL learners, research is needed to bridge the gap and provide empirical results for college or university English teachers who are interested in increasing their repertoire of reading instruction models in their classrooms.

Third, research also needs to examine the feasibility of CSR in terms of the implementation procedures. The existent research has paid little attention to how well the intervention was implemented. In other words, research questions related to the procedures of implementation have not been asked. For example, which one(s) of the four reading strategies in CSR are difficult for learners during instruction? What should be provided to aid students' application of the strategies they have difficulty with? What are the effects of group size on students' learning? Do assigned roles in groups really facilitate group discussions? In what way do instructional materials, such as a learning log and cue sheets help students in the implementation of CSR? In addition, the existing literature on CSR and collaborative group work advocate heterogeneous ability grouping. Further research is needed to examine the effects of homogeneous ability grouping on students' group discussions. It is believed that the evaluation of the feasibility of CSR can be beneficial to those who are interested in implementing reading instruction in other tertiary EFL contexts.

2.7 Summary

Collaborative Strategic Reading (CSR) is a collaborative approach to comprehension strategy instruction which is made up of two features – peer collaboration and instruction in reading strategies. In this chapter, I have discussed the relevant theoretical underpinnings and empirical research to provide a conceptual framework for this study. Despite the fact that a large number of studies have reported beneficial outcomes of peer collaboration on second language learning including reading comprehension, challenges have been pointed out. To maximise the effectiveness of group work in language classroom, factors such as discussion structures, group size and group formation need to be considered.

Three theoretical models of reading processing have been discussed. Bottom-up processing emphasizes reading comprehension as a reader's decoding endeavour. The top-down model depicts reading as a psycholinguistic guessing game where learners capitalise on their background knowledge, world knowledge and contextual clues to generate, confirm or reject hypotheses about the texts. The interactive perspective, finally, combines the bottom-up and top-down frameworks to provide a holistic view of the interactive and constructive nature of reading process. Based on the interactive perspective of reading, comprehension strategy instruction has been advocated to improve learners' strategic reading ability. Empirical research on several instructional approaches related to comprehension strategy instruction has also been reviewed.

In a later section, drawing on sociocognitive theory, the theoretical rationale of CSR was discussed. Most of the previous studies with regard to this strategic reading approach have supported its positive effects on learners' reading comprehension, content learning and learners' self-motivated engagement in learning. However, inconsistent results have been reported in the studies in EFL contexts in Taiwan. So

far, none of the existing research has been conducted to investigate the impact of CSR on Taiwanese learners at tertiary level. More empirical research is needed to add to our understanding of the place of CSR and its feasibility in EFL university contexts.

Having examined the relevant research, I will now turn to discuss the methodological framework of this present study in the next chapter.

Chapter Three

Methodology

Chapter Three aims to discuss the methodological considerations in relation to the research design of this present study. In this study, a mixed-method design is used to answer the research questions listed below. Both quantitative and qualitative research methods are employed and the study incorporates a quasi-experiment, participant observation, questionnaire and semi-structured group interviews. Table 3.1 below provides an overview of the research design including research questions, main sources of data and methods of data analysis in this study.

Table 3.1 Overview of the Research Design including Research Questions, Main Sources of Data and Methods of Data Analysis in This Study

Research Questions	Main Sources of Data	Methods of Data Analysis
1. Is CSR more effective in improving the EFL learners' reading comprehension than the traditional teacher-led reading approach?	Quasi-experiment with a control group ● Pre-and post-tests of a standardised reading comprehension test	Statistical analysis using SPSS 11.0 software ● Mixed between-within subjects ANOVA
2. What is the effect of CSR on the EFL learners' post-test responses to specific types of comprehension questions ?	Quasi-experiment with a control group ● Post-tests of five types of comprehension questions from a standardised reading comprehension test	Statistical analysis using SPSS 11.0 software ● One-Way ANOVA

3. How do the EFL learners in CSR collaboratively construct meaning from the texts? 4. What are the strategies used by the EFL learners in CSR to cope with comprehension breakdowns?	Participant observation ● Audio-recordings of group discussions ● Field notes	● Identification of patterns from learners' group work
5. What are the EFL learners' perceptions of the CSR approach?	● A questionnaire survey ● Semi-structured group interviews	● Descriptive statistical analysis using SPSS ● Analysis of transcription from recordings of group interviews

The quasi-experiment was designed to examine the effect of CSR on the EFL learners' reading comprehension. To gain in-depth insights into the nature of the collaborative approach to comprehension strategy instruction, group discussions during CSR group work were observed and audio-recorded. The recordings of classroom talk were transcribed and analysed to understand how the Taiwanese university learners co-constructed meaning from texts and how they tackled the obstacles of reading comprehension. Furthermore, a 5-point Likert scale questionnaire and semi-structured group interviews were employed to investigate learners' perceptions of CSR.

In order to further discuss the methodological considerations of this study, the chapter is divided into several subsections including (1) justification for using mixed-methods, (2) multiple methods used in the study, (3) my role as a teacher-researcher, (4) ethical considerations, (5) context of the study, (6) data collection and analysis, and (7) validity and reliability of the study.

3.1 Justification for Using Mixed-Methods in the Study

In the field of social science research, there has been a long-standing controversy about paradigms in the form of a debate about the distinctive nature of the ontological, epistemological and methodological assumptions of the quantitative and qualitative approaches (Brannen, 1992; Bryman, 1988; Creswell, 1994; Guba & Lincoln, 2006; Patton, 2002). According to Lincoln & Guba (1985), ontology is related to the nature of reality, whereas epistemology is concerned with the question of how knowledge can be acquired. A researcher's ontological and epistemological stances will influence the methodology and research methods selected for a research project. As Creswell (1994) points out, it is important to understand the characteristics and assumptions of the qualitative and quantitative approaches because it can provide a framework and direction for researchers to design their own studies.

Conventionally, the quantitative approach has roots in positivism. From the positivist theoretical perspective, reality is regarded as objective and researchers remain distant and are independent from their research contexts. Quantitative methodology tends to rely on a deductive form of logic where variables are defined and controlled to verify or reject hypotheses and it is typically used to find a causal relationship among variables (Bryman, 2001; Fraenkel & Wallen, 1993; Punch, 1998). In other words, quantitative research emphasises the inference of statistical interpretation of the research, and it aims for generalisation and replication (Brannen, 1992; Cohen et al., 2000).

The qualitative approach stems from the interpretative paradigm. Researchers who are in favour of the qualitative approach are typically interested in a subjective view of reality. They interact with the research contexts and the reality is constructed by the individuals involved in the research settings (Guba & Lincoln, 2006).

Qualitative methodology adopts an inductive approach of reasoning where categories and theories are identified and developed to help understand research inquiries. The primary intention of qualitative research is to gain more in-depth information that may be difficult to understand from the findings of quantitative research. As Strauss & Corbin (1990) explain, qualitative research is concerned with understanding behaviours and building a holistic view rather than searching for the causal relationships of a phenomenon.

Patton (2006) criticises the above view, saying that the over-simplistic dichotomy of research paradigms undervalues the complexity of research process. He points out that researchers' prejudices about the incompatibility of research approaches may "reduce their methodological flexibility and adaptability" (p. 72). In reality, both the quantitative and qualitative approaches have their weaknesses. For example, it is suggested that the quantitative approach is not suitable to be applied to the investigation of human behaviours and that this variable-oriented approach "creates a static view which is independent of peoples' lives" (Bryman, 2001, p. 78). On the other hand, the qualitative approach is criticised for its subjectivity and unsystematic interpretation of data analysed by the researcher. In addition, difficulty of replication and generalisation is one of the weaknesses for qualitative research (Bryman, 1988; Cohen et al., 2000; Flick, 1998).

In contrast, many researchers advocate an alternative strategy for conducting research, the mixed-method approach. It integrates the quantitative and qualitative methods to maximise the strengths of the two approaches and compensate for the weaknesses inherited from the individual methodological method. Furthermore, the application of a mixed-method research design is known as methodological triangulation (Bryman, 1988; Creswell, 1994; Flick, 1998; Punch, 1998; Robson, 2002). According to Denzin & Lincoln (1994), triangulation is used to cross-check

the quality of research and can be achieved through using multi-methods, different sources of data, multiple investigators or different theories or perspectives. In this study, the mixed-method approach was used and data were collected from diverse sources including a quasi-experiment, questionnaire survey, classroom observation and group interviews. The aim was to enhance the rigour of this present study and as far as possible remove any bias inherent in the separate data sources. Through investigating the research queries from different perspectives, I hoped to increase the scope, breadth and depth of this study and enhance our knowledge of the place of CSR in the EFL context.

3.2 Multiple Methods Used in the Study

As discussed above, this study applied a multi-methods design. In this section, I will discuss the rationale of using these research instruments in more detail.

3.2.1 Quasi-Experiment

In educational research, a great number of researchers, such as Cohen et al. (2000), Denzin & Lincoln (1994) and Punch (1998) assert that research questions should be the central focus of planning empirical procedures of research. According to these researchers, the most critical step of a research project is the formulation of a clear research question because different questions imply different methods and techniques to answer the inquiries. Questions involving numbers, variables and control situations require quantitative methods to answer them, for example, an experimental design.

In this study, the quasi-experiment was used to answer the first and second research questions. A set of null hypotheses were proposed to be tested (see section 1.3 for more detail). An experimental design within the framework of a quantitative approach is an appropriate method for questions related to causality among variables because it is designed "to assess the effect of different treatment conditions (independent variable) on an outcome (dependent variable)" (Lomax, 2004, p. 108). However, in educational research, a quasi-experiment is more commonly used than a true experiment due to the fixed school schedules and logistic problems (Cohen et al., 2000). Cook & Campbell (1979) suggest that although a quasi-experiment is a research design without random assignment of participants to the control group and experimental group, cause-and-effect inference may still be drawn if the possible extraneous variables are controlled and minimised.

In this study, a pre-test and post-test design with a control group was used. This quasi-experiment differed from most quasi-experiments in the selection of the participants. Most quasi-experiments are conducted in intact classrooms with heterogeneous English ability and various learning backgrounds. The subjects participating in this study, however, were two relatively homogeneous groups with low-intermediate to intermediate English ability formed through an English placement test (the details of the selection of participants will be further discussed in the later section). The pre-test and post-test control group design allowed the researcher to compare the effectiveness between the control and experimental groups in order to investigate any effect of CSR on EFL learners' reading comprehension.

3.2.2 Participant Observation

Hammersley & Atkinson (1983) argue that "in a sense all social research is a form of participant observation because we cannot study the social world without

being part of it" (p. 111). The most prominent strength of using participant observation as a research method is that it allows the researcher to investigate people, events and activities when they happen at the research site. In carrying out a research project involving participant observation, it is important to decide the role a researcher will play when observing the research setting. Cohen et al. (2000) classify participant observation into four different dichotomies in terms of the degree of the observer's involvement in the research setting. They are (1) the complete participant, (2) participant-as-observer, (3) the observer-as-participant, and (4) the complete observer. In this study, I adopted the role of being an observer-as-participant. While observing the group work during the CSR intervention, I was mainly an observer who did not interact with the learners, but provided guidance or assistance when it was needed.

In this study, the main purpose of using participant observation was to examine the nature and process of peer collaboration during CSR group work and it was used to supplement the limitations of the numerical data collected from the quasi-experiment. The pre-test and post-test of the reading comprehension focused only on the outcome of the CSR intervention. It was unlikely to provide much insight into the gradual process of intellectual development such as the familiarity and application of reading strategies. To compensate, participant observation was used to gain deeper insight into how Taiwanese university learners comprehended the ongoing texts during CSR. The emphasis was on discovering the nature of their collaborative efforts at meaning construction during group discussions and the strategies the EFL learners used to tackle comprehension breakdowns.

Nevertheless, I was aware that there are also shortcomings to use participant observation. According to Robson (2002), one of the major issues in this approach is the observer's biases. I understood that it was not easy to keep distant from the setting and participants being observed. However, during observation and data analysis, I

constantly reminded myself to investigate the CSR approach from a researcher's point of view to achieve a balance between internal perspectives and a critical external standpoint.

3.2.3 Questionnaire

The questionnaire survey is one of the most commonly used instruments of data collection in the field of second language research (Dörnyei, 2003). Questionnaire surveys are defined by J. Brown (2001) as "written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or by selecting from among existing answers" (p. 6). Palys (1997) stresses that questionnaire research is an "interactive approach" which focuses on the interaction between researchers and respondents through asking questions and getting responses.

The main advantage of using a questionnaire in a research project is that one can gain direct access to the respondents to answer research questions related to facts, beliefs and opinions (J. Brown, 2001; Cohen et al., 2000; Oppenheim, 1992; Punch, 1998; Robson, 2002). In other words, researchers can obtain straightforward information from the respondents to find out the answers to their research inquiries.

The purpose of choosing a questionnaire survey in this study was to investigate the Taiwanese university learners' perceptions of CSR instruction and its feasibility in the particular EFL setting. Through administering the questionnaire, more objective information about their feelings, opinions of CSR could be gathered. Another reason for the use of the questionnaire survey was that it is economical and efficient in terms of researcher time and effort (Dörnyei, 2003; Oppenheim, 1992). By administering the questionnaire to a group of people, I was able to collect a large amount of data

from the students in CSR groups in a relatively short period of time. Additionally, the data collected from the questionnaire were anonymous. Participants were not asked to reveal their identities, which might help stimulate their frank answers.

Nevertheless, the questionnaire survey does not allow the researcher to probe or prompt for more elaborate answers to questions (Bryman, 2001; Cohen et al., 2000). To remedy this problem, group interviews were used to provide supplemental data. For example, participants were asked to identify the most difficult aspects they encountered in the CSR group discussions. Based on the answers gathered from the questionnaire, I was able to seek further clarification and more detailed information to better understand the reasons for their difficulties and how they could be remedied.

3.2.4 Group Interviews

The group interview, a term used interchangeably with "focus group interviews" from the field of market research has become a commonly used qualitative method of data collection in many fields of social sciences (Arksey & Knight, 1999; Berg, 2001; Flick, 1998; Fontana & Frey, 1994; Patton, 2002; Robson, 2002). It is used to gather rich and in-depth data from a small group of participants through guided or unguided discussions on a particular topic of mutual interest to researchers and interviewees.

In comparison with individual interviews, group interviews have some strengths. Fontana & Frey (1994) suggest that, "they are relatively inexpensive to conduct, and often produce rich data that are cumulative and elaborative; they can be stimulating for respondents, aiding recall and the format is flexible" (p. 365). Their claim provides one of the rationales for using group interviews in this study. This research method has particular significance in my study because the learners develop their strategic reading abilities through group discussions with other peers in CSR. I

believed that it would be especially facilitating to interview learners with their working teams instead of interviewing them individually and the interviewees might feel more comfortable to express their perceptions of the collaborative reading approach.

Hedges (1985) points out the value of the group interview by highlighting the breadth and depth of the responses generated by small group discussions. In the present study, interviewees were encouraged to express themselves freely about their attitudes, opinions and experiences of the issues focused on. Through using the group interview, it was believed that more diverse answers and in-depth data would be generated.

The type of group interviews was also carefully taken into consideration. Group interviews can be classified into three different forms depending on the degree of structure (Bryman, 2001; Cohen et al., 2000; Fontana & Frey, 1994; Robson, 2002). They can be structured, unstructured or semi-structured. The structured interview is also called the standardised interview and it is closely related to survey research because of the highly standardised data collection process. It uses a pre-determined structured schedule of interview questions and the questions are asked in an identical form in terms of order and wording to make sure that every informant understands the questions in the same manner. Although the structured data and process allow the researcher to make a comparison between the interviewees, it doesn't provide the opportunity for the interviewees to express their own perceptions (Berg, 2001).

In contrast to the structured interview, the unstructured interview is an open-ended and flexible approach. It can provide rich and in-depth qualitative data and it is usually associated with ethnographical and naturalistic research (Fontana & Frey, 1994; Fraenkel & Wallen, 1993). In an unstructured interview, the interviewer plays a less directive role and there is no predetermined schedule of interview

questions available. The interviewees are encouraged to freely express their opinions or feelings on the issues the researcher is interested in. Although unstructured interviews can produce rich and in-depth qualitative data, the biggest disadvantage is that the researcher has little control over what is discussed (Arksey & Knight, 1999).

The interviews in this study were semi-structured group interviews. Like the unstructured interview, the semi-structured interview has the advantages of structured and unstructured interviews but compensates for their weaknesses. The loose structure of the interview questions provides the researcher with guidelines and flexibilities to investigate the target inquiries. In the present study, there were a number of predetermined questions to be discussed but I had the freedom to use probes (to go deeper into an issue) and prompts (to encourage the participants to speak) to follow-up opinions and ask the informants to elaborate on their answers.

3.3 My Role as Teacher-Researcher

Lankshear & Knobel (2004) define teacher-researchers as "classroom practitioners at any level, from preschool to tertiary, who are involved individually or collaboratively in self-motivated and self-generated systematic and informed inquiry undertaken with a view to enhancing their vocation as professional educators" (p. 9). It is advocated that research done by teachers can contribute to better quality of classroom teaching and learning (Hopkins, 2002; Stenhouse, 1986). As Robson (2002) argues, although outsider researchers may be seen to have greater neutrality in light of being free of shared interest, insider teacher-researchers are familiar with the researched contexts and participants, which may help reduce the problems when designing and implementing the research projects. McDonell (1992a) postulates that

researching their own classrooms, teachers closely investigate the learning process of their students and their teaching contexts and this teacher inquiry "lends itself to educational reform from within" (p. 171).

In this study, I implemented CSR, a collaborative approach to reading strategy instruction, in my own classroom to examine if it could be an effective approach to enhance students' reading comprehension and increase their motivation in English learning. Being a university teacher for many years, I have the benefit of understanding the general matters in university English education in Taiwan and particular issues related to reading instruction in my teaching context. Thus, I believed that I was in a good position to seek an alternative intervention from which students may benefit with regard to their English learning.

In spite of the advantages, insider research receives criticism as well. Huberman (1996) questions the possibility of teachers functioning as researchers simultaneously and expresses concern that teacher-researchers' biases may run the risk of endangering the quality of their research. Similarly, Campell et al. (2004) also warn us that, 'small-scale research into one's practice is often open to criticism of lack of objectivity and rigour' (p. 84). Being aware of the controversial problems of teacher research, I understood that it is difficult to overcome the limits of being in dual roles. When planning and conducting this research, I acknowledged my own bias and subjectivity, that is, my belief that CSR might be a better reading model than a traditional teacher-led approach in terms of enhancing students' strategic reading and providing opportunities for them to be more responsible for their learning. However, I also questioned exactly how much impact CSR would have on the university students' reading comprehension and precisely how it would influence the way learners construct meaning from the text.

Stenhouse (1986) argues that subjectivity and biases are an inescapable part of

teacher research because individuals have unique ways of interpreting and understanding things, and that the teacher-researcher should develop a sensitive, self-critical and subjective perspective toward his/her research project. In this study, I documented the whole process of the implementation of CSR for public scrutiny. Although it is not an easy task, I tried to avoid the influence of my beliefs, attitudes, and expectations on the respondents and reminded myself of the importance of being neutral. I will further discuss this in regard to the validity and reliability of the study in the later section 3.7.

3.4 Ethical Considerations

Research projects involve ethical considerations throughout all the stages of the process from the beginning to the final stages. Failure to consider ethical issues may result in invalid research (Brannen, 1992; Bryman, 2001; Creswell, 1994; Hopkins, 2002; Mohr, 2001; Punch, 1998). In educational research, it is imperative to obtain informed consent from participants and guarantee confidentiality and anonymity so that their rights and privacy are protected. However, being aware that ethical issues in practitioner research are complex, I found myself in dilemmas owing to my responsibility and relationship to my students. In this section, I will address these issues.

The importance of gaining the informed consent of participants in research projects has been highlighted by a substantial number of authors. The purpose of the informed consent, according to Arksey & Knight (1999), is to "safeguard participants' privacy and welfare and to give them a choice about whether or not to take part in a study" (p. 129). In my study, the purpose of the research was explained so that the

participants, particularly in the experimental group, could understand the research project in which they would be involved. However, I struggled to decide how much information about this research the control group should be given. Since the students in the control group received the teacher-led reading approach, the only task they did was to take the reading comprehension test twice. I chose not to inform them about all the details of the research including that there was another class assigned as an experimental group for fear that they would feel that they needed to compete with another class.

Informed consent was obtained from both groups before the experiment started and their voluntary participation was ensured, that is, they were informed that they could withdraw at any stage of the research of their own free will. The researcher also promised that their personal identities and details would not be disclosed and the data collected from them would be treated as highly confidential. In addition, their names in any publications regarding the report of this field work would be anonymous to protect their privacy.

In any form of research, precautions should be taken to prevent participants from any possible harm (Cohen et al., 2000; Lankshear & Knobel, 2004). How to minimise the potential harm to the participants was another potential ethical difficulty for me. In this study, it was possible that the experimental group might benefit from the intervention by improving their strategic reading ability and enhancing their learner autonomy. In contrast, the participants in the control group might be disadvantaged by being assigned to the traditional teacher-led approach. I understood it was my obligation to look after students' interest and was confident that I was a competent teacher so that the control group would benefit from my teaching. The course evaluation held by the university at the end of the semester provided evidence that more than 80% of the students in the control group thought that the traditional

teacher-led reading approach was beneficial to their English learning. Some students expressed that the instructional approach focusing on lexical learning and the analysis of grammatical structures helped them understand the texts. In addition, I switched over the teaching methods for the two groups after the post-test to ensure that none of the subjects was in any way disadvantaged by the intervention.

In addition, I was concerned with the potential effects of the unequal relationship between me, the researcher, and the students taking part in this research project. I did not see my students merely as the subjects recruited to test the effectiveness and feasibility of an alternative instructional approach; instead, I attempted to establish, as Mohr (2001) suggests, a cooperative relationship with my students. Their genuine positive or negative comments, perceptions, feedback on the intervention were essential to provide better understanding of the strengths and weaknesses of CSR.

3.5 Context of the Study

In this section, I will discuss the context of the study. There are several subsections including (1) the pilot study and modifications, (2) the research setting and participants for the main study, (3) the reading materials, and (4) instructional procedures.

3.5.1 The Pilot Study and Modifications

A pilot study was conducted before the main fieldwork to discover any methodological flaws and weaknesses of the research design. Its aim was to enhance the validity, reliability and practicability of the present study (Cohen et al., 2000; Palys, 1997; Punch, 1998; Robson, 2002). A quasi-experimental design was used, but it was on

a smaller scale than in the main study. There was no control group because my main concern at this stage was to detect any unexpected problems with implementation. The participants were 55 first year non-English major students from one of the classes I taught at a university in the southern part of Taiwan. The participants had similar characteristics to the subjects in terms of age and similar educational background to the students whom I would target for the main study. They took a reading comprehension pre-test and post-test before and after CSR instruction. They were divided into 10 groups on the basis of their own preference and each group consisted of 5 or 6 people. The instruction lasted for a total of 10 weeks. During the intervention, five sessions of group discussions during CSR were audio-taped to examine the nature of group talk in CSR group work and analyse how the university learners collaborated to construct meaning of the difficult words or passages they encountered. All of the 10 groups recorded their discussions.

   After the intervention, they were administered a pilot questionnaire so that I could fine-tune the questions according to their answers and responses. It was written in English and made up of 14 closed-ended questions and 8 open-ended questions. Two out of ten groups were randomly selected to also participate in the group interviews, which lasted about 30 minutes. Totally there were 8 interview questions divided into five categories: (1) general perceptions of CSR, (2) reading strategies in CSR, (3) group discussions in CSR, (4) the extent CSR affects learners' reading comprehension and (5) strengths and weaknesses of CSR. The interviews were held in my office.

   Due to the limited space of the thesis, the detailed findings of the pilot study will not be discussed here. However, some methodological issues which needed to be addressed to help increase the quality of the main study are discussed below.

3.5.1.1 Establish a Proper Test to Evaluate the Effect of CSR

The results of the pilot study showed that it was difficult and challenging to find a suitable instrument to test learners' reading comprehension following CSR instruction. The reading test used in the pre-test and post-test was selected from a test battery of an English proficiency test called General English Proficiency Test (GEPT), a reliable standardised test sponsored by the Taiwanese government to evaluate the general English proficiency of the test takers in Taiwan. It was intermediate level and composed of three parts – (1) vocabulary & structure, (2) cloze test, and (3) reading comprehension. After piloting, it was found that part 1 and part 2 were difficult to answer for the participants and they seemed to be irrelevant to CSR instruction. In other words, the test takers did not need to use what they learned from CSR to answer the questions. Therefore, it would be a problematic test used to evaluate the impact of the reading strategies introduced in the CSR intervention. In order to examine the causal relationship between CSR and the learners' reading comprehension, a more thorough consideration of the measurement was needed.

3.5.1.2 Reinforce the Role Assignment in CSR Group Work

From the observation of the pilot study, it was found that there were some problems in the implementation procedures. The groups did not rotate the roles and the members with higher English ability usually dominated the group discussions. It was decided that role assignment should be reinforced in the main field work to provide EFL learners with opportunities to increase their participation and engagement so that everyone in the group can contribute to problem-solving tasks for text comprehension.

3.5.1.3 Reduce the Number of Recordings from Group Discussions

The data collection from classroom observation also needed to be improved. In the pilot study, the CSR group discussions were audio-taped five times. Due to frequent recordings, there might not have been enough time spans for students to demonstrate different behaviours or interaction patterns while they were engaging in group work. Moreover, I was overwhelmed by the large amount of data collected from the audio-recordings of students' talk. To tackle this problem, it was decided that the number of the recordings be cut down to three. In other words, students' discussions will be recorded at the beginning, middle and end of the treatment, which should leave enough time for the researcher to detect any differences in behaviours and interaction patterns while students gradually became more familiar with CSR.

3.5.1.4 Convert Open-Ended into Close-Ended Questions in the Questionnaire

Both closed and open-ended questions were used in the pilot questionnaire. Originally, the main purpose of using open-ended questions was to explore possible answers and gain deeper insight into particular questions related to the intervention. Although there are several advantages of using open-ended questions, many researchers, for example, Dörnyei (2003) and Oppenheim (1992) suggest that using closed-ended questions is a more reliable, feasible and efficient way of collecting and analysing data in questionnaire survey research.

The data gathered from the open-ended questions in the pilot questionnaire provided valuable information for me to identify and explore important topics. However, most of the answers were rather short and some of the questions were not answered, which may have affected the reliability of the questionnaire. For more reliable data and efficient analysis, it was decided that closed-ended questions should be used as the main format in the main study.

3.5.1.5 Administer the Questionnaire in Chinese for the Main Study

The pilot questionnaire was in English. Nevertheless, it was found that some respondents had difficulties understanding the questionnaire even though I explained the questions in Mandarin Chinese before the respondents completed their questionnaire. Several students, particularly those who have limited proficiency of English kept asking for clarification and further explanation in the course of answering their questionnaires. To help respondents fully understand the questionnaire, a Chinese version should be used for the main study.

3.5.1.6 Revise a Leading Question in the Group Interviews

As to the group interviews, it was found that Question 3 was a leading question – "Do you think your reading comprehension improves after CSR? Why? Why not?". In question 3, the word "improve" suggests a positive answer to the question and it assumes a degree of improvement on reading comprehension after CSR instruction. To revise it to a more neutral position, this question was rephrased into "How does CSR affect your reading comprehension?".

3.5.1.7 Select an Appropriate Location and Extend Allocated Time of the Group Interviews

It was found that my office was not an appropriate place to have the group interviews. Basically there are three drawbacks to this location. First, it was too crowded even though six participants in each group can be accommodated in the room. Second, although it was convenient for the interviewees to find the location, the office of their teacher may signify authoritative power to the interviewees. Third, the group interviews were interrupted by some other students who knocked on the door to ask for some information about their final exam. To reduce the potentially distorting

effects of power and provide a more comfortable environment for the interviews, a more suitable place would be used for the research conducted in the future. Moreover, the pilot interviews of the two groups lasted about 30 minutes each. Although all the interview questions listed in the interview guide were asked, there was not enough time left to explore unexpected topics the interviewees raised during the course of the interviews. Consequently, for the main study, the interview time should be expanded and targeted at 40-50 minutes instead of 30 minutes so that the researcher would have more opportunities to develop a better understanding of the Taiwanese university learners' perceptions of CSR instruction.

3.5.2 The Research Setting and Participants for the Main Study

This study was carried out at a university in the southern part of Taiwan, which is my workplace. In the university, it is mandatory that all of the first year students take "Practical English" for three hours a week. They are all required to take an English placement test soon after entering the university. The placement test is composed of the sections to test students' vocabulary, syntactic knowledge, reading and listening comprehension. Based on the results of the placement test, all of the first-year students are grouped into advanced, intermediate and elementary levels of English. In the academic year of 2006, in total, there were 5 classes of advanced level, 26 of intermediate level and 16 of elementary level of English proficiency. All of the first year students were allocated into classes according to their levels and each class consisted of 50 to 60 students.

The strategy used in this study was purposive sampling. In this method, the sample is chosen which is most likely to fulfil the aims of the research inquiry (Robson, 2002). I chose EFL learners with intermediate English ability for my study because they represent the majority of the learners at the university. In addition,

previous research on CSR has mostly been conducted in classes with heterogeneous levels of English or classes with young learners. None of the existing research has targeted EFL learners at the tertiary level, especially adult learners with intermediate English ability. I hope that this study will contribute to our understanding of the impact of CSR instruction on adult EFL learners with relatively homogenous English ability.

Due to the fact that it would have been difficult and impractical to recruit students to participate out of their school timetable, two intact classes, originally 117 students taught by the researcher participated in this study. The participants had at least 6 years of English learning experience. All of the students majored in subjects related to engineering such as Mechanical Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering, and Computer Information Engineering. One of the classes was assigned as the control group with the traditional teacher-led reading approach, while the other was the experimental group receiving CSR instruction.

The intervention lasted for 14 weeks, which excluded the time for data collection from the pre-test and post-test of a standardised reading test, questionnaire survey and group interviews. During the experiment, 1 student from the experimental group did not show up to take the pre-test; 3 students from the control group and 3 from the experimental group dropped out of the course due to personal reasons. Those who did not complete both the pre-test and post-test were not included in the data analysis. Consequently, 110 students were included in this study – 56 in the control group and 54 in the experimental group.

Before the treatment, it was important for the researcher to examine whether there was any significant difference in terms of reading proficiency between the control and experimental groups. In the first week of the experiment, a pre-test was given to all the participants in the two groups. The details of variation in the pre-test

reading scores of the two groups are presented in Table 3.2 below**.**

Table 3.2 Variation in the Pre-test Reading Scores of the Two Groups

	Above 80	79-70	69-60	59-50	49-40	39-30	29-20	Below 20
Control	0	1	7	13	23	9	3	0
Experimental	0	1	8	16	17	9	3	0

As shown in Table 3.2 above, there was a variation in terms of language ability of the subjects within each of the two groups. However, it seemed to suggest that most of the students in each group scored between 30 and 59. To compare means of the two groups, an independent-samples t-test was conducted. The results of the statistical analysis showed that there was no statistically significant difference between the control and experimental groups (t = -.656, p>.05). In addition, Levene's test of homogeneity of variance was not significant (Sig. value = .835, which is larger than .05). In other words, the results indicated that the two groups had similar levels of reading comprehension prior to the experiment. The finding was important in that it provided a baseline for a more reliable comparison of the post-tests after the treatment between the two groups.

3.5.3 The Reading Materials

The reading materials used in the present study consisted of selected texts from three textbooks called *Reading for the Real World 2* (Zwier & Stafford-Yilmaz, 2004), *Issues for Today: An Intermediate Reading Skills Text* (Smith & Mare, 1995) and *Reading Challenge 3* (Malarcher & Janzen, 2005). These reading materials are expository texts suitable for the low-intermediate and intermediate EFL readers. The

selection of the reading materials was based on the following criteria: (1) level of

difficulty, (2) level of interest, and (3) variety of topics related to the real world.

The details of the reading texts are listed along with the data collection procedures in

Table 3.3 below.

Table 3.3 The Reading Texts and Data Collection Procedures in This Study

Time Schedule	Reading Texts and Data Collection Procedures
Week 1 28/09/06	**Pre-test (control + experimental groups)**
Week 2 05/10/06	Introduction of CSR; Teacher modelling for reading strategies in CSR *UFOs*
Week 3 12/10/06	Teacher modelling for reading strategies in CSR *Telling Fortunes*
Week 4 19/10/06	Students' trial of CSR *The I-Ching* (role assignments for group work)
Week 5 26/10/06	*Bill Gates: Good Businessman or Bad?* **(audio-recording 1)**
Week 6 02/11.06	*Fighting Spam* (change role assignments)
Week 7 09/11/06	*Eat Better, Look Better*
Week 8 16/11/06	Review of the lessons
Week 9 23/11/06	*Dreams: Making Them Work for Us* (change role assignments)
Week 10 30/11/06	*Loneliness: How Can We Overcome It?* **(audio-recording 2)**
Week 11 07/12/06	*Cosmetic Surgery* (change role assignments)
Week 12 14/12/06	*Liberty and Legal Drugs*
Week 13 21/12/06	*The Sleep Flower* (change role assignments)
Week 14 28/12/06	*The Educational Benefits of TV*
Week 15 04/01/07	*The Best Medicine* **(audio-recording 3); questionnaire survey**
Week 16 11/01/07	**Post-test (control and experimental groups)**
Week 17 15/01/07	**Group interviews**

3.5.4 Instructional Procedures

In this section, I will discuss the specific instructional process of CSR in the experimental group and the teacher-led reading approach in the control group in more detail. As CSR was originally developed to help younger ESL readers, some of the procedures used in this study were modified from the original model proposed by Klingner et al. (1998). The detailed implementation procedures of the experimental group are discussed below.

3.5.4.1 The Experimental Group

As shown in Table 3.3 above, the teacher described what CSR is and demonstrated the entire procedure for two weeks at the beginning of the intervention. In this stage, cue sheets were used to outline the procedures of the CSR approach. They provide the information about how to apply reading strategies for reading comprehension in CSR. A sample of the cue sheet is provided in Appendix E.

A thinking aloud technique was applied to explain explicitly why, when and how to use the four reading strategies. Explicit explanation of the application of each strategy was related to the content rather than taught in isolation. Before reading the entire text, the teacher introduced the previewing strategy by asking students to look at the headings, pictures, and words or subtitles in bold, in order to brainstorm what they already knew about the topic they were going to read. They predicted what they would learn and made inferences about the author's purpose. In addition, students were asked to discuss the pre-reading questions provided in the texts to help them activate the background knowledge related to the topics.

During the reading, students were asked to find out the meaning of difficult "clunks" (difficult or unknown words or phrases) leading to reading obstacles. They were encouraged to write down what the answers were and how they resolved the

clunks on their learning logs. For example, they can keep a record of the ways they tackled comprehension difficulties. According to Bremer et al. (2002), there are two purposes for using them in CSR. One is that a learning log provides written documentation to assist students to keep track of their own learning. It can also serve as a study guide. Students can reflect how they apply a particular reading strategy, write down clunks they do not understand or summarise key ideas of the passage. A sample of the learning log designed by the researcher is shown in Appendix F.

Another important strategy for students to learn during the reading activity is to identify the main idea of the text and exclude unnecessary details. The original work of Klingner et al. (1998) did not provide any guideline for how to help students distinguish the main idea in the text, and it might not be an easy task for EFL learners to perform this task. Therefore, in this study, the students were trained to identify the topic sentence in each paragraph to help them distinguish the main idea from the supporting statements in the passages.

Finally, the activities after reading contained two parts – question generation and summary writing. Students were requested to write down the main idea in their learning logs to help them grasp the central themes when they needed to revisit the texts. First, each group had to make two questions, which would be used to check their reading comprehension in the follow-up activity conducted by the teacher. Then, they would summarise what they had learnt from the text. This built on previous tasks where each group worked collaboratively to distinguish between the main ideas and supporting details. They discussed to determine which content in a passage was important and transformed the main idea of the text through paraphrasing into a concise and coherent short essay consisting of 5-6 sentences.

After students gradually increased their competence in applying the reading strategies, they were asked to form 10 small collaborative peer-led groups consisting

of 5-6 people. There were eight groups of 6 students, two of 5. Most of the groups were composed of students from different departments. Students who sat together in the first couple weeks tended to form a group. They sat in a circle facing each other to facilitate collaborative group work.

Each group member was assigned a defined role to scaffold their content learning and reading comprehension (Cohen, 1994). Students stayed in their original group during the CSR lessons, but they rotated the roles every two weeks to enhance their participation and experience different responsibilities of the tasks. In this study, the students did not adopt six roles as suggested by Klingner et al. (1998) because some of the roles such as timer and recorder are more suitable to young learners than to adult learners. Thus, four roles were assigned to the group members. Since each group was made up of 5-6 people, students could decide how the roles could be assigned in their groups. The four roles were explained as follows:

(1) Leader: The student who performed this role directed the discussion in the group.

(2) Clunk expert: The clunk expert tried to help the group deal with the meaning of difficult words (clunks).

(3) Gist expert: This student helped the group get the most important information and avoid unnecessary details.

(4) Reporter: The reporter helped summarise the main idea learned from the text.

In the follow-up stage, the teacher involved the whole class to check students' reading comprehension. Group reporters were invited to share their summaries with the rest of the class. If there were difficult sentences or passages, the teacher would explain them to help the students clarify the text meaning.

3.5.4.2 The Control Group

For both the experimental and control groups, the instructional materials and learning content were the same except that the control group was not exposed to reading strategies and any group work. The control group adopted a traditional teacher-centred reading approach in which the teacher directed the instruction, initiated the questions and students generated responses. This teaching approach focused on vocabulary teaching, analysis of grammatical structures of the texts and translation from the English text.

3. 6 Data Collection and Analysis

The data collected from this study included a standardised reading comprehension pre-test and post-test, recordings of group discussions, field notes, a questionnaire and semi-structured group interviews. The details of the procedures of data collection and analysis will be discussed in the following section:

3.6.1 Pre-Test and Post-Test of a Reading Measure

Two themes discussed in the research of reading assessment provided the rationale for using a standardised reading test to evaluate the effect of CSR on the Taiwanese university learners' reading comprehension in this study. One important theoretical consideration was related to instructional sensitivity. According to Snow (2003), an effective reading measure should reflect its effectiveness of instruction. The results drawn from the measure can not only provide information about the strengths and weaknesses of individual learners but also evaluate the success of a specific intervention. Based on the literature reviewed in the previous chapter, the

majority of studies concerning comprehension strategy instruction have used measures which seem irrelevant to the reading strategies learners learned from the interventions. To improve this methodological limitation, this study aimed to use a reading measure closely related to the reading strategies in CSR.

The other important issue was concerned with test usefulness. As Bachman & Palmer (1996) point out, a good test has many characteristics in terms of test usefulness such as reliability, validity, impact, and practicality. Seeing from this perspective, it is important to consider the qualities and practical use of the test within educational settings. In this study, the reading test was drawn from the standardised tests including TOEFL and Intermediate Level GEPT. Such norm-referenced tests are believed to have high reliability and validity (Alderson, 2000; Grabe, 1991; Lysynchuk et al., 1990). In addition, these two tests are important English proficiency tests for Taiwanese university students. TOEFL is a popular test among those who wish to go abroad for further study, whereas GEPT is a required test for a number of Taiwanese students at tertiary level to pass as part of their graduation assessments.

The reading measure given in the pre-test and post-test was in the format of multiple choice. It was made up of 9 passages, totally 50 questions which can be classified into five types of reading questions – (1) predicting the content of the passages, (2) getting the main idea, (3) finding the supporting details, (4) dealing with vocabulary, and (5) making inferences. Among 50 questions, there were 5 predicting questions, 9 main idea questions, 11 factual or detailed questions, 17 vocabulary questions and 8 about making inferences. Each question was worth 2 points and the sum total of the test was 100 points. Before the main study, the test had been piloted on 10 intermediate students who did not participate in this study. Based on the results of the piloting, three passages were changed to suit the difficulty level of the learners. The detailed questions are shown in Appendix A.

To obtain test reliability, the same reading measure was given at pre-test and post-test 14 weeks apart. To analyse the data, the SPSS 11.0 version software was used and the analysis of mixed between-within subjects ANOVA was adopted. The reason why I adopted this statistical analysis was to determine whether CSR is more effective in improving the EFL learners' reading comprehension scores (Pallant, 2001). Additionally, to investigate further the effect of CSR on the specific types of reading comprehension questions after the intervention, the statistical test of One-Way ANOVA was applied.

3.6.2 Audio-Recordings of Group Discussions and Field Notes

The technique of audio-recording was used as one of the methods to collect data from participant observation. As shown in Table 3.3 in the earlier section, group discussions during CSR instruction were audio-taped at the beginning, middle and end of the intervention to examine the nature of group talk in CSR. As I was interested in the impact of large group size on the students' text discussion, three groups which consisted of 6 students were selected for data analysis and they were invited for group interviews at the end of the intervention. Small unobtrusive microphones and recorders were used and before audio-taping, they were tested to ensure the quality of the recordings. The titles of the texts discussed in the recorded sessions were "Bill Gates: Good Businessman or Bad?" (1st transcript), "Loneliness: How Can We Overcome It?" (2nd transcript) and "The Best Medicine" (3rd transcript). For the purpose of fully understanding each other, the language the students used in group discussions was Mandarin. The recordings were transcribed verbatim first, and the Mandarin was then translated into English for the ease of presentation of the data analysis. The list of transcription conventions is presented in Appendix B.

Another method used to collect data from observation is taking field notes. In

this study, the field notes were used to add contextual information in conjunction with the transcriptions. They were used to describe my general impressions as the students engaged in collaborative group work in the classroom.

To analyse the small group discussions, I abided by the principles of open coding suggested by Strauss & Corbin (1990). According to them, open coding is an analytical process aiming at "breaking down, examining, comparing, conceptualising and categorising data" (p. 61). To do this, I repeatedly read the transcripts making constant comparisons and highlighting similar themes with colour pens in order to code the utterances into categories relevant to the research questions of this study.

The next step was to further investigate the categories by applying the principles of axial coding (Flick, 2002; Silverman, 2001; Strauss & Corbin, 1990). The purpose of axial coding is to refine the relations among categories and establish the sub-categories for further investigation of the phenomena or concepts. According to Strauss & Corbin (1990):

> Axial coding is the process of relating subcategories to a category. It is a complex process of inductive and deductive thinking involving several steps. These are accomplished, as with open coding, by making comparisons and asking questions (p. 114).

Furthermore, as I was concerned with what actually happened during CSR group work and how the university learners co-constructed meaning for text comprehension, I did not intend to quantify the peer interaction. As Mehan (1979) argues, there is a danger that the selection of categories for quantification "obscures the contingent nature of interaction, and ignores the multiple functions of language" (quoted in Silverman, 2001, p. 36). In other words, quantifying categories in naturally occurring

classroom interaction is most likely to place the emphasis on numbers over the meaning of discourse. However, some numerical expressions will be used to describe the significance of specific patterns of peer collaboration. A detailed discussion of the recordings of the group discussions will be conducted in Chapter Five.

3.6.3 Questionnaire

The questionnaire asked for participants' perceptions of CSR instruction and their reflections on the extent to which CSR was feasible in the EFL context in terms of the implementation procedures. The questionnaire adopted a closed-ended Likert question format. As Peterson (2000) states, the Likert scale is designed to measure a continuous construct, such as an attitude, opinion and perception. In the questionnaire, respondents were asked to express their general attitudes and perspectives on the questions related to CSR by agreeing or disagreeing with statements on a 5-point scale, namely, 5-strongly agree, 4-agree, 3-no opinion, 2-disagree and 1-strongly disagree.

The questionnaire consisted of 32 close-ended questions and one multiple choice question. The participants were asked about their perceptions of (1) CSR instruction (Q1-8), (2) the implementation procedures of CSR (Q9-18), (3) the impact of CSR on their English learning (Q19-32), and (4) difficulties they encountered in CSR (Q33). The original questionnaire used in the field work was written in Mandarin for the informants' understanding of the questions. The Mandarin and English versions are provided in Appendix C-1 & C-2.

The experimental group was given the questionnaires at the same time and place. According to Dörnyei (2003), this group-administered method is the most common method of collecting data from questionnaires in second language research and a very high response rate can be achieved. The respondents were offered assistance needed to clarify any ambiguity and they were given 20 minutes to complete the

questionnaire.

For the analysis of the data collected from the questionnaire survey, quantitative descriptive statistical analysis using SPSS 11.0 was employed. The details of the results will be discussed in the next chapter.

3.6.4 Group Interviews

As discussed in 3.2.4, this study adopted a semi-structured pattern for group interviews. The questions addressed were based on the research questions of the study. The three groups whose group discussions had been audio-taped were invited for the group interviews at the end of the semester. Originally, I planned to use a seminar or conference room for the sake of more comfortable space. However, most of them are too big for a group of six and the only suitable seminar room could not be accessed due to the use by other events. Therefore, the group interviews were eventually held in the same classroom where the lessons had been conducted.

The group interviews lasted approximately 50 minutes and the interviews were tape-recorded. Although tape-recording the discussions can be intrusive and threatening, it has been recommended as an essential process for interview-based research (Bryman, 2001; Cohen et al., 2000; Denzin & Lincoln, 1994; Robson, 2002). The advantages of recording are that the data gathered can be reviewed and the interviewer can concentrate on the interaction among the group members without missing any of their comments and opinions. Moreover, the data can be transcribed for further in-depth analysis. The language that the informants chose to use was Mandarin and the interviews were conducted in a friendly manner so that the participants would feel safe and comfortable to answer the questions. The audio-recordings were transcribed for analysis and patterns were identified to answer the research questions. Due to the space limit of the thesis, I will not be able to

conduct a comprehensive discussion of the group interview data. However, some interesting and critical issues emerged and will be discussed in combination with the results of the questionnaire survey in Chapter Six.

3.7 Validity and Reliability of the Study

Two of the most important issues to address in all kinds of research design are validity and reliability of the measuring instruments. According to Punch (1998), validity refers to whether or not an instrument measures the concept that the researcher wants to measure, while reliability refers to the consistency of the results. Reliability is a necessary precondition of validity, but reliability is not sufficient condition for validity in research. Validity is crucial and the most important criterion for effective research (Cohen et al., 2000). There are various types of validity and it is beyond the scope of this thesis to discuss them in detail. In this section, I will, however, discuss how internal validity, external validity and reliability were dealt with to ensure the quality of the present study.

3.7.1 Internal Validity

Internal validity or credibility in qualitative research is "the extent to which the study and its findings are accurate and truthful" (Lankshear & Knobel, 2004, p.67). To ensure internal validity, as Maxwell (2005) asserts, it is important to identify and rule out alternative explanations to the findings. A common suggestion is to use triangulation to cross-check the data from different perspectives to enhance the internal validity of the research. As I have discussed in the earlier section 3.1, the study used multiple sources of data as an approach for methodological triangulation.

Now I should turn to other steps I took to deal with this issue of internal validity.

In this present study, potential threats to internal validity in the quasi-experimental design, such as using inappropriate implementation procedures and testing measures, were identified and actions were taken to eliminate them. During the experiment, I made sure that the instructional content in the control and experimental group lessons was the same except for the different instructional formats. To ensure that there was comparable data to gauge the effect of CSR on the university learners' reading comprehension, the same reading measure was administered at the beginning (pre-test) and 14 weeks later, at the end of the CSR intervention (post-test). When taking the pre-test, the students were asked not to make any remarks on the questions and to write down their answers on the answer sheets only. They were not told that they would re-take the test. I believe that the memory factor, which could have affected the results of the post-test, was thereby minimised.

As CSR is a novel reading approach for the students, I was cautious that this might bring about the Hawthorne effect (reactivity), which occurs when participants are placed in a new situation (Bryman, 2001; Cohen et al., 2000; Cook & Campbell, 1979; Patton, 2002). I understood that it was very challenging to eliminate the possibilities that the participants might behave differently to meet the researcher's expectation, However, as intentional behaviours are difficult to sustain over time, multiple observations were conducted in this study to mitigate the possible impact of the Hawthorne effect. In addition, I was concerned that the interviewees might please me with their replies in group interviews. To avoid this and probe the informants' frank responses to CSR, the interviews were held after the final exam.

Referential adequacy was another technique used to check internal validity. According to Lincoln & Guba (1985), using audiotapes or any other electrical appliances to collect data is one way of ensuring referential adequacy and enhancing

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credibility. In this study, the group interviews and discussions were audio-taped. The recordings can be used to scrutinise the authenticity of the analysis and interpretations and allow the researcher to provide a rich description.

Peer debriefing was also used to validate the findings and interpretations of this study. Lincoln & Cuba (1985) defines peer debriefing as "a process of exposing oneself to a disinterested peer in a manner paralleling an analytic session and for the purpose of exploring aspects of the inquiry that might otherwise remain only implicit within an inquirer's mind" (p. 308). This concept is particularly important for the present study because the researcher examined her own practice alone and the peer review helped challenge and scrutinise the research. To this end, the researcher discussed her work with colleagues, participated in research seminars and gave presentations in conferences to audiences who are knowledgeable and experienced in the field of language teaching and learning. Through sharing and interacting with peers, some ambiguity was clarified and peer feedback helped the researcher enhance the rigour of the study.

3.7.2 External Validity

External validity or transferability in qualitative research is related to generalisation. It is associated with the degree to which the research findings can be generalised beyond the particular populations and contexts (Cohen et al., 2000). According to Punch (1998), quantitative experimental designs with probability sampling and random assignment generally involve a higher degree of generalisation. In contrast, teacher research within particular groups, settings and conditions does not yield generalisable outcomes, and the issue of generalisation does not tend to be the focus (Hopkins, 2002; Lankshear & Knobel, 2004). Since this study was bound to a particular context and the research sample was not representative, the findings cannot be generalised to other research contexts with intermediate university learners in Taiwan. However, it was believed that this study could

provide valuable insights to those who are interested in adopting CSR in similar classroom settings.

3.7.3 Reliability

Reliability is a crucial term in measurement, and it is associated with consistency and stability of measures or findings. A reliable instrument will obtain the same results if it is applied to the same group of people at a different time. In contrast to repeatability and stability, reliability in qualitative research refers to "a fit between what researchers record as data and what actually occurs in the natural setting that is being researched" (Cohen et al., 2000, p. 119). In other words, the dependability of the research procedures and data should be checked to determine if the research implementation is reliable. To enhance the consistency and dependability of the research, it is advocated that a pilot study should be carried out before the real field work starts (Bryman, 2001; Oppenheim, 1992; Punch, 1998; Robson, 2002). I believe that the pilot study discussed in 3.5.1 helped strengthen the reliability of this research project.

In this study, another independent coder was given the research objectives, the initial categories and description of each category for the purpose of coding consistency check (Cohen et al., 2000; Miles & Huberman, 1994; Patton, 2002; Silverman, 2001). According to Miles & Huberman (1994), coding-check involves two individuals coding the same data set. It is a good reliability check to clarify or confirm the findings. When uncertainties or discrepancies occurred, we discussed and verified the interpretations to reach a consensus on the appropriate classification of the utterances.

Furthermore, Cohen et al. (2000) suggest that the reliability of the research can be checked through respondent validation, a strategy employed to examine the accuracy of

the results by obtaining feedback from the research participants. Maxwell (2005) strongly argues that it is "the single most important way of ruling out the possibility of misinterpreting the meaning of what participants say and do and the perspective they have on what is going on" (p. 111). To facilitate respondent validation, the transcriptions of the group interviews were e-mailed to the informants for feedback and validation. It was found that the interviewees agreed with the transcripts and only some typing errors were needed to be corrected.

3.8 Summary

This chapter has reported on the justification and methodological considerations of adopting a mixed-method design. Both quantitative and qualitative data were collected in the study. They consisted of the pre-test and post-test of reading comprehension, results of a questionnaire survey, the researchers' field notes, 9 recordings of group discussions and transcriptions of 3 group interviews. The multiple sources of data were used not only to answer the research questions addressed in the study but also to provide a methodological triangulation, which aimed to enhance the rigour of the study. Special attention was paid to my role as a teacher-researcher as well as issues of validity and reliability. Several techniques to increase the internal validity were discussed. As I aimed to understand the effect of CSR and capture the naturally occurring peer interaction in a particular context, the issue of generalisation was not the focus. Finally, it was believed that a pilot study, coding consistency check and feedback from the participants about the accuracy of group interview data could help enhance the reliability of the study.

Chapter Four

Findings of Quantitative Data

4.1 Introduction

This chapter reports on and analyses the findings drawn from two sources of quantitative data - the standardised reading comprehension pre-test and post-test and the questionnaire survey used to investigate the participants' perceptions of the CSR intervention. The reading comprehension measure was in the format of multiple choice and consisted of 5 different types of comprehension questions, namely 5 predicting questions, 9 questions on getting the main idea, 11 on finding the supporting details, 17 on dealing with vocabulary and 8 on making inferences. The comparative effect of CSR and the traditional teacher-fronted approach on the EFL learners' reading comprehension will be discussed first. It is followed by a more detailed discussion of the effect of CSR on the above-mentioned five types of comprehension questions. Then, the analysis of the survey questionnaire responses is presented. A detailed examination of the findings in relation to previous studies in the literature will be left to Chapter Six.

4.2 The Comparative Effect of CSR and the Teacher-Fronted Approach on the EFL Learners' Reading Comprehension

This section presents the results of mixed between-within subjects ANOVA using

time (pre-test and post-test) as the within-subjects variable and group (different instructional formats - CSR or the traditional teacher-fronted reading approach) as the between-subjects variable to test the hypotheses addressed in Chapter One of this study. The mixed between-within subjects ANOVA was adopted to investigate whether CSR is a more effective approach to improve the EFL learners' reading comprehension. This analysis will also test whether there are main effects for each of the variables and whether the interaction between the two variables is significant (Pallant, 2001, p. 211). The level of significance was set at .05 for all statistical tests. The descriptive statistics are illustrated in Table 4.1 as follows:

Table 4.1 Descriptive Statistics

Time	Group	N	Mean	S. D.
Pre-test	Control	56	46.07	10.72
	Experimental	54	47.41	10.64
Post-test	Control	56	52.11	11.78
	Experimental	54	56.63	10.66

Table 4.2 The Statistical Results of Within-Subjects and Interaction Effects

Source	Time	Type III Sum of Square	df	Mean Square	F	Sig
Time	Linear	3200.005	1	3200.005	84.714	.000**
Time*Group	Linear	139.569	1	139.569	3.695	.057
Error (Time)	Linear	4079.631	108	37.774		

* p<0.05   **p<0.01

Table 4.2 above shows the statistical analysis from the within-subjects and interaction effects. The result reveals that there is a significant main effect for time,

F (1, 108) = 84.714, p = .000, which is less than .05. This suggests that there is a change in reading comprehension scores at the two different time periods. In other words, the students receiving CSR and the traditional teacher-fronted instruction both made significant progress in their reading comprehension scores after 14 weeks.

The analysis shown in Table 4.2 also revealed that there is no significant interaction effect between time and group (Time*Group), F (1, 108) = 3.695, p = .057, which is slightly larger than the alpha level of .05. Thus, this result suggests that the change in reading comprehension scores over two periods of time was not significant for the two groups.

Table 4.3 The Statistical Results of Between-Subjects Effects

Source	Type III Sum of Square	df	Mean Square	F	Sig
Intercept	562067.475	1	562067.475	2772.464	.000**
Group	471.766	1	471.766	2.327	.130
Error	21895.070	108	202.732		

Table 4.3 shows the main effect for between-subjects variable - group (CSR/the traditional teacher-led reading approach). The result indicated that there was no significant main effect for group (instructional formats), F (1, 108) = 2.327, p = .130, which is larger than .05. From the mean scores, it appeared that the experimental group had outperformed the control group (Table 4.1); however, the difference did not reach the significant level. In other words, the hypothesis was confirmed and CSR was not shown to be more effective than the traditional teaching approach in terms of its effectiveness in improving the EFL learners' reading comprehension.

Having discussed the comparative effects of CSR and the teacher-fronted approach, in the next section, I will report on the results of the effect of CSR on specific types of comprehension questions.

4.3 The Effect of CSR on Types of Comprehension Questions

This section discusses the effect of CSR on the EFL learners' post-test answers related to types of comprehension questions. An analysis of variance (One-Way ANOVA) was performed to evaluate the impacts of the two instructional approaches – CSR and the traditional whole class teacher-fronted method - on all participants' answers to five types of comprehension questions. It was used to test five hypotheses related to the second research question addressed in Chapter One.

Table 4.4 below displays the descriptive statistics including means and standard deviation and Table 4.5 illustrates the results of One-Way ANOVA on types of comprehension questions between the two groups after the 14 weeks' treatment.

Table 4.4 Post-Test Scores of the Control and Experimental Groups by Types of Comprehension Questions

Types of Comprehension Questions	Group	N	Mean	S.D.	Minimum	Maximum
Predicting (Maximum 10)	Control	56	4.32	2.28	0	8
	Experimental	54	4.48	2.26	0	10
Getting the main idea (Maximum 18)	Control	56	9.32	3.72	2	18
	Experimental	54	11.56	3.55	4	18
Finding the supporting details (Maximum 22)	Control	56	12.82	4.03	4	20
	Experimental	54	14.26	3.25	8	22
Dealing with vocabulary (Maximum 34)	Control	56	18.21	5.17	8	32
	Experimental	54	19.07	4.99	6	32
Making inferences (Maximum 16)	Control	56	7.43	2.85	0	14
	Experimental	54	7.26	3.19	2	12

Table 4.5 One-Way ANOVA on Five Types of Comprehension Questions

Types of Reading Comprehension Questions		Sum of Squares	df	Mean Square	F	Sig.
Predicting	Between Groups	.704	1	.704	.136	.713
	Within Groups	557.696	108	5.164		
	Total	558.400	109			
Getting the main idea	Between Groups	137.216	1	137.216	10.352	.002*
	Within Groups	1431.548	108	13.255		
	Total	1568.764	109			
Finding the supporting details	Between Groups	56.834	1	56.834	4.220	.042*
	Within Groups	1454.585	108	13.468		
	Total	1511.418	109			
Dealing with vocabulary	Between Groups	20.502	1	20.322	.787	.377
	Within Groups	2787.132	108	25.807		
	Total	2807.455	109			
Making Inferences	Between Groups	.788	1	.788	.086	.769
	Within Groups	984.085	108	9.112		
	Total	984.873	109			

* $p<0.05$

4.3.1 Comparison of the Post-Test Scores for Predicting

Hypothesis 2.1: There is no significant difference between the control and experimental groups in the post-test scores for comprehension questions on predicting.

Hypothesis 2.1 was tested by comparing the performance of the control and experimental groups on the prediction questions in the post-test. As shown in Table 4.4 above, the mean score of the control group was 4.32, while that of the experimental group was 4.48. A One-Way ANOVA (Table 4.5 above) showed that there was no significant difference on the prediction questions between the control and experimental groups (F=.136, p=.714 >.05). Therefore, Hypothesis 2.1 was

accepted. In other words, the experimental group did not perform better than the control group in answering the comprehension question on predicting.

4.3.2 Comparison of the Post-Test Scores for Getting the Main Idea

Hypothesis 2.2: There is no significant difference between the control and experimental groups in the post-test scores for comprehension questions on getting the main idea.

In relation to questions on getting the main idea, the mean score of the experimental group (11.56) was higher than that of the control group (9.32). There was a gain of 2.24 (Table 4.4 above). Furthermore, the results of a One-Way ANOVA (Table 4.5 above) showed that the F ratio was 10.352, p=.002, which means that the difference reached a statistically significant level. Therefore, Hypothesis 2.2 was rejected. This finding suggests that after receiving CSR instruction, the students performed better on getting the main idea in comparison with the students in the teacher-dominated reading approach.

4.3.3 Comparison of the Post-Test Scores for Finding the Supporting Details

Hypothesis 2.3: There is no significant difference between the control and experimental groups in the post-test scores for comprehension questions on finding the supporting details.

As to finding the supporting details, the mean score of the control group was 12.82, while that of the experimental group was 14.26 (Table 4.4 above). As displayed in Table 4.5 above, the analysis of variance (One-Way ANOVA) showed that the gained F ratio was 4.220 and p-value was .042. Thus, the null Hypothesis 2.3 was

rejected. This indicated that there was a significant difference between the control and experimental groups. Consequently, the finding suggests that CSR had a significantly greater impact on the students' ability to find the supporting ideas than the traditional teacher-centred teaching method.

4.3.4 Comparison of the Post-Test Scores for Dealing with Vocabulary

Hypothesis 2.4: There is no significant difference between the control and experimental groups in the post-test scores for comprehension questions on dealing with vocabulary.

The numerical analysis in Table 4.4 and 4.5 showed that the mean score on dealing with vocabulary of the control group was 18.21, while that of the experimental group was 19.07. Although there was a gain of 0.86 on dealing with vocabulary for the experimental group over the control group, this difference did not reach a level of significance (F=.787, p=.377>.05). Therefore, Hypothesis 2.4 was accepted. This finding seems to show that CSR did not have more positive effect than the traditional whole class teaching on the students' replies in relation to dealing with unknown vocabulary words.

4.3.5 Comparison of the Post-Test Scores for Making Inferences

Hypothesis 2.5: There is no significant difference between the control and experimental groups in the post-test scores for comprehension questions on making inferences.

As Table 4.4 above demonstrates, the mean score of the control group for the comprehension questions on making inferences was 7.43, while that of the

experimental group was 7.26. According to the results shown in Table 4.5 above, the statistical results of a One-Way ANOVA reveal that nor did the last type of comprehension question, making inferences, display a significant difference between the two groups (F=.086, p=.769>.05). Consequently, Hypothesis 2.5 could be accepted. In other words, the experimental group did not perform significantly better than the control group in terms of answering the comprehension questions on making inferences.

In summary, based on the statistical analysis discussed above, it was found that CSR had a more positive impact than the teacher-dominated whole class reading approach on the EFL learners' ability to get the main idea, and find the supporting details, but it did not positively influence the students' ability to predict, make inferences and deal with unknown vocabulary items.

Having discussed the effects of CSR on the university learners' replies to five different types of comprehension questions, I will report in the next section on another quantitative data analysis derived from the questionnaire survey.

4.4 Results of the Questionnaire Survey

To gather data regarding the EFL learners' perspectives on CSR, after the intervention, a questionnaire was administered to the experimental group. It was composed of 32 Likert scale statements and one multiple choice question. The participants were requested to indicate the extent to which they agreed with each statement using (1) strongly disagree, (2) disagree, (3) no opinion, (4) agree, and (5) strongly agree. The questionnaire was divided into three categories. The first category (items 1-8) dealt with students' general perceptions of the CSR approach. The second

category (items 9-18) was in regard to the students' perceptions of the implementation procedures of CSR such as role assignment, group size, the reading strategies as taught in CSR. The last category (items 19-32) asked the students to self-evaluate the impact of CSR on their English learning. Item 33, a multiple choice question, required them to tick the difficulties they had encountered during the CSR intervention.

In the following sections, a descriptive analysis, including frequency and percentages is presented to investigate the respondents' perspectives on the collaborative reading approach.

4.4.1 Students' General Perceptions of CSR Instruction

This section presents the participants' general perceptions of CSR instruction. The data of the students' responses to Items 1-8 are summarised in Table 4.6 below. First of all, the participants were asked the degree to which they enjoyed CSR. A majority of the respondents (70.3%) liked or strongly liked CSR as implemented in the classroom. 22.2% of the students did not comment, and only 7.4% did not enjoy it. When comparing CSR with the teacher-led approach, 72.2% of the informants preferred CSR, 18.5% did not reveal their preference, and 9.3% of the students favoured teacher-led instruction. The results of the above-mentioned two statements seem to suggest that most of the students had a preference for the collaborative reading approach over large class teaching controlled by the teacher. However, some hidden disagreement from those who did not express their preference or dislike CSR cannot be ruled out. Possible factors contributing to their negative feelings toward CSR will be discussed in Chapter Six.

Table 4.6 Students' General Perceptions of CSR Instruction

Questionnaire Items	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
1. I like CSR in the class.	**14** (25.9%)	**24** (44.4%)	**12** (22.2%)	**2** (3.7%)	**2** (3.7%)
2. I prefer CSR to traditional large classroom teaching.	**25** (46.3%)	**14** (25.9%)	**10** (18.5%)	**4** (7.4%)	**1** (1.9%)
3. I am actively engaged in group discussions.	**10** (18.5%)	**32** (59.3%)	**12** (22.2%)	**0** (0%)	**0** (0%)
4. By discussing with my group members, I understand better about what I read.	**22** (40.7%)	**26** (48.1%)	**5** (9.3%)	**1** (1.9%)	**0** (0%)
5. I enhance my communication ability in CSR.	**16** (29.6%)	**29** (53.7%)	**9** (16.7%)	**0** (0%)	**0** (0%)
6. I learn how to cooperate with others in CSR.	**21** (38.9%)	**29** (53.7%)	**2** (3.7%)	**2** (3.7%)	**0** (0%)
7. I am self-motivated for my learning in CSR.	**21** (38.9%)	**29** (53.7%)	**2** (3.7%)	**2** (3.7%)	**0** (0%)
8. I think it is feasible to implement CSR in the university English class.	**25** (46.3%)	**17** (31.5%)	**9** (16.7%)	**2** (3.7%)	**1** (1.9%)

Statements 3-6 focused on the students' views on their interactions with peers during CSR. On item 3, 77.8% of the students thought that they actively engaged in group discussions with their peers and nearly 90 percent (88.8%) of the respondents indicated that active participation in collaborative group discussions facilitated their reading comprehension (Item 4). On item 5, 83.3% of the participants felt that their communication skills had been enhanced in the collaborative reading approach. The result of statement 6 showed that more than 90% (92.6%) of the students agreed or strongly agreed that they learned how to cooperate with others in CSR.

In reply to the statement "I am self-motivated in my learning in CSR", 92.6% of the respondents gave positive responses (38.9% strongly agreed and 53.7% agreed).

In addition, when asked about the feasibility of CSR, 83.3% of the students (46.3% strongly agree and 31.5% agreed) remarked that it was feasible to implement CSR in the university setting. 9% did not express their opinions and only 5.5% disagreed or strongly disagreed with the statement.

Overall, the main finding of this section is that on any one question with regard to the students' general perceptions of CSR, more than 70% the students expressed positive views on CSR. The results seem to suggest that the university learners had a preference for the CSR intervention and that they perceived some beneficial effects of CSR on the improvement of their text comprehension, social skills as well as their motivation to learn.

One issue worth mentioning pertains to the wording of the questionnaire survey used in this study. Despite the fact that the results of the questionnaire provided valuable information of the EFL learners' general attitudes and perceptions of CSR, one cannot deny the possibility that the positive wording of the questions contained in the questionnaire could have increased the tendency for the learners' positive and favourable responses. Nevertheless, the data gathered from other sources such as group interviews and transcriptions of the group discussions will be used to triangulate the findings regarding the participants' perception of CSR. A detailed critical discussion will be conducted in section 6.6.

4.4.2 Students' Perceptions of the Implementation Procedures of CSR

Ten statements (Items 9-18) were designed to examine the students' perceptions of the implementation procedures of CSR. The detailed statistical results of the responses are displayed in Table 4.7 below.

Table 4.7 Students' Perceptions of Implementation Procedures of CSR

Questionnaire Items	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
9. The reading materials used in the class are suitable to my level.	**12** (22.2%)	**34** (63.0%)	**6** (11.0%)	**1** (1.9%)	**1** (1.9%)
10. The assigned roles in groups help group discussions.	**16** (29.6%)	**30** (55.6%)	**7** (13.0%)	**1** (1.9%)	**0** (0%)
11. It is appropriate to have four different roles in a group.	**15** (27.8%)	**30** (55.6%)	**8** (14.8%)	**1** (1.9%)	**0** (0%)
12. Everyone should take turns to be the group leader in each group.	**23** (42.6%)	**25** (46.3%)	**6** (11.1%)	**0** (0%)	**0** (0%)
13. It is appropriate to rotate the roles every two weeks.	**17** (31.5%)	**25** (46.3%)	**9** (16.6%)	**2** (3.8%)	**1** (1.9%)
14. It is a good size to have 5-6 people in a group.	**17** (31.5%)	**26** (48.1%)	**8** (14.8%)	**2** (3.8%)	**1** (1.9%)
15. Cue cards help me understand the procedures of CSR.	**20** (37.0%)	**25** (46.3%)	**9** (16.6%)	**0** (0%)	**0** (0%)
16. Learning logs help me keep the record of my English learning.	**17** (31.5%)	**16** (29.6%)	**15** (27.8%)	**4** (7.4%)	**2** (3.8%)
17. The reading strategies taught in CSR are useful.	**21** (38.9%)	**26** (48.1%)	**6** (11.1%)	**1** (1.9%)	**0** (0%)
18. I think the implementation procedures of CSR are appropriate in our classroom.	**22** (40.7%)	**23** (42.6%)	**9** (16.7%)	**0** (0%)	**0** (0%)

Item 9 asked the students to reveal their perceptions of the reading materials. They were passages selected from three textbooks including *Reading for the Real World 2* (Zwier & Stafford-Yilmaz, 2004)*, Issues for Today: An Intermediate Reading Skills Text* (Smith & Mare, 1995) *and Reading Challenge 3* (Malarcher & Janzen, 2005). As the table shows, more than 85.2% of the participants agreed or strongly agreed that the reading texts were suitable for their level.

The role assignment and rotation in the CSR group work was investigated in Items 10-13. In the intervention, the participants were assigned four roles during their group discussions including a leader, clunk expert (dealing with unknown or difficult words or sections), gist expert and reporter (summariser). Their responses to Item 10 revealed that 85.2% of the informants believed that the role assignment facilitated group discussions. Similarly, 83.4 % of the students felt that it is suitable to have four different roles in a group.

In response to a question about their attitudes towards being a leader (Item 12), almost 90% of the participants thought that each member should have the opportunity to assume the role as a leader. When asked about the appropriate length of role rotation, 77.8% of the students agreed or strongly agreed that it is suitable to rotate the roles every two weeks. Regarding students' responses to Item 14, nearly 80% of the informants indicated that 5-6 people is a good size for group discussions.

Items 15 and 16 were used to investigate the EFL learners' perceptions of the cue cards and learning logs used in CSR. When the students were asked whether they thought cue sheets helped them understand the implementation procedures of CSR, nearly 85% of the students ticked positive responses. In contrast, a markedly lower percentage of positive answers was found regarding learning logs, that is, 61.1% of the respondents believed that learning logs helped them record what they had learned.

In reply to Item 17, 87% of the participants indicated that the four reading strategies taught in CSR were useful to their English learning. When asked about the suitability of the implementation procedures of CSR (Item 18), 82.6% of the students ticked the positive answers.

4.4.3 The Impact of CSR on Students' English Learning

This section discusses the students' self-evaluation of the impact of CSR on their

English learning. Their responses to the items (Item 19-32) can be further classified into three categories: (1) students' views on their learning attitudes in CSR (Item 19-21), (2) the impact of instructed reading strategies in CSR on their reading (Item 22-26), and (3) their self-evaluation of their English abilities after the intervention (27-32). The details of the respondents' responses to these items and the results of the statistical analysis are presented based on the distinctive sub-categories below.

4.4.3.1 Students' Views on Their Learning Attitudes in CSR

Table 4.8 below summarises the frequencies and percentages of the students' perceptions of their learning attitudes when they were engaged in CSR.

Table 4.8 Students' Views on Their Learning Attitudes in CSR

Questionnaire Items	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
19. CSR increases my interest in learning English.	**10** (18.5%)	**29** (53.7%)	**10** (18.5%)	**4** (7.4%)	**1** (1.9%)
20. CSR increases my motivation to read.	**9** (16.7%)	**30** (55.6%)	**12** (22.2%)	**2** (3.8%)	**1** (1.9%)
21. I am more concentrated on the class in CSR.	**15** (27.8%)	**27** (50.0%)	**9** (16.7%)	**2** (3.8%)	**1** (1.9%)

As the table shows, 72.2% of the students indicated that their interest in learning English increased as a result of the intervention. With regard to Item 20, 72.3% of the respondents felt that they were more motivated to read because of CSR. Similarly, nearly 80% (77.8%) of the informants agreed or strongly agreed that they were more attentive in CSR. The responses to these three items suggest although around 20-30% did not, the majority of the participants did hold positive learning attitudes in CSR.

4.4.3.2 Impact of Instructed Reading Strategies in CSR on Students' Reading

From Items 22-26, the participants were asked to evaluate the impact of the reading strategies students learned through CSR comprehension strategy instruction on their reading.

Table 4.9 Impact of the Reading Strategies in CSR on the Students' Reading

Questionnaire Items	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
22. CSR helps me activate my background knowledge about the topics before I read.	16 (29.6%)	29 (53.7%)	12 (22.2%)	2 (3.8%)	1 (1.9%)
23. CSR helps me understand the main ideas of the articles I read.	24 (44.4%)	24 (44.4%)	4 (7.4%)	1 (1.9%)	1 (1.9%)
24. CSR helps me distinguish between the main idea and supporting information of the articles I read.	28 (51.9%)	25 (46.3%)	0 (0%)	0 (0%)	1 (1.9%)
25. CSR helps me understand difficult words in the articles I read.	16 (29.6%)	27 (50.0%)	8 (14.8%)	2 (3.8%)	1 (1.9%)
26. CSR helps me summarise the articles I read.	9 (16.6%)	23 (42.5%)	15 (27.7%)	5 (9.2%)	2 (3.8%)

According to the results displayed in Table 4.9 above, 83.3% of the respondents believed that CSR helped them activate their prior knowledge of the topics they read. When asked about the strategy of "get the gist", a sizable percentage of them (88.8%) thought that CSR helped them understand the main ideas of the texts and nearly every student (98.2%) agreed that CSR helped them distinguish between the main idea and supporting information of the article they read. As to the strategy of "click and clunk", 79.6% of the students either agreed or strongly agreed that CSR helped them

understand difficult words in the articles. Regarding the strategy of "wrap-up", in contrast, only 59.1% of them expressed that CSR helped them summarise the articles they read.

4.4.3.3 Students' Self-Evaluation of Their English Abilities after the Intervention

Questions 27-32 were used to elicit data concerning students' perceptions of their English abilities after CSR instruction. Based on the results tabulated in Table 4.10 below, 61.1% of the informants indicated that they could read faster after the intervention. On the other hand, a slightly higher percentage felt it had improved their oral reading fluency (66.7% in Item 27).

Table 4.10 Students' Self-Evaluation of Their English Abilities after CSR

Questionnaire Items	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
27. After CSR, I can read faster.	**10** (18.5%)	**23** (42.6%)	**14** (25.9%)	**4** (7.4%)	**3** (5.5%)
28. After CSR, my oral reading fluency has improved.	**9** (16.7%)	**27** (50.0%)	**12** (22.2%)	**6** (11.1%)	**0** (0%)
29. After CSR, my vocabulary has improved.	**7** (13.0%)	**34** 63.0%)	**7** (13.0%)	**6** (11.1%)	**0** (0%)
30. After CSR, I don't rely on dictionaries to look up the meaning of unknown words.	**3** (5.6%)	**24** (44.4%)	**11** 20.3%)	**10** (18.5%)	**6** (11.1%)
31. After CSR, my grammar has improved.	**6** (11.1%)	**26** (48.1%)	**17** (31.4%)	**5** (9.3%)	**0** (0%)
32. After CSR, my English reading comprehension has improved.	**16** (29.6%)	**28** (51.9%)	**7** (13.0%)	**3** (5.5%)	**0** (0%)

As to vocabulary ability, 76% of the students thought that their vocabulary ability had improved. However, potentially 50% of the students still depended on the dictionary to look up the meaning of difficult or unknown words. As for Item 31, 59.2% of the students thought that their grammar ability had improved after the treatment. Finally, a much higher percentage of the participants (81.5%) self-evaluated that their overall English reading comprehension had improved through CSR .

4.4.4 Dilemmas Students Encountered in CSR

On item 33, the respondents were asked to indicate the dilemmas they encountered in CSR. They could tick more than one box. The results are summarised in Table 4.11.

Table 4.11 Dilemmas Students Encountered in CSR

Questionnaire Statements	Frequency (%)
There are a lot of unfamiliar words that I don't know.	**24** (44.4%)
I don't understand complicated grammatical structures.	**20** (37.0%)
There are some members in my group who are sometimes absent.	**12** (22.2%)
The time assigned to group discussions is not enough.	**6** (11.1%)
The class is very noisy.	**5** (9.2%)
I am still not familiar with the reading strategies taught in CSR.	**3** (5.5%)
There are some members in my group who don't participate in group discussions.	**3** (5.5%)
I am not interested in English.	**3** (5.5%)
I am very shy so that I don't want to participate in group discussions.	**2** (3.7%)
Others: (No specific problems or It is OK)	**15** (27.7%)

When answering this question, 15 respondents (27.7%) ticked "Others" and wrote down "No specific problems" or "It is OK". The most frequently reported problem was related to vocabulary. Twenty-four students (44.4%) out of 54 reported that the most difficult dilemma they came across was that there were too many words they did not understand. The second most difficult issue was the complexity of the syntactic structures of the passages. 20 informants (37.0%) indicated that one of the most difficult problems was that they did not understand complicated grammatical structures. As to the third most frequently mentioned dilemma, 12 participants (22.2%) mentioned that the absence of some members in the groups affected their group discussions. Surprisingly, some of the factors such as time allocation, noise, shyness, and inactive participation did not seem to have caused major problems.

4.5 Summary

Chapter Four has presented the findings of the quantitative data. Based on the statistical results of the mixed ANOVA analysis, both the control and experimental groups made significant improvement after 14 weeks of treatment. However, in comparison with the two interventions, there was no significant difference in terms of their effectiveness in increasing the reading comprehension scores. When examining the effect of CSR on specific types of comprehension questions, the results of One-Way ANOVA indicated that CSR seemed to have a positive effect on getting the main idea and finding the supporting details. However, there were no significant differences between the control and experimental groups related to predicting, dealing with vocabulary and making inferences. As to the participants' reflections on CSR, in general, the students held positive views on this collaborative reading approach. They

reported that it had had a beneficial impact on their English learning. When asked about the difficulties, the participants revealed that unfamiliar vocabulary, complicated syntactic structures and the absence of some members were the top three dilemmas they encountered in the CSR instruction.

The findings gathered from the quantitative data will be examined in more depth in combination with the qualitative results in Chapter 6. I will now turn to discuss the findings of the group discussions in the next chapter.

Chapter Five

Findings of Qualitative Data –

Analysis of Peer Discussions in CSR

5.1 Introduction

Chapter Five focuses on the qualitative data analysis related to peer discussions in CSR. For the purpose of understanding how the EFL learners with low-intermediate to intermediate English proficiency derived meaning through collective scaffolding and how they coped with comprehension breakdowns, three sessions held at the beginning, middle and end of the intervention of Group 2, 5 and 6 were audio-taped and transcribed for data analysis. The analysis of 9 recordings of the learners' spoken discourse was aimed to provide readers a window to understand the process of the collaborative work for text comprehension in CSR.

As mentioned in Methodology Chapter, my main concern to use the transcription data of group discussions was to understand the reality of peer interaction in relation to the learning process in which learners collaborated for text comprehension. Therefore, I would not attempt to adopt a quantitative approach for the analysis of the peer collaboration in this study. However, for the ease of discussion of the results, some of the non-numerical expressions, such as "regularly", "consistently", "frequently", "occasionally", and "rarely" will be used to describe the significance of the importance and frequency of some categories (Wood & Kroger, 2000).

Structurally, the findings are presented from two aspects: (1) peer collaboration for text comprehension, which focuses on the investigation of patterns of students' collaborative behaviours in the process of reading comprehension, and (2) the

strategies to deal with unknown or difficult clunks, which aimed to examine the students' approaches when encountering comprehension difficulties. The findings related to peer discussions in CSR will be subject to further critical investigation along with the quantitative findings in the next chapter.

5.2 Peer Collaboration for Text Comprehension

In terms of collaborative group work for text comprehension, ample evidence was found to suggest that the university students were actively engaged in the group discussions and contributed what they knew to understanding the meaning of the texts. Based on the investigation, five salient recurrent categories emerged from the data which captured the collaborative feature of how the learners negotiated and constructed the meaning of text and how collective scaffolding contributed to their reading comprehension and language development. These patterns included: (1) co-construction, (2) elaboration, (3) appeal for assistance, (4) corrective feedback, and (5) prompts. They will be discussed with examples provided from the excerpts in the following subsections:

5.2.1 Co-Construction

In the analysis of the transcripts, the first salient pattern with regard to peer collaboration for text comprehension was called co-construction, which was defined as a joint effort students put in their group discussions to scaffold each other for the aim of understanding the meaning of the text. In this study, it was found that across the groups, the students were frequently involved in the process of co-construction to infer the meaning of the texts. This collaborative work allowed learners to focus their

attention on the tasks, provide solutions to specific problems, and accomplish the goal, which cannot be achieved individually. The following excerpt from Group 6 provides an example of this scaffolding behaviour.

Excerpt 1 (The Best Medicine – Group 6)

112. Fang: *Laughter also provides excellent exercise for your heart. After a good laugh, a person's heart rate is well above normal, and it remains high for up to 5 minutes.*
113. Young: 笑對心臟很好。<Laughter is good for heart.>
114. Chuan: 在大笑之後，一個人的心臟速率會在正常之上。<After laughing, a person's heart rate is above normal.>
115. Bin: 比平常還高嗎? <Higher than usual?>
116. Chuan: 對! 會持續高達五分鐘。<Yes! It remains high for 5 minutes.>
117. Zao: 那…"it"指的是什麼? <What does "it" refer to?>
118. Bin: Um…心跳嗎? <Heart beat?>
119. Jack: A person's heart rate.
120. Young: 對啊! <That's right!>

In this episode, Fang read part of the fourth paragraph in the article of *The Best Medicine*. In line 113-114, Young and Chuan tried to contribute what they have known to help the rest of the group facilitate their understanding of the sentences. In line 115, Bin said, 比平常還高嗎? <Higher than usual?>. This rising intonation question showed that he was not sure about the meaning of "well above normal" and required other group members' confirmation or refutation. His uncertainty was clarified by Chuan's positive response, 對! <Yes! >, and Chuan's further explanation, 會持續高達五分鐘 <It stays high for 5 minutes.>, provided an explicit solution to Bin's ambiguity. However, another student, Zao, unable to figure out what "it" referred to by himself, searched for assistance from other members (line 117). Although Bin supplied his answer to the question, 心跳 <heart beat>, the sound of "um" followed by a long pause expressed his hesitation. Interestingly, Jack did not

express his opinion in Mandarin; instead his discourse in English – a person's heart rate, supported by Young at the end of the excerpt, directly pointed out the reference of the pronoun – "it" for his peers who were not able to understand the grammatical item (line 119-120).

5.2.2 Elaboration

Elaboration was another frequently emerging pattern found in this study and it referred to a student's adding more detailed information on others' previous utterances. It was suggested that there were two functions of this kind of discourse. One was to help create an environment for a deeper understanding of some particular linguistic inquiries and the other one was to help maintain the group dynamics and interaction. In the following extract from Group 5, the students were engaged in a pre-reading activity to activate their background information of the topic to be discussed and be prepared for the text they were going to read. In order to help the group fully understand the two most important words in the article, Sih, as the leader, initiated the discussion by asking his peers to differentiate the differences between "lonely" and "alone".

Excerpt 2 (Loneliness – How Can We Overcome It? – Group 5)

6. Sih: "Lonely"跟"alone"有什麼不同? <What is the difference between "lonely" and "alone"?>

7. Yu: "Alone"是"單獨"的意思。< "Alone" means "nobody keeps you company".>

8. Haw: 一個是身體的，一個是心裡的。<One is physical, and the other is psychological.>

9. Yu: 對, 對…<Yes, yes…>

10. Wei: 換句話說寂寞是心理的狀態，而孤單是自己一個人。<In other words, loneliness is a psychological status, while being alone is that you are with yourself. >

11. Yu: 也就是周圍沒有別人的意思。<That is, there is nobody around you.>

As shown in the above exchange, peer collaboration was involved in an effort to elaborate the definition and notions of "lonely" and "alone". The many turns of expanding and explaining their linguistic knowledge of the words gave the impression that elaboration played an important role in making the linguistic features more comprehensible and facilitating a deeper understanding of the lexical entries for the students.

5.2.3 Appeal for Assistance

Throughout the CSR group discussions, it was found that the participants consistently and regularly made explicit requests for assistance with the meaning of the content and linguistic items, for example, semantic, phonological features or grammatical structures of words, phrases and sentences. The learners were sensitive to their partners' experiences of difficulties. When an appeal for assistance was heard, normally an instant response was forthcoming. In general, the collaborative behaviour was in the form of inquiries composed of "how" or "what" questions. Based on the analysis of the transcripts, students' discourses with regard to this category can be further divided into three types, namely, appeal for assistance with pronunciation, spelling and the meaning of lexical units.

The first subcategory – appeal for assistance with pronunciation was mostly found when students were reading a passage out loud. When giving assistance, they intentionally articulated the words in distinctive syllables for their peers to follow. Excerpt 3 provides an example to demonstrate how Chuan assisted Bin in pronouncing the word "loneliness".

Excerpt 3 (Loneliness – How Can We Overcome It? – Group 6)

29. Bin: *This kind of lo*---那麼唸啊? <How to pronounce this word?>
30. Chuan: Lone-li-ness.
31. Bin: Lone---
32. Chuan: Lone-li-ness.
33. Bin: Loneliness. *Loneliness is not serious……*

The second recurrent type of appeal for assistance found in this study was students' request for the spelling of particular lexical words. This kind of interaction occurred, in most cases, when students were engaged in after-reading activities to generate questions or write down a summary of what they had read. An example is presented below in Excerpt 4.

Excerpt 4 (Bill Gates: Good Businessman or Bad? – Group 5)

235. Hong: 我們可以來問…嗯..Microsoft 的電腦的市佔率是多少? <We can ask… um…what is the market share of Microsoft's computers?>
236. Wei: 我也想問這個。<I want to ask this, too.>
237. Hsien: 這句英文要怎麼開頭阿? <How to start the sentence in English?>
238. Wei: What is the…um.. percentage of Microsoft operating system is used in the world's computers?
239. Haw: Percentage 怎麼拼阿? <How to spell?>
240. Wei: P-E-R-C-E-N-T-A-G-E.

In the course of understanding the text, there was almost a routine dialogue found in the data that the group leaders regularly checked if the group members had something they did not understand and frequently there were some members who requested explanations of some lexical items that they had difficulties with. Excerpt 5 from Group 2 below shows that the group leader, Juang, employs a comprehension check to make sure of his peers' understanding by asking the question, 有沒有不懂 的? <Is there anything you don't understand?>. When Chi calls upon the other

members for the meaning of "heal", the designated vocabulary expert is asked for support to the request (line 32-34).

Excerpt 5 (The Best Medicine – Group 2)
31. Juang: 有沒有不懂的? <Is there anything you don't understand?>
32. Chi: "Heal"是什麼意思? <What does "heal" mean?>
33. Juang: 請單字專家回答。 <Clunk expert, please answer the question.>
34. Shiang: "Heal"是"治療"。< "Heal" means "cure".>

5.2.4 Corrective Feedback

In the field of language learning, learners' errors can provide deeper insights into their understanding of linguistic constructs. Being seen as a prominent type of negotiation for meaning, the corrective feedback, or error correction, normally provided by teachers offers instant feedback in support of learning. In this study, the findings revealed that students consistently produced teacher-like corrective feedback while noticing misconceptions or errors made by other group members. It was noticeable that utterances in relation to corrective feedback, for most of the time, was provided explicitly and eventually led to learners' awareness of their own mistakes. A particular excerpt illustrative of such collaborative interaction is presented below.

Excerpt 6 (The Best Medicine – Group 2)
137. Juang: 那現在來看主旨句。<Let's discuss where the topic sentence is now.>
138. Shien: 第一句跟最後一句。<The first and last sentences.>
139. Juang: 第一句跟最後一句，是嗎? <The first and last sentences; is it right?>
140. Chang: 不對喔! <It is not correct!> 應該只有第一句吧! <There should be only the first sentence!>
141. Shiang: 我也覺得是第一句。<I think it is the first sentence, too.>
142. Chang: 這段主要是在講笑是最好的藥。<The main idea of this paragraph is that laughter is the best medicine.>而…第一句就在講笑可以減輕痛苦。<And…the first sentence talks about that laughter can alleviate

pain.>

143. Juang: 最後一句說小丑像阿斯匹靈一樣會帶來歡樂。<The last sentence is to say that a clown is like an aspirin who can bring us happiness.>
143. Shien: 什麼意思阿? <What does it mean?>
144. Shiang: 阿斯匹靈是止痛藥。<Aspirins are pain killers.>
145. Chang: 小丑也是止痛藥。<Clowns are pain killers, too. > 所以…<So...>
146. Shien: 喔^…最後一句是一個例子，所以最重要是在講笑可以減輕痛苦囉。< Ou^...the last sentence is just an example; therefore, the most important idea is that laughter can reduce pain.>
147. Shiang: 應該是。<I think so.>
148. Shien: 所以主旨句是第一句。<So, the topic sentence is the first one.>
還有沒有問題? <Any more questions?>
149. Ss: {沒有。<No.>

The discussion shown above took place while students in Group 2 were trying to search for the topic sentence of the last paragraph in the article of *The Best Medicine*. In line 137, Juang, the leader, overtly drew his peers' attention to the task by saying, 那現在來看主旨句 <Let's discuss where the topic sentence is now.>. Among the students, Shien was the first to respond, but his answer was incorrect, which triggered peer collaborative effort to correct his mistake. Juang's repetition of Shien's utterance with a question intonation served the function of implying that there was a discrepancy between what had been produced and the correct answer (line 138-139). In line with Shiang's feedback, Chang expressed an explicit corrective response,不對喔! <It is not correct.> 應該只有一句吧! <There should be only the first sentence!>, to pinpoint the correct answer to the problem. Going further, Chang and Juang explained the main idea of the paragraph and tried to help Shien understand that the last sentence was part of the supporting detail for the main idea, in this case, the first sentence of the paragraph. In response to Shien's inability to understand the metaphor, 小丑像阿斯匹靈 <a clown is like an aspirin>, Shiang and Chang elaborated on Juang's previous explanation. Shien's affirmative ,喔^ <Ou^>",

indicated his understanding of the analogy and his reformulated utterance seemed to acknowledge that the corrective feedback offered by other group members had helped his learning.

In addition to explicit other-correction, indirect corrective feedback also occurred although it was occasionally used. The indirect error correction was provided through different approaches such as clarification requests or confirmation checks. In only two occasions, it was found that the corrective feedback was elicited implicitly, which resulted in the learners' attention for self-regulation. Excerpt 7 below illustrates an example of this feature. In this segment, Wei proposed the meaning of "distract" as "separate" and called for a confirmation check. Sih did not provide an instant answer to the request. Instead, his utterances, 是嗎? <Is it right? > 怪怪的! <It does not sound right!>, implicitly disapproved Wei's suggestion and requested for further clarification leading to forcing him to re-examine his original proposal (line 167). Wei's statement, 哦, 我講錯了, "分心" <Oh, I made a mistake. It should mean "disturb".>, indicated that he noticed his own mistake due to the slip of tongue and, thus, was able to initiate a self-repair to modify the discrepancy.

Excerpt 7 (The Best Medicine – Group 5)

166. Wei: "Distract"是"分離"嗎? < Does "distract" means "separate"?>
167. Sih: 是嗎? <Is it right?> 怪怪的! <It does not sound right.>
168. Wei: 哦，我講錯了，"分心"。<Oh, I made a mistake. It should mean "disturb".>

However, it was interesting to find that most of the cases with relation to indirect corrective feedback seemed not to help the learners revise their incorrectness of linguistic errors. An episode is given in Excerpt 8 showing how the students in Group 6 discuss the unknown expression - "come under fire" in the sentence – *However, he*

has come under fire for being too aggressive in his approach to business.

Excerpt 8 (Bill Gates: Good Businessman or Bad? – Group 6)

41. Jack: "Come under fire"是什麼意思啊? <What does "come under fire" mean?>
42. Young: "Come under"是"在下面"的意思嗎? <Does "come under" mean "below"? 那…"come under fire"會不會是"如火如荼"的意思啊? <Is it possible that "come under fire" means "like a raging fire?>
43. Chuan: 如火如荼? <Like a raging fire?>
44. Young: 我也不知道…<I don't know…> 每個字都懂…<I understand every word...>
45. Chuan: "批評"啦! <It means "criticise".>我查字典這是一個片語耶。 <I looked it up in the dictionary and found that it is an expression.>
46. Young: "批評"喔? < "Criticise"?>
47. Chuan: 對啦! <That's right!>

Here, as we can see in line 41, Jack asked for the help with the meaning of the unknown phrase "come under fire". Obviously, Young, without having the knowledge that it is a fixed expression, tried to uncover the meaning of the clunk by inferring the meaning in a word-by-word fashion. Then he came up with a literal interpretation, 如火如荼 <like a raging fire>. Being not intrusive, Chuan's repetition of Young's response indirectly disconfirmed his peer's hypothesis and implicitly indicated that the interpretation needed to be reformulated. However, it seemed that Young did not benefit from this feedback. His utterance in line 44 revealed his incompetence to unfold the meaning on his own in spite of knowing the meaning of every single word. From lines 45-47, it was evident that Chuan's provision of the translation of the difficult clunk provided the scaffolding his peers needed to comprehend the expression which was new to them.

5.2.5 Prompts

In addition to the afore-mentioned patterns of collaborative interaction in meaning construction, the transcripts also suggested that students made prompts for participation to recruit other group members' attention in the problem-solving tasks. In spite of the fact that, in general, all groups were engaged actively in group discussions, unsurprisingly, there were some occasions when some of the group members went off-track. While this occurred, usually the group leaders or someone in the groups took the initiative to revert the group back to their tasks. In the particular instance from Group 5 illustrated below, a student seems absent-minded and inattentive. Here the leader and other group members are trying to engage him in participation.

Excerpt 9 (The Best Medicine – Group 5)

122. Wei: 那還有什麼句意不懂的嗎? <Anything you don't understand?>
123. Hsien: 我找一下。<Let me see.>
124. Wei: 快點啦! <Hurry up!>
125. Hsien: 沒有不懂了! <There is nothing I don't understand.>
126. Wei: OK，吉他手，吉他手，講一下! <Guitarist, guitarist, talk!> [talking to Hong]
127. Ss: {ㄟ..ㄟ..,吉他手! <Heh..heh.., guitarist!>
128. Wei: 你都不太講話。<You do not talk much.>
129. Hong: 叫誰啊? <Who are you talking about?>
130. Wei: 叫你啊! <It's you!> 趕快，趕快現在找主旨句。<Hurry up, hurry up and find the topic sentence now.>
131. Hong: Um…我覺得是第一句。<I think that it is the first sentence.>
132. Wei: Very good!

As shown in the above excerpt, we can see that in line 122, Wei, as the leader, was doing a comprehension check to see if there were still some clarifications needed to be made in his group and his prompt, 快點啦! <Hurry up!>, indicated that he did not want his group to waste too much time waiting for Hsien's response (line 123-124). He

prompted again when he noticed Hong's inattention, thus inviting him to participate by saying, 吉他手，吉他手，講一下! <Guitarist, guitarist, talk!>. Another indication of prompting was students' choral discourse, ㄟ..ㄟ..，吉他手! <Heh.. heh.., guitarist!>. The phonological marker, 'ㄟ', is a particular sound in Mandarin used to attract someone's attention and it seemed that students employed it to divert Hong's attention from the world in which he was absorbed. The group leader's assertion '你都不太講話 <You do not talk much.>' overtly pointed out Hong's lack of engagement and again, he used another prompt, 趕快，趕快現在找主旨句。<Hurry up, hurry up and find the topic sentence now.>, in an attempt to assign a task for him to retain Hong's focus on the collaborative group work.

In addition to prompt for participation, occasionally, it is found that students also made affective prompts to praise their peers' performance. The following is an illustrative episode from Group 6. In this excerpt, Chuan points out a trouble source "internal jogging" in the sentence – *some doctors refer to laughter as "internal jogging"*. Jack and Fang offered collective assistance to dissolve Chuan's puzzle. Elaborating on Jack's semantic definition, Fang's deliberate explanation helped clarify the abstract connotation of the linguistic metaphor and added to the group's understanding of the author's analogy between laughter and internal jogging. The students' choral complimentary remarks, Wow! 厲害歐! <Formidable!>, showed their admiration on what Fang had contributed to the group work.

Excerpt 10 (The Best Medicine – Group 6)
123. Chuan: ㄟ..."internal jogging"是什麼？<Heh…what is "internal jogging?>
124. Jack: 內在慢跑。<Internal running.>
125. Chuan: 那是什麼意思？<What does it mean?>
126. Fang: 就是…身體沒有在跑但..um..感覺到那種達到慢跑的效果。
            <That is, you don't run, but ..um.. you can feel there is an effect of

jogging inside your body.> 反正笑就像慢跑一樣啦! <Anyway, laughter is just like jogging.>
127. Ss:　　　{Wow! 厲害歐！<Formidable!>

Having discussed the findings with regard to the EFL learners' peer collaboration in an effort to comprehend the reading texts, in the next section, I will turn to the strategies the students utilised to overcome their comprehension difficulties.

5.3 Strategies to Deal with Difficult Clunks

This section presents the findings of how the students coped with their comprehension obstacles during CSR instruction. Based on the analysis of transcript data, it was found that the university students applied various strategies to help them infer the meaning of the linguistic units they did not understand. These strategies were composed of (1) dictionary consultation, (2) translation, (3) contextual clues, (4) syntactic clues, and (5) morpheme analysis. I will first discuss the most frequently used strategy – dictionary consultation.

5.3.1 Dictionary Consultation

Vocabulary learning has been reported as one of the biggest and most fundamental difficulties for EFL learners. It is a common phenomenon that learners consult their bilingual dictionaries to look for the meaning that they have difficulty with. Based on my observation, almost none of the students participating in this study used paper dictionaries during the group discussions in the classroom. Instead, they perceived their electronic pocket dictionaries as an essential accessory for English learning for the sake of convenience and practicality. A typical example is presented below.

Excerpt 11 (The Best Medicine – Group 2)

129. Juang: "Saliva"是什麼意思?<What does "saliva" mean?>
130. Jae: 我查字典"saliva"是"唾液"。<I looked up the dictionary and it means "natural watery liquid produced in the mouth".>

Interestingly, when electronic dictionaries were not available for use, some students found other means such as cellular phones equipped with Chinese-English and English-Chinese dictionaries to construct the meaning of the difficult words. An example of this situation is the following:

Excerpt 12 (Bill Gates: Good Businessman or Bad? – Group 6)

104. Jack: "Countered"是什麼啊? <What does "countered" mean? > ㄟ…單字專家趕快查一下。<Heh…clunk expert, look it up in the dictionary.>
105. Bin: 哇,沒電了哦! <Oops, out of electricity!>
106. Jack: 沒電了? <Out of electricity?> 你很久沒充電了嗎? <You have not charged it for a long time?>
107. Bin: 對阿,忘記了! <Yes, I forgot it!>
107. Jack: ㄟ…阿卓,你的手機不是可以用嗎? <Heh…Zao, can't you use your cell phone?>
108. Zao: C-O-U-N-T-E-R. 就是"反駁","對抗"的意思。<It means "refute", "fight against".>

The excerpt suggests that students relied heavily on the use of their electronic dictionaries to find the Chinese equivalent words of English lexical units. It was also found that this strategy was often used in conjunction with another strategy, translation. In the following section, I will discuss the strategy of translation used in the CSR classroom in more detail.

5.3.2 Translation

The data analysis indicated that another widely and intensively used strategy for

students to deal with difficult or unknown words was to translate. It signified students' action to transfer from English to their mother tongue, Mandarin. When encountering comprehension breakdowns, students often tried to translate or find the equivalent words in Mandarin to help each other tackle the obstacles. It was probably because translation from English to Mandarin has been the most widely adopted approach in English reading instruction in Taiwan and it is included in part of students' university entrance examination; therefore students have developed a habit of translating sentences or passages literally to develop their understanding of a text meaning. In this study, there was abundant evidence of students' application of translation to facilitate their reading comprehension. An example is provided in Excerpt 13 from Group 2.

Excerpt 13 (How Can We Overcome Loneliness – Group 2)

99. Shiang: 有艱難單字嗎? <Any difficult words?> 單字小老師解釋一下。
                      <Clunk expert, please explain them.>
100. Jae: 四十行的第一個單字"illnesses"是"疾病"的意思，然後…<
                      "Illnesses" – the first word in line 40 means "sickness" and then...>
101. Shiang: 那"Temporary"呢? <How about "temporary"?>
102. Jae: 暫時的。<Short-term>

Here, Jae as the designated clunk expert found the equivalents of the English words of "illnesses" and "temporary" in Mandarin in an attempt to help her peer decipher the lexical meaning. Another example in Excerpt 14 from Group 5 demonstrates how students requested translation for the purpose of reading comprehension.

Excerpt 14 (The Best Medicine – Group 5)

82.   Hong: 第十三行<The thirteenth sentence> *The next time you or someone*

*you're with has a good laugh...*這個句子看不懂。<I cannot figure out the meaning of this sentence.>

83. Haw: 對阿! 這句怎麼翻? <That's right! How to translate it?>
84. Sih: 下次你或你或其他一些人就是在覺得很開心的時候，就問他們說感覺就是說笑完之後的那個感覺如何。<The next time you or someone you are with has a good laugh, ask them how they feel afterwards.>
85. Wei: OK, 那…還有句子看不懂的嗎? <Are there any sentences you don't understand?>
86. Ss: {沒有了! <No.>

In this exchange, the students were engaged in a discussion of finding ways to deal with comprehension impairment. Hong's utterance, 這個句子看不懂。<I cannot figure out the meaning of this sentence>, triggered the problem-solving task (line 82). Haw also found himself unable to translate the sentence thus making an appeal for assistance. In lines 84-86, it was evident that Sih's translation provided sufficient and effective support to Hong and Haw to get the meaning across (lines 83-86).

However, it was found that on some occasions, students had difficulty selecting a proper meaning through translation especially when encountering polysemous words. When students failed to find a solution, they usually ended up seeking help from the teacher.

Excerpt 15 (Bill Gates: Good Businessman or Bad? – Group 2)

131. Chi: "Thriving"是"繁榮的"，"healthy"是"健康的"，但是"healthy industry"翻譯成"健康的工業"聽起來很怪耶。< "Thriving" means "booming" and "healthy" means "being in good health"; but if "healthy industry" is translated as "industry being in good health", it sounds very strange.>
132. Juang: 字典裏"healthy"有很多意思，但我不知道哪一個意思比較適合。<There are multiple meanings of "healthy" in the dictionary, but I don't know which one is more suitable.>
133. Chang: ㄟ... Shiang 翻一下吧! <Heh…Shiang, translate it!>
134. Shiang: 我覺得這裡不是"健康不生病"的意思。<I think it does not mean

"not being sick".> 我也不太確定要怎麼翻。<I am not sure how to translate it, either.> 我們等一下來問老師好了! <We ask the teacher later!>

135. Ss: {OK.

In Excerpt 15 presented above, the students in Group 2 collaboratively discussed the meaning of a sentence in the article about *Bill Gates: Good Businessman or Bad? – "Microsoft is only healthy if the industry as a whole is healthy and thriving"*. In line 131, it seems that Chi's original intention was to use the Chinese equivalents of the difficult words such as "healthy" and "thriving" to translate the sentence. However, he rejected his own translation because it sounded strange. Facing the same challenge, another student, Juang, expressed that he was not able to choose an appropriate meaning for the word "healthy" as it contained multiple meanings in the dictionary. In lines 133-135, being unable to produce a likely resolution, Shiang's suggestion to seek for the teacher's help, was supported by this group members.

5.3.3 Contextual Clues

Apart from dictionary consultation and translation, it was found that students occasionally used contextual clues to tackle comprehension problems, which was defined in this study as students' efforts to look at surrounding information to perceive the meaning of the unknown words. This occurred particularly when students did not manage to find the difficult words in their electronic pocket dictionaries or they did, but were not able to select a suitable meaning for the clunks. Rather than looking for teacher support, sometimes they tried to guess the meaning of unfamiliar lexical units on their own. An example is provided below.

Excerpt 16 (The Best Medicine – Group 6)

22. Jack: "Come down with"是什麼? <What does "come down with" mean?>

23. Chuan: 你查到什麼? <What did you get from looking it up in the dictionary?>

24. Jack: 我查到的"come down"是"衰弱"耶! <What I got from the
                dictionary is that "come down" means "wane"!>可是我沒查到
                "come down with". <But, I did not find the meaning of "come down
                with".>

25. Young: "付款". < "Pay".>

26. Chuan: 更錯。<It is worse.>

27. Bin: "付款",哈哈! < "Pay", hahaha!>
                [Bin thinks it is very funny.]

28. Chuan: 怎麼辦? <What can we do with it?>這句怎麼辦? <What can we do
                with it?>

29. Jack: 那我們來猜猜看啊! <Let's make a guess!>從前後文猜猜看它到底
                是什麼意思。< Guess what it meant from the context.>

30. Young: *Fight off 85 percent of all illnesses people can come down with*
                不是就是人可以抵抗那 85%的疾病嗎?<Doesn't it mean
                "fight against" 85 percent of the sickness?>

31. Jack: 嗯... "come down with illnesses"會不會是"生病"的意思阿?
                <Um…does "come down with illness" mean "catch sickness"?

32. Chuan: ㄟ…聽起來好像對喔! <Heh…that sounds right!>

In this segment, we can see how students tackled the comprehension deficiency.

Due to limited lexical entries in bilingual electronic pocket dictionaries, Jack and

other students cannot find the meaning of the expression "come down with". Drifting

away from the correct explanation, Young came up with a deviant answer – " pay",

which was rejected by other members, Chuan and Bin (line 22-28). Without knowing

how to deal with the breakdown in the rest of the group, Jack's suggestion, 那我們來

猜猜看啊! <Let's make a guess!> 從前後文猜猜看它到底是什麼意思。< Guess

what it meant from the context.>, invited his peers to use the contextual clues to

detect the meaning. In line 30, Young's elaboration on the surrounding phrases added

to the understanding of the meaning. Of particular interest in this excerpt was Jack

utterance in line 31, 嗯…"come down with illnesses"會不會是"生病"的意思阿? <Um…does "come down with illness" mean "catch sickness"?>. This utterance revealed that Jack tried to associate the word "illness" with any potential verb expressions related to it and then he came up with a solution that "come down with" meant "catch". This suggested that Jack's background knowledge and previous general knowledge of the world with regard to "sickness" contributed to the effectiveness of using the contextual clues to discover the meaning of the unknown clunks.

5.3.4 Syntactic Clues

In spite of its infrequent use, it seems that the EFL university students in this study also used syntactic clues to clarify difficult sentences for those who requested assistance. They broke down the sentence structures and exploited their grammatical knowledge to help other group members comprehend the complex phrases or sentences. The following example from Group 5 demonstrates how Sih analysed the past participle, "involved", in the sentence - *Most of the companies involved are far bigger than we are.*

Excerpt 17 (Bill Gates: Good Businessman or Bad? – Group 5)

209. Yu: 為什麼倒數第三行的"involved"要用過去式? <Why "involved" in the last third line uses the past tense?>
210. Sih: 我看一下歐! <Let me see!>
211. Haw: 這個我也看不懂。<I don't understand it, either.>
212. Yu: 它放在動詞前面。<It was placed in front of the verb.>
213. Sih: 對阿，這句的動詞應該是"are"，而"involved"是個過去分詞當形容詞用。 <Yes, the verb of this sentence should be "are" and "involved" is a past participle served as an adjective.>
214. Haw: 所以，"involved"是個形容詞喔? <So, "involved" is an adjective?>

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215. Sih:　　對! <Yes!> *Most of the companies involved* 整個當這個句子主詞。
　　　　　　　<serves as the subject of the sentence>

On another occasion, it was found that students used the syntactic concept of

apposition to comprehend the difficult words. An example of students' use of this

strategy is presented in the following. The students are discussing "*NTT, the world's*

highest-valued corporation".

Excerpt 18 (Bill Gates: Good Businessman or Bad? – Group 6)
166. Bin:　　　"NTT"是什麼啊? <What is "NTT"?>
167. Zao:　　　NTT 是一個縮寫。<"NTT" is an abbreviation.>
168. Jack:　　　"Corporation"是什麼冬冬啊? <What does "corporation" mean?>
169. Young:　　"公司"。<"Company".>
170. Bin:　　　所以，"NTT"是一家公司。<So, "NTT" is a company.>
171. Young:　　對。<That is right.>
172. Bin:　　　ㄟ...那是一家什麼樣的公司啊? <Heh...what kind of company is it?>
173. Young:　　"NTT"後面有個逗點, *the world's highest-valued corporation.*
　　　　　　　<There is a comma after "NTT".> 那也就是說"NTT"是全世界最大
　　　　　　　的公司。<That is to say that "NTT" is the biggest company in the
　　　　　　　whole world.>
174. Bin:　　　喔…原來如此。<Oh… I see.>

5.3.5 Morphological Analysis

Although it was rarely used in this study, on some occasions, students employed

morphological analysis as a tactic in an attempt to determine the meaning of

unfamiliar lexical words. In other words, students applied their knowledge of words

such as roots, pre-fixes, suffixes or compound words to help them decipher meaning

of the clunks. Excerpt 19 presents a distinctive example of this strategy. In the episode,

the students in Group 5 were trying to figure out the meaning of "situational". As the

excerpt shows, Wei pointed out that "al" is an adjective suffix to aid Haw's

understanding of the lexical entry – "situational".

Excerpt 19 (Loneliness: How Can We Overcome It? - Group 5)

67. Sih: 還有沒有問題? <More questions?>
68. Haw: 對了，"situational"是什麼意思? <By the way, what does "situational" mean?> "Situation"是"情況"的意思嗎? <Does "situation" mean "condition"?>
69. Wei: 對啊! <Yes, that's right!>
70. Haw: 但是加"al"呢? <But, how about adding "al"?>
71. Wei: 那是形容詞阿! <That is an adjective!>

5.4 Summary

In this chapter, I have discussed the recurrent patterns of the learners' scaffolding behaviours to construct meaning from the text in CSR instruction. Based on the findings of the transcript data, the students pooled what they knew related to the topics they discussed and constructed concepts or knowledge on the basis of the members' contributions for comprehension. It was also found that students frequently requested assistance with linguistically difficult items. The excerpt discussed in the section illustrated that teacher-like corrective feedback provided by peers resulted in learning benefits for the adult EFL learners.

In addition to the various types of peer collaboration, it was noted that students exploited a repertoire of different strategies to overcome comprehension breakdowns during CSR group work. It was suggested that the EFL learners mostly depended on the consultation of their bilingual electronic pocket dictionary to search for the meaning of the unknown or difficult words. Not surprisingly, they were still accustomed to translating the English clunks into Chinese equivalents. Two strategies, dictionary consultation and translation, did not occur in isolation; rather, they were often used in combination with one another. There were some occasions where

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students applied the contextual clues to aid their understanding of the reading text. Moreover, despite infrequent application, it was noted that the students in this study made use of grammatical knowledge and word formation analysis to arrive at the meaning of linguistic items they did not understand.

Chapter Six

Analysis, Synthesis, and Discussion

6.1 Introduction

This chapter synthesises and discusses the findings of the quantitative and qualitative sources of data to answer the five research questions addressed in the present study. The quantitative data include the pre-test and post-test of the standardised reading comprehension measure and the questionnaire survey used to investigate the learners' perceptions of the CSR intervention. The qualitative data are composed of audio-recordings of the students' group discussions during CSR and the group interviews conducted after the intervention. The findings from the two previous chapters will be scrutinised and discussed in relation to the relevant literature. Finally, the limitations of the study will be pointed out in the last section of this chapter.

6.2 The Effect of CSR on the University Learners' Reading Comprehension

This section aims to answer the first research question – Is CSR more effective in improving the EFL learners' reading comprehension than the traditional teacher-led reading approach? As discussed in the literature review chapter, previous research found inconsistent results in terms of the effectiveness of CSR. For example, Lee (2003), Klingner et al. (1998) and Wang (2008) found that CSR had a positive impact on English reading comprehension. In contrast, Huang (2004) and Lin (2008) found no difference between the traditional whole-class teaching method and CSR in their

effects on secondary learners' reading ability. In this study, the results of the mixed between-within subjects ANOVA revealed that both the control and experimental groups made significant improvements after 14 weeks of instruction. However, it was found that the students in the experimental group did not significantly outperform those in the control group in their reading comprehension scores. Thus, the question of whether CSR is more effective in enhancing reading comprehension for the adult EFL learners remained inconclusive.

This unfavourable result supported the claim of Rosenshine & Meister (1994) that, when examining the effectiveness of reading comprehension instruction, studies adopting researcher-made measures are more sensitive to change and more likely to yield statistically significant results than the ones with standardised tests. According to Rosenshine & Meister, this phenomenon is perhaps due to the fact that standardised tests are less reader-friendly. They are normally shorter in length and involve more complicated vocabulary as well as sentence structures, which may require test takers to demonstrate various types of linguistic knowledge to comprehend the texts. In addition, the inferential questions appearing in standardised tests also require a greater amount of conceptual knowledge to find the answers.

Another highly likely reason is the insufficient time for treatment. As noted earlier in the literature chapter, previous CSR studies which found more positive results involved younger ESL or EFL learners who had less English learning experience and for whom it might be easier to adopt a new learning approach in a shorter period of time. Additionally, their lower level of proficiency might also be a contributing factor for them to achieve a detectable change in linguistic knowledge. The participants in this study were the university learners who had been learning English for more than 6 years. They might need a longer period of time to modify

their existing learning patterns. As a result, a dramatic change in the elevation of reading comprehension scores after 14 weeks of treatment is less likely.

Having discussed the effect of CSR on the EFL learners' reading comprehension, in the next section, I will turn to discuss in more detail the specific effect of CSR on five types of comprehension questions as classified in the reading comprehension test to better understand the impact of this collaborative strategic reading approach.

6.3 The Effect of CSR on Types of Comprehension Questions

The purpose of this section is to answer the second research question – "What is the effect of CSR on the EFL learners' post-test responses to specific types of comprehension questions? This research question will be closely examined based on the statistical results of the One-Way ANOVA triangulated with multiple data sets including the questionnaire responses, group interviews, transcripts of group discussions and my field notes during observations.

Statistical analysis discussed in Chapter 4 (section 4.3) found that the experimental group did not perform better than the control group when answering the comprehension questions concerning predicting, making inferences and dealing with vocabulary, but they did outperform their counterparts in getting the main idea and finding the supporting details. This result was in agreement with the previous studies of Song (1998) that comprehension strategy instruction had a positive effect on EFL college learners' answers to main idea questions and Chen's (2005) study that reading strategy instruction improved students' ability to identify the main idea and supporting details of reading passages.

In this study, the students in CSR were taught to read for gist. They were trained

to look for the topic sentence of each paragraph and distinguish them from the supporting details. It was encouraging to find that the students in the experimental group were significantly better at finding the gist and answering the detailed questions in comparison with those in the control group. This finding was validated by the results of the questionnaire survey; 98.2% of the students in the experimental group considered that the CSR intervention helped them distinguish between the main ideas and supporting information of the reading texts. As Lin (1991) asserts, "an ideal English instructional program should include extracting the main idea for it leads to comprehending the details in a text" (p. 81). It was learning and practising the skill of extracting the most important information and understanding how the details in the text are connected with each other, which I believe, resulted in the improvement of text comprehension.

In contrast, this study did not find a significant improvement in prediction questions and making inferences. Predicting is a previewing strategy students learned in CSR. The goal of this strategy is to activate learners' existing knowledge and set up a purpose for reading. Much evidence has supported the important role that the predicting strategy plays in reading comprehension (for example, Carrell & Eisterhold, 1988; Cotterall, 1990; Eskey & Grabe, 1988; Sweet & Snow, 2003). This strategy involves students' confirming or rejecting the hypotheses they formulate about what the author intends to discuss.

From Palincsar and Brown's (1984) point of view, predicting is a comprehension monitoring activity which facilitates making and testing inferences. Pressley (2006) contends that "prior knowledge plays an important role, permitting the generation of inferences required to understand the text" (p. 54). Similarly, Nuttall (1996) stresses that implicit inferential comprehension can be enhanced by the activation of prior knowledge. Hence, these two reading strategies are interrelated. In other words, the

ability to make inferences is related to the understanding of schemata assumed by the author and is developed by activating a reader's background knowledge and knowledge of the world.

The transcription data of group discussions allowed more precise insights into how students applied the predicting strategy in CSR instruction. It was found that all of the groups discussed the pre-reading questions provided in the reading materials. On some occasions, students used their knowledge of the world to construct meaning (see section 5.3.3). Nevertheless, it was surprising to note that the students rarely activated their existing knowledge to predict the content to be read. Neither did they try to make inferences from the texts. Although the students took turns to answer the pre-reading questions, it seemed that they only went through the pre-reading activity to fulfil one of the CSR procedures. This confirmed the findings of Klingner et al. (1998) and Rosenshine & Meister (1994) that ESL/EFL readers have difficulty applying the predicting strategy in comprehension strategy instruction. The following excerpt is an example from Group 6 when they are engaged in a pre-reading activity.

Excerpt 1 (Group 6 – The Best Medicine)

1. Bin: Pre-reading 啊!
2. Chuan: 對啊! <Ya!> What makes you laugh?
3. Ss: {什麼讓我笑? <What makes me laugh?>
4. Chuan: 大家提供意見，快點! <Talk about your opinions; hurry up!>
5. Jack: 搔癢就會讓你笑啊! <Tickling makes you laugh!>
6. Chuan: 還有什麼? <What else?>還有什麼? <What else?>
7. Bin: 看到 Zao 就會笑了啊! <I laugh when I see Zao.> 看到他的臉就會很想笑。<His face makes me laugh.>
8. Chuan: 還有什麼? <What else?>快點啦! <Hurry up!>
           {A bit noisy}
9. Jack: ㄟ…ㄟ..不要亂啦! <Heh…heh..don't mess about!>
10. Chuan: 我們進入課文吧! <Let's move on to the text!>

In the above episode, it seems that the students were perfunctory in this pre-reading event and Chuan, as a leader, did not attempt to redirect the group to relate what they knew about the topic to what they would read or provide any feedback to his members. Instead, he decided to move on to the text. Several possible factors may have contributed to the ineffective application of the predicting strategy in this study. First, perhaps students did not think that predicting was important for the facilitation of their reading comprehension. They may have had a misconception which Carrell (1988a) describes as the "meaning is in the text" (p. 109). For them, reading may still be regarded as an activity involving bottom-up processing only to decode messages from the printed materials. This tendency to over-rely on linguistic knowledge for text comprehension may have led to underestimating the crucial role of their background knowledge and the development of making inferences.

Second, it is possible that the EFL students lack the prior knowledge of topics such as health or medicine. In this case, the expectation that students in peer discussions can execute effective predictions and understand the writers' underlying presuppositions may be unwarranted. Third, several researchers have noted the challenging nature of the predicting strategy when reading expository texts (Carrell, 1988b; Klingner et al., 1998; Nuttall, 1996). As Shih (1991) points out, lacking the knowledge related to rhetorical structures is a common problem for EFL readers. In this study, students' lack of awareness of expository text structure may account for their failure to utilise existing knowledge.

As suggested by Mikulecky (1990), for the purpose of familiarising students with the process of predicting, they need to be given some specific and intensive training conducted as a whole-class. Carrell (1988b) proposes that several techniques should be used for the activation of readers' prior knowledge such as teaching various rhetorical structures of texts and cloze test for the development of students' ability of

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contextual guessing. Anderson (1999) recommends the introduction of semantic maps to help ESL readers establish background knowledge. By introducing the important concepts and key words students need to know, teachers can help them build up background knowledge they may not possess and link it with the reading passage they are going to read. As a result of establishing and activating proper schemata, they may develop a better ability to construct meaning by inferring implicit arguments.

With regard to dealing with unknown vocabulary words, the results of a One-Way ANOVA showed that the students in CSR appeared to outperform the control group by 0.86. However, the difference did not reach the significant level. This was congruent with previous research by Lee (2003) and Cheng (2005) that EFL students did not show significant improvement in answering lexical questions after a short term of vocabulary strategy treatment. This may be due to the fact that it is difficult to investigate the effect of vocabulary strategy training by a quantitative measure. As Huckin & Bloch (1993) suggest, gains in vocabulary learning from contextual clues or other vocabulary strategies "tend to be gradual and are therefore often difficult to measure empirically in a controlled experiment" (p. 156). To better probe what strategies EFL readers applied to deal with lexical deficiency, the qualitative transcriptions of the group discussions discussed in Chapter Five will be critically examined in section 6.5.

6.4 Peer Collaboration for Text Comprehension in CSR

In Chapter Five, the analysis of the transcription data from the group discussions exemplified how the Taiwanese university students collaboratively constructed meaning from the texts and expanded our understanding of the patterns of their

mediating behaviours. Despite some off-track utterances, the findings indicated that the participants consistently assisted each other to comprehend the passages. Five salient patterns of peer collaborative behaviours emerged from the data including co-construction, elaboration, appeal for assistance, corrective feedback and prompts. Instead of appearing individually, these patterns often occurred in combination with one another depending on different situations. In this section, I will discuss the students' peer-led small group discussions from the perspective of meaning-construction within the Vygotskian sociocultural framework (Donato, 1994; Lantolf & Appel, 1994; Tudge, 1990; Vygotsky, 1978).

The process of peer collaboration for negotiation of meaning as joint construction in interaction is much in evidence in the collaborative dialogues in this present study. Throughout the CSR intervention, the learners collaborated to solve linguistic problems they encountered and they pooled knowledge to co-construct meaning for text comprehension. Collective peer dialogue not only helped clarify confusing and uncertain points about the texts but also provided them with the opportunities to evaluate and improve their own language learning through the assistance of other individuals (Donato, 1994; Mercer, 2000; Storch, 2007; Swain & Lapkin, 1998). In Excerpt 2, the students in Group 5 collaboratively look for the topic sentence to construct the gist of the second paragraph in the text of *Loneliness – How Can We Overcome It?*.

Excerpt 2 (Loneliness – How Can We Overcome It? – Group 5)

53. Sih: 那這段的主旨句是什麼？<What is the topic sentence of this paragraph? >
54. Wei: 會不會是這段的第一句….嗯…還有第三句?<Is it the first sentence of this paragraph ….um…and the third one?>
55. Yu: 這段主旨句怎麼是第一句呢？<Why is the first sentence the topic

sentence of this paragraph?>

56. Shien: 第一句不是只有寂寞的一種種類嗎? <Does the first sentence only talk about one kind of loneliness?>

57. Wei: 對阿! <That's right!>所以第一句是寂寞的第一個種類。<Therefore, the first sentence talks about the first kind of loneliness.>第三句是第二種。<The third sentence talks about the second type of it.>

58. Shien: 為什麼不是第五句，在第十一行?<Why isn't it the fifth sentence in line11?>

59. Sih: *Although this kind of loneliness can cause physical problems*, 這是在講第二種寂寞的情況所以應該不是主旨句。<This is about the description of the second kind of loneliness; therefore it should not be the topic sentence.>

60. Shien: 哦^^ …所以其它的句子都只是在說明第一跟第二種的寂寞。<Ou^^... so the rest of the sentences are used to explain the first and second kinds of loneliness.>

As shown above, the members in Group 5 actively engaged in the meaning-construction activity. In line 53, Sih, assuming the role of leader initiated the co-construction process. Wei, playing the gist expert, contributed what he knew to the problem-solving event in spite of his uncertainty of the answer. Disagreeing with Wei's suggestion, Yu made a request for a further clarification (line 55); while Shien offered another possible answer to the target task (line 58). Sih's elaboration on Wei's proposal, disconfirmed and rejected Yu and Shien's hypotheses about the most important information of the paragraph. In line 60, Shien's rising tone, 哦^^ <Ou^^>, and repetition of what he had learned seemed to recognise the beneficial effect of collective scaffolding (Donato, 1994). As De Guerrero & Villamil (2000) argue, providing mini-lessons is one type of scaffolding mechanism. It was evident that the mini-lessons given by Wei and Sih, helped mark a critical feature and provided a model of appropriate performance (Wood et al., 1976). More importantly, the collective scaffolding made the learners advance in linguistic ability, which they may not have been able to achieve if they had worked individually.

The present study seems to suggest that peer scaffolding also helped reduce the degree of frustration. During the interaction to construct meaning, students sometimes were discouraged, which could hinder the process of text comprehension. For example, while the students in Group 2 were engaged in the wrap-up activity where they worked to summarise what they had learned from the text, Chi, as the reporter, expressed his inability to do the complicated task by saying, 摘要好難喔! <The summary writing is so difficult!> 我不會寫。<I don't know how to do it.>. His utterances revealed his frustration that he was not able to complete the task on his own. Shiang, as the leader, provided scaffolding by responding, 我們就是要大家一起討論阿! <That is why we have to discuss it together.>. The leader's use of the pronoun "we" emphasised the significance of the joint effort in the problem-solving activity. Furthermore, his encouraging utterance was crucial to alleviate Chi's stress and anxiety in confronting the difficult work and prevent him from giving up on the target task.

Another collaborative recurrent pattern found in this study was prompting, which according to Ohta (1995) is an important technique to promote higher level of language involvement and production. The data revealed that the learners prompted when it was necessary during collaborative group work to call for participation and encouragement. In this study, it was noticeable that various types of approaches were used as prompts including (1) sounds, for instance "ㄟ" <heh> (a special sound in Mandarin to draw attention as discussed in 5.2.5), and, "嗶" <bi> (a sound for stop), (2) someone's nicknames, for example, 吉他手,吉他手..講一下! <Guitarist, guitarist.. talk!> (Guitarist – Hong's nickname), (3) roles in group work, i.g., 單字大師, 來回答!<Clunk expert, answer this question!>, (4) comprehension check, 有沒有問題? <Are there any questions?>, (5) other utterances, such as, 輪到誰了? <Whose turn is it?>, and '趕快，趕快現在找主旨句。<Hurry up, hurry up and find the topic sentence now.>', and (6) affective praise, for example, 厲害歐! <Formidable>,

and, 很好! <Very good!>. These prompts served the functions of enhancing the group members' active engagement, recruiting interest in the task and giving praise for contributions. The versatile tactics of prompting suggest that these learners displayed a high degree of intentionality to keep the interaction going, maintain the group dynamics, prevent inattentive behaviours, stay focused on the target tasks, and encourage contributions to the collaborative group work.

Within the sociocultural framework, corrective feedback is a fundamental component in scaffolding instruction as it is an important source of regulation to activate learners' zone of proximal development (Aljaarfeh & Lantolf, 1994; Carroll & Swain, 1993; De Guerrero & Villamil, 2000). In this study, much evidence was found that students often provided negative or positive evidence as corrective feedback on erroneous utterances during the process of co-construction of text meaning. The nature of the corrective feedback was related to both the meaning and form of the content. What is interesting and, therefore, worthy of some discussion is how learners' linguistic errors or incorrect understanding of text were responded to and revisited through corrective peer feedback.

When an error was noticed, explicit corrective feedback was frequently offered to draw the learners' attention to the target trouble source and to rectify the misconception. The data indicated that occasionally implicit corrective feedback was elicited in form of confirmation check or repetition. However, the indirect corrective feedback did not always result in raising learners' awareness of mistakes. An example from Group 6 was reported and discussed in Chapter Five (section 5.2.4). Another example from Group 5 is presented in Excerpt 3 below.

Excerpt 3 (The Best Medicine – Group 5)

97. Hong: 什麼是"internal jogging"? <What is "internal jogging"?>
98. Haw: 這個地方看不太懂。< I don't quite understand it.>
99. Sih: "Jogging"就是…< "Jogging" means…>
100. Wei: 單腳跳。<Jumping on one leg.>
101. Sih: 單腳跳? <Jumping on one leg?>
102. Wei: "Jog"不是單腳跳嗎? <Doesn't it mean "jumping on one leg"?>
103. Sih: 不對吧! <I don't think so.>
104. Wei: 沒錯吧。<It should be right.> 我記得我在哪裡看過…<I remember I saw it somewhere…>
105. Shien: 你弄錯了吧! <There must be something wrong!>
106. Sih: "Jog"是"慢跑"啦! < "Jog" means "run slowly".>
107. Wei: 啊! 非常抱歉! <OK, I am sorry.> 我弄錯了! <I was wrong!>

As the episode shown above, the students in Group 5 were trying to resolve the linguistic difficulty – "internal jogging". Probably having a vague memory of the word "hopping", Wei guessed the definition "jumping on one leg" for "jogging" (line 100). Sih's repetition in line 101 apparently was one type of indirect corrective feedback to signify that he noticed Wei's deviant explanation of the word "jogging". Another implicit negative feedback offered by Shien, 你弄錯了吧! <There must be something wrong!>, was used to disconfirm Wei's interpretation (line 105). It was evident that the implicit corrective feedback was not effective in providing sufficient information to help Wei recognise and self-correct his mistake.

Previous research has stressed that both direct and indirect corrective feedback is important for language learning (Aljaafreh & Lantolf, 1994; Ohta, 1995; Storch, 2007). It was beyond the scope of this study to investigate the effect of explicit and implicit corrective feedback on the adult EFL learners' reading comprehension. However, it was interesting to find that explicit corrective feedback was more efficient and salient than implicit feedback to scaffold the other group members' linguistic

deficiency. In other words, the Taiwanese university learners seem to rely on more directly responsive feedback. In this regard, I would agree with Aljaafreh & Lantolf (1994) that learners who can modify their errors with implicit corrective feedback demonstrate higher level ZPD because they do not need much regulation from others. However, as Carroll & Swain (1993) argue, indirect corrective feedback lacks precision and involves learners' guesswork. Since the EFL learners in the study do not seem to be ready for indirect guidance, explicit corrective feedback pointing out the place and nature of erroneous performance may be still needed.

In addition, it is important to note that in this present study the students' mother tongue played a significant role in the facilitation of collaborative meaning construction. This finding provides additional support to the literature advocating the use of L1 as an important mediating tool to provide scaffolding and foster second language learning (Anton & DiCamilla, 1999; Cotterall, 1990; De Guerrero & Villamil, 1994, 2000; Klingner & Vaughn, 1999; O'Malley et al., 1985; Schweers, 2003; Swain & Lapkin, 2000). According to Ohta (1995), L2 learners with limited proficiency often "rely on their L1 as a common ground and develop strategies to perform the new task" (p. 114). Based on the analysis of peer dialogue during CSR instruction, it was found in this study that the students' collaborative interaction was mostly in Mandarin, with English used occasionally for reading passages out loud or generating comprehension questions. The dependence on L1 was mostly likely due to the EFL students' limited abilities to express themselves in English. They found it was more comfortable to use their mother tongue to manage the tasks and understand each other in an attempt to comprehend the texts they read. This finding is in line with De Guerro & Villamil's claim (2000) that the use of L1 helps establish intersubjectivity, a shared viewpoint in a problem-solving task. In this study, it was evident that engaging in collaborative dialogue in L1 provided one of the important scaffolding features -

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direction maintenance (Wood et al., 1976). Peer collaboration in the first language enabled the learners to set up a common goal and helped them reach mutual consensus to work toward the same goal. In addition, the construction of meaning in L1 also provided opportunity for second language learning as predicted by Anton & DiCamilla (1999). The learners applied a translation strategy from L1 to L2 to negotiate meaning, make the text comprehensible, and particularly to access linguistic units they did not understand. In the next section, I will discuss in more detail how learners employed the translation strategy for L2 learning.

One note of caution is that, as Tudge (1990) warns us, peer collaboration can lead to regression in language learning as well as to advancement; therefore, the potential risk of group scaffolding should not be neglected. In this study, the participants were, to some extent, homogenous in their English abilities. It was not surprising that peer scaffolding did not always lead to successful text comprehension as the texts involved different degrees of linguistic complexity. This can partly be attributed to the students' limited linguistic knowledge and partly to persistent students who insisted on their own interpretations, which resulted in misleading the other students (two examples were provided in 5.2.4 and Excerpt 4 in 6.5). As De Guerrero & Villamil (2000) posit, peer scaffolding in second language learning is not a smooth process of development, but "an irregular and dynamic movement entailing the possibility of regression, creativity, and progress" (p. 65). For this reason, L2 learners' comprehension failure or incorrect explanations of particular linguistic features should be viewed as a natural learning process where learners make use of their available linguistic resources to construct meaning and reflect what they comprehend about the text; thus, these imperfections can be seen as indicators to understand learners' weaknesses and which specific linguistic aspects need further scaffolding from the teachers for learners' further second language development.

6.5 Learners' Strategies to Tackle Comprehension Obstacles

Regarding the fourth research question – What are the strategies used by the EFL learners in CSR to cope with comprehension breakdowns? – the group discussion data indicated that the university learners utilised various compensatory strategies to tackle comprehension impediments. They consisted of dictionary consultation, translation, contextual clues, syntactic clues and morphological analysis.

In this study, a wealth of evidence from the transcriptions of group discussions suggests that the main reason for the students' difficulties in text comprehension was their lexical deficiency. This finding supports the claim of previous research that vocabulary learning is the crucial problem in ESL/EFL reading comprehension (Chern, 1993; Grabe, 1988; Huckin & Bloch, 1993; Koda, 2004; Lin, 1991; Nuttall, 1996; Pressley, 2000). To overcome this problem, it was found that the students relied overwhelmingly on the combination of two strategies – dictionary consultation and translation. When encountering an unknown lexical entry, they frequently consulted the dictionaries, particularly electronic bilingual dictionaries, searching for the semantic correspondence of the difficult words in Mandarin. This finding coincides with the students' own perceptions in the questionnaire survey that almost half of them still relied on the dictionary to solve comprehension dilemmas. Similar results were reported in the previous work of Chang (1998) and Chen & Yeh (2004) where they investigated how Taiwanese college students tackled text difficulty. Two possible factors can explain the learners' dependence on these two strategies. One was, again, due to their limited proficiency level of English, particularly lexical knowledge and the other was perhaps owing to their past reading habits.

According to O'Malley et al. (1985), linking unknown words to its native language equivalents is one of the most frequently used cognitive strategies for

beginning and intermediate ESL/EFL learners. As the students participating in this study were non-English majors, their overall English proficiency was not good. They tended to construct the meaning of the text in a linear fashion and the intralingual decoding with the help of their Chinese lexicon seems to help the readers to access and retrieve the existing meanings. Moreover, translation from English to Mandarin has been the most widely adopted approach in English reading instruction in Taiwan and it is included in part of students' university entrance examination. Students have developed a habit of resorting to bilingual dictionaries for unknown words and translating words or sentences literally to develop their understanding of a text meaning.

However, it was noted that translation could be problematic when words contain multiple meanings in the dictionary. As the example I presented in Chapter Five shows, the students in Group 2 had difficulty translating the noun phrase "healthy industry" due to the failure of choosing the suitable meaning of the word "healthy" (Excerpt 15 in 5.3.2). One possible explanation is the incompatibility of the metaphorical use of the target language in L1. Lack of the metaphorical awareness could lead to comprehension breakdowns. Being unable to resolve the problems, students normally ended up seeking teacher support.

Another issue related to unsuccessful semantic decoding was that sometimes the students were unaware of their incomplete knowledge of words with multiple meanings. In this study, there were some cases where the students produced incorrect translations of the difficult words without noticing the misunderstanding. An example is provided in the following excerpt when Bin and Jack in Group 6 tried to figure out the meaning of "dynamics" in the sentence: *Gates has countered critics by saying that Microsoft has only responded to the normal dynamics of the business world.*

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Excerpt 4 (Bill Gates: Good Businessman or Bad? – Group 6)

111. Bin: "Dynamics"是什麼啊? <What does "dynamics" mean?>
112. Jack: 哦,"動力學"。<Oh, it is "kinetics".> 我們物理老師常講這個字。
         <Our physics teacher often mentions about this word.>
113. Bin: 這跟動力學有關係嗎? <Is it related to kinetics?>
114. Jack: 對啊! <That's right.> 好,下一句,下一句! <OK, the next sentence,
         the next sentence!>

In this case, Jack attempted to activate his existing knowledge of the word "dynamics" to scaffold Bin's understanding. His immediate supply of the Chinese equivalent, "動力學"< kinetics>, revealed his confidence in his knowledge of the lexical entry as it was one of the words he often encountered in his physics class. Apparently, this definition as the study of movement in general did not go well with the sentence. However, Bin's question, 這跟動力學有關係嗎? <Is it related to kinetics?>, did not prompt Jack to check his interpretation again. Surprisingly, the rest of the group members were satisfied with Jack's assertion and were not sceptical about the interpretation. This seems to suggest that the students in this group did not know that there is another denotation of this polysemous word meaning "motion or changes produced by forces". In fact, the sentence containing the target word could have provided a cue that Jack's proposal was not valid. This interesting finding corroborates Huckin & Bloch's (1993) claim that the resistance to using other cues to check the meaning of the chunks may be partly due to the fact that learners have pre-determined definitions of the lexical items in their mind.

In addition to word-level semantic decoding strategies, it was found that sometimes the EFL learners also inferred the word-meaning from morphological and syntactic analysis as well as contextual clues when encountering unfamiliar words. Nevertheless, it was noteworthy that the ability to use these tactics seemed more

likely to correlate with the students' linguistic competence. In CSR instruction, although students were taught the above-mentioned vocabulary fix-up strategies to defeat their comprehension obstacles, in most of the cases found in this study, it was the students with comparatively higher proficiency in the groups who initiated or proposed to use these strategies to decipher the meaning of the unknown or difficult words. This finding was congruent with previous research showing that more proficient readers are more flexible in strategic use and more capable of utilising different sources of cues for the understanding of the novel text (Chang, 1998; Chern, 1993; Koda, 2004; Pressley, 2006). The significance of this finding is that it reveals that the instruction of vocabulary strategies did not seem to work well for lower proficiency learners. As Eskey (1988) points out, "lower-level skills as the rapid and accurate identification of lexical and grammatical forms are not merely obstacles to be cleared on the way to higher-level guessing game strategies, but skills to be mastered as a necessary means of taking much of the guesswork out of reading comprehension." (p. 98). Before being able to use global contextual lexical strategies, the EFL low-intermediate learners participating in this study need to improve their fundamental vocabulary knowledge such as automatic word recognition, and recognition of the grammatical and morphological features of words.

6.6 Students' Perceptions of CSR

In this section, the last research question regarding the university learners' perceptions of the CSR instruction is explored mainly based on the results gathered from the questionnaire survey and group interviews. Occasionally, other types of data will be discussed for the purpose of triangulating the findings. Generally speaking, the

findings indicated that the majority of the participants had a positive attitude. Their perceptions of CSR will be discussed according to three themes consisting of (1) merits and problems of CSR, (2) learners' self-evaluation of the impact of CSR on their reading comprehension, and (3) the feasibility of the implementation procedures of CSR.

6.6.1 Merits and Problems of CSR

In response to the question in the questionnaire survey with relation to the general perceptions of CSR, 72.2% of the students expressed that they preferred CSR to the traditional whole class teaching dominated by teachers. However, it is worth mentioning that 9.3% of the students preferred the traditional large class teaching and 18.5% of the respondents ticked "No opinion" option. Although the responses were anonymous, it is possible that some who had negative attitudes towards CSR might have been reluctant to reveal their views. In other words, over a quarter of the participants might not like the scaffolding strategic reading approach. This can perhaps be attributed partly to their learning style and partly to a passive learning attitude. Learners who preferred to work individually might not like the learner-centred approach where they had to collaborate with others. It is possible that they thought CSR was an extra burden for them. In addition, some of them might still depend on the teacher for transmission of knowledge; if so, it is most likely that they would question the efficacy of peer discussion to bring about text comprehension.

Nevertheless, a majority of the participants thought that they benefited from CSR. To justify the advantages of CSR, the informants pointed out a number of advantages in comparison with traditional reading instruction during the group interviews. The following excerpts exemplify the reasons why the students held favourable perspectives of the collaborative reading approach.

Excerpt 5

大班上課學生是屬於比較被動的狀態。你想聽你就聽，若不想聽胡思亂想也可以。像小組討論的方式你要主動跟人家討論，經過跟別人討論可以加深印象而且精神也比較好也比較專心。<In the whole class teaching, students are more passive. If you want to listen, you just do it. If not, you can space out. In contrast, you need to actively participate in the group discussions. Through discussion with others, I understand more about the texts and become more attentive.> (Wei)

Excerpt 6

大班上課都是聽老師在講，有時自己有問題也不敢講有問題就埋著。而在小組討論時有問題就可以跟大家討論。<Teachers dominate in the big class teaching; sometimes I have problems, but I don't dare to ask the teacher. But in small group discussions, I can discuss with others if I have any questions.> (Young)

Excerpt 7

我以前還蠻討厭上英文課因為有太無聊了。現在上課比較好玩活潑我不會再討厭上英文課。<I used to hate my English class because it was too boring. Now it has more fun. I don't hate it anymore. > (Juang)

The students' responses shown above and the results of the questionnaire survey discussed in Chapter Four seem to provide support for CSR. This collaborative approach to reading is believed to create an environment which enhances participation, encourages sharing of ideas among group members, and increases interests for learning (Cotterall, 1990; Janzen & Stoller, 1998; Lenski & Nierstheimer, 2002; Olsen & Kagan, 1992). Through active engagement with group work, students can monitor their reading process, become more attentive by staying focused on the target tasks, modify their conceptions and gain better understanding of the texts. Unlike in the traditional reading approach, where teachers set the pace of instruction and learners play passive roles whose participations are limited and where dilemmas cannot be detected, Excerpt 6 shown above suggests that students were more comfortable to talk

about their problems and uncertainties, and to search for and receive assistance in CSR. This is in line with McDonell's (1992b) contention that collaborative group work provides a non-threatening context for language learning where learners feel free to ask for assistance when encountering learning difficulties.

Many research studies have proposed that collaborative strategy instruction provides a social context for autonomous learning (Almasi, 1995; Klingner et al., 1998; Kohonen, 1992; Little, 2000; Maloch, 2002). Researchers such as Cotterall (2000), Holec (1981) and Little (1991) suggest that a language classroom focusing on learner autonomy provides a collaborative environment where learners can cultivate intrinsic motivation and take the initiative of their learning. In a learner-centred approach, Kohonen (1992) and Sinclair (2000) stress that learners should not only take control of their own learning but also develop their social communication skills. In congruence with these perspectives, the results of the questionnaire survey reported in Chapter Four (4.4.1 and 4.4.3.1) and the students' own accounts from the group interview data suggest that CSR promoted the learners' positive learning attitudes and was helpful in increasing learner autonomy in terms of cognitive, affective and social growth. This is probably because students had to collaborate with others for meaning construction tasks. Through interacting with others, they could enhance their interpersonal relationships, develop leadership and cultivate communication ability. Another possible cause leading to learner autonomy is that students had to be responsible for the roles they had been assigned. Role assignment in CSR seems to provide a clear guideline and structure for the university learners who have seldom experienced group work in their formal education to practise taking charge of their own learning (Cohen, 1994; Holec, 1981). They might feel responsible for contributing the knowledge they possessed to the group. This might urge them to prepare the lessons beforehand, motivate them to English reading, and become

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self-directed for their learning. The following excerpts exemplify how CSR fostered

the participants' autonomous learning:

Excerpt 8
我以前對英文沒什麼興趣，現在比較會督促自己學英文。<I was not interested in
English before, but now I encourage myself more to learn English.> (Hong)

Excerpt 9
比較有責任感因為每個人都有分派工作。<I am more responsible (for my
English learning) because everyone has been assigned roles.> (Jae)

Excerpt 10
在 CSR,自己會先預習一遍。但在大班上課，既使老師說要預習通常做
的機率都蠻低的。所以在 CSR 學習效率會比較高。<In CSR, I would prepare the
lessons in advance, but in the big class teaching, I would not do it even though
teachers ask us to do so. Therefore, it is more effective in CSR in terms of learning
efficiency.> (Fang)

Excerpt 11
它會增加你的閱讀能力、人際關係…嗯…以及溝通能力。還有當組長可以培養
領導能力。反正我覺得就是比大班上課還要好，學習效率會比較高。<CSR can
improve your reading ability, interpersonal relationship…um…and communication
ability. In addition, being a leader can help develop leadership. Anyway, I think
that it is better than the whole class teaching and I can attain higher learning
efficiency.> (Sih)

In spite of some strengths discussed above, a great body of research has reported

disadvantages and dilemmas of adopting a collaborative approach in the teaching of

reading comprehension (Almasi, 2002; Alvermann, 1996; Chi, 2003; Dunston, 2002;

Lee, 2003; Lin, 2008; Nystrand et al., 1993). For example, Chi (2003) suggests that

language barriers, especially in the form of limited lexical knowledge, were the main

difficulties which Taiwanese university students encounter in text discussion.

Lin (2008) contemplates that there were more off-task utterances than on-task ones when her Taiwanese junior high school students were put together for text comprehension. Based on her observation, low-achieving learners were powerless and reluctant to participate and they seldom asked for assistance. Likewise, Lee (2003) reports that group dispute and noise were two main problems for the young EFL students in their group work. In this study, negative perspectives regarding CSR were held by some students. Three examples are presented below.

Excerpt 12

句子裡如果有單字或複雜的句子整組都沒有人知道，然後推也推不出來就會卡在那邊。<We stuck if there were some vocabulary or complicated sentences which nobody in the group knew how to interpret. > (Young)

Excerpt 13

我覺得最主要的問題還是單字和片語。有時候即使查了字典還是不懂意思。<I think that the main problem is related to vocabulary words and expressions. Sometimes, we don't understand the meaning despite of looking up them in the dictionary. > (Chi)

Excerpt 14

有時會偏離主題。還有討論速度不一樣，有些組先討論完可能就會影響到別人。<Sometimes, the group discussions went off-task. In addition, the speed of discussions in each group was different. Some of the groups who finished earlier might affect others.> (Haw)

As stated in Excerpt 12 and 13, Young and Chi pointed out that unknown vocabulary words, expressions and complicated syntactic structures were the most prominent impediments for text comprehension in CSR. These statements were

validated by the results of the questionnaire survey and transcriptions of the group discussions. As I have discussed in the previous section, the findings of the different data indicated that learners' linguistic proficiency is a crucial factor contributing to effective text comprehension. In addition to the above two dilemmas, absence of some group members was identified as another problem in CSR. In this study, some students occasionally missed the class due to personal matters or the engagement in extracurricular activities. Their absence seems to affect the group discussions as they had their roles to play in their groups. In contrast to the obstacles identified in the studies of Lin (2008) and Lee (2003), the findings of this study were different. Perhaps due to the maturity of the university students and the fact that they were kept busy with the sharing of duties, noise, inactive participants, time allocation, and unrelated talk did not seem to lead to major problems in CSR.

6.6.2 Students' Self-Evaluation of the Impact of CSR on Their Reading Comprehension

The findings from the students' accounts suggest that the collaborative strategic training had a positive impact on the EFL learners' English learning and reading comprehension. In Excerpt 15 from the group interview with the researcher (Vicky), the students in Group 2 self-evaluate the impact of CSR on their reading comprehension by comparing their reading behaviours between the pre-test and post-test of reading comprehension.

Excerpt 15

Jae:　　 文章看得比較快，然後會挑主旨句在哪裡。<I read faster and knew how to look for the topic sentence.>

Shiang: 整體而言看得更懂，文章看得更懂自然較好作答。<On the whole, I understood more so that it was easier to answer the questions.>

Chi:	回答問題的時候比較有信心。<I felt more confident when answering the questions.>
Vicky:	看到不懂的單字你會怎麼辦? <What did you do when you saw the words you did not understand?>
Shiang:	會從上下文來猜。<Guessing from the context.>
Shien:	我也是。<Me too.>
Chang:	以前我會放棄，而現在就會試著猜猜看。<I might have given up before; while now, I would try to make a guess. >

As shown in the Excerpt 15, the informants demonstrated some degree of strategic reading behaviours. They considered that they improved in answering the comprehension questions and felt more confident about their reading ability after the intervention. The data seems to suggest that the learners became more active in the process of constructing meaning from the texts by applying the reading strategies learned in CSR and this was confirmed by the statistical results of the post-test in comparison with the control group. More importantly, it was found that some students were able to use top-down in addition to bottom-up strategies to deal with unfamiliar lexical units. For example, Shiang, Shien and Chang reported that they attempted to use the contextual clues, a top-down lexical strategy, to infer the meaning of the unknown words.

The participants were also asked to evaluate the effectiveness of the individual reading strategies in CSR on their reading comprehension. As discussed in section 6.3, almost all of the students (98.2%) revealed that the most useful reading strategy was "get the gist" because they learned how to distinguish the most important information from the supporting ideas of the texts. This might be attributed to the following reasons. Based on my observation and the transcripts of group discussions, every group was regularly engaged in the search of the central theme of each paragraph. The beneficial effect of getting the gist might be owing to the fact that it enabled the

learners to exchange and share ideas of the texts. Through discussing and getting feedback from their peers, it seems that students gradually developed their ability to synthesise the information, sharpen their skills for comprehension of the main ideas of the text and became better at distinguishing the gist of the passages from the detailed supporting ideas.

In this study, it was surprising to notice that the findings of the questionnaire survey and group interviews showed contradictory results regarding the "preview" strategy. Before implementing CSR, the teacher demonstrated to the students over the span of two weeks how to relate their background knowledge to the topics they were going to read and predict what would happen in the subsequent passages. In the questionnaire, 83.3% of the students, the second highest percentage followed by the "get the gist", agreed that CSR helped activate their prior knowledge about the topics. However, in the group interviews, it was unexpected to find that the informants did not think "preview" was an important or useful reading strategy for their reading comprehension and four students even mistook the meaning of "preview" as preparing the lessons beforehand. This finding along with the ones discussed in the earlier section (6.3) in this chapter, may further help us understand why the "preview" strategy did not result in a positive outcome to the questions regarding predicting in the post-test.

As to "clink and clunk", almost 80% of the respondents thought they had benefited from the vocabulary strategies to deal with difficult words in the texts. In the group interviews, many students expressed that they improved in vocabulary knowledge and knew more lexical items through CSR. Nevertheless, some students expressed that they had had difficulty applying these strategies. As Janzen & Stoller (1998) and Farrell (2001) point out, it takes years for students to develop the ability of strategic reading, which includes the competence of using vocabulary strategies. To

improve this, they would need to apply the strategies over a longer period of time, not only in class but also outside the classroom.

Additionally, among the four reading strategies taught in CSR, there seems to be a consensus that summarising was the most difficult reading strategy to use for the students participating in the present study. This was an anticipated result in accord with the finding of the questionnaire survey that only 59.1% of the participants agreed that they learned how to summarise the articles they read in CSR. As Dole et al. (1991) postulate, this reading strategy is difficult because readers not only need to know how to differentiate the most important ideas of the passages but also how to integrate them into a coherent text. From this angle, it was not surprising that the EFL learners who were first taught this reading strategy had a difficulty synthesising the most important information they had extracted and to produce a short essay to represent the main ideas of the texts. To remedy this, the students made some suggestions. The two excerpts from the group interviews presented below suggest that more guidance and training is needed for the adoption of this specific reading strategy.

Excerpt 16

老師可以讓我們多看如何寫 summary 的範例讓我們從中學習，還有教我們如何把句子連起來。<The teacher can demonstrate more examples of summary writing so that we can learn how to do it and also teach us how to connect sentences.> (Shiang)

Excerpt 17

寫作訓練吧! 因爲即使我們每段大意都找到了，但就是不會怎麼用四、五句話把課文摘要寫出來。<The training of writing! Even though we have found the main ideas of each paragraph, we still did not know how to write the summary using four or five sentences.> (Wei)

To be more effective, Shiang and Wei recommended providing more examples of summary writing and incorporating the instruction of recreating the central themes of the passages by using four or five sentences with cohesive devices.

6.6.3 Feasibility of the Implementation Procedures of CSR

On the whole, the results suggest that most of the participants believed in the feasibility of the implementation of CSR in the large Taiwanese university classroom in respect to the suitability of the reading materials, role assignment and rotation, group size, the instruction of the four reading strategies and the use of cue sheets. In this sub-section, I do not intend to conduct an elaborate discussion of the feasibility of all the procedures, but to pinpoint some interesting issues with regard to the implementation of CSR.

The first theme was the reading materials used in this study. Researchers have emphasised the importance of selecting texts for comprehension instruction (Alvermann et al., 1996; Dunston, 2002; Janzen & Stoller, 1998; Nuttall, 1996). According to Alvermann et al. (1996), interesting texts arouse students' motivation for reading engagement. Janzen & Stoller (1998) posit that texts with a suitable level of difficulty provide sufficient challenges for strategic reading. Similarly, Sinatra et al. (2002) argue that a crucial factor for the training of reading strategies is to select appropriate reading materials for the strategy use. In this study, approximately 85% of the participants expressed that the texts assigned for group discussions were suitable for their current level. This was supported by the findings of the peer discussions that the texts offered the students opportunistic practice of the reading strategies taught in the intervention.

Next, the data of the self-evaluation seemed to reveal that the participants enjoyed the four roles they played in CSR. The students also thought that the role rotation taking place every two weeks allowed everyone in each group to have the opportunity to experience different responsibilities. Since the participants in this study were comparatively homogeneous in English proficiency, no strong leaders were found to dominate the group discussions during the experimental period. This "division of labour" in Cohen's term (1994, p. 88) helped the students stay on task because everyone in the group must contribute their knowledge to collaboratively constructing meaning from the text. Their engagement and responsibility of their own learning perhaps played an important part to increase their interest and motivation to learn English. Moreover, in comparison with their individual work during teacher-fronted instruction, CSR was more likely to keep students concentrating on their tasks.

Group size was another notable issue to discuss. The findings of this study were contradictory to the claim of Alvermann et al. (1996) and Gillies (2003) that a group size larger than 5 affects the quality of interaction in peer-led discussions because learners would not be given sufficient opportunities for participation. The evidence can be seen from the informants' positive statements in the group interviews that even a group consisting of 6 people can be effective in peer interaction. An example from Group 5 is demonstrated as the following:

Excerpt 18

Vicky: 一組有 6 人 OK 嗎? 會不會太多人? <Is it OK to have 6 people in a group?>

Ss: {OK 阿! 沒問題ㄚ! <No problems!>

Yu: 人太多會講不到話。太少的話又要一直…<If there are too many people, you do not have the chance to talk. If there are less people, you have to…>

Additionally, the result of the questionnaire helped validate the students' self-accounts that almost 80% of the respondents agreed that a large group size consisting of 6 students does not affect the group discussions. Based on these findings, it seems that the large group size is not a critical factor for effective group functioning when implementing collaborative learning. Rather, whether or not students are provided with guidelines frameworks for collaboration is more important for successful scaffolding instruction to emerge (Klingner & Vaughn, 2000; Maloch, 2002).

As to the learning log, it was surprising to note that a comparatively lower percentage (61%) of the students agreed that it was beneficial to their English learning. An ambivalent attitude towards the use of the learning log is presented in Excerpt 19 from the interview with Group 6 in the following:

Excerpt 19

Vicky: 你們覺得 CSR 的 learning log 怎麼樣? <What do you think of the learning log in CSR?>

Young: 感覺上用處沒那麼大。<I feel that it is not so useful.>

Bin: 很多時候都是討論完才補上去的。<Most of the time, I did not write it until we finished discussions.>

Vicky: 討論完後你還會在再看嗎? <Did you read it again after discussions?>

Jack: 好像沒有。<It does not seem so.>

Young: 通常都是翻課本。<Normally, I only browsed the textbooks.>

Bin: 或是直接看文章的主旨句。<Or directly looked at the topic sentences of the texts.>

Chuang: 多少有一點幫助，就單字吧! <More or less help, perhaps just vocabulary words!>

Vicky: 你們覺得 CSR learning log 可以刪掉嗎? <Do you think that it needed to be eliminated?>

Fang: 我覺得還是要(保留)因為可以幫助思考一些問題，而且比較會抓重點。< I think it is still necessary because it can help think over some questions and it is easier (for me) to grasp the gist of the texts.>

As stated above, Young, Bin and Jack revealed their negative feelings of the learning log; while Chuang and Fang thought that it was helpful in their English learning particularly in regard to vocabulary and the main ideas of the texts. The contradictory opinions were most likely to have arisen from the inflexible and unpractical design which may not suit the adult learners' needs. To remedy this drawback, some students suggested leaving more freedom for them to design their own versions.

The last important point to note in terms of the implementation procedures was the length of modelling by the teacher. In this study, the students were provided modelling in the beginning of the intervention for two weeks. The findings suggest that it had been sufficient for the students to understand the procedures of CSR. However, it was noticeable that the adult EFL learners with non-English majors may need more guidance and instruction in particular reading strategies, such as predicting and summarising. They need more extensive teacher modelling and feedback not only at the beginning but also throughout the whole process to develop certain aspects of strategic reading which they are not familiar with.

6.7 Summary

Although the quantitative results of the mixed ANOVA did not show that CSR is more effective in improving the participants' reading comprehension scores than the teacher-led reading approach, the findings generated from other sources of data seemed to support the beneficial effects of CSR on the Taiwanese university learners' engagement for text comprehension and positive attitudes toward English learning.

During the group discussions, ample evidence was found to confirm that the

students actively participated in the problem-solving tasks and assisted each other to infer meaning from the printed materials. This collective scaffolding was characterised as five different patterns of peer collaboration consisting of pooling knowledge for meaning construction, elaborating for clarification, asking for and receiving assistance when encountering linguistic obstacles, prompting for task engagement, and providing explicit and implicit corrective feedback. The findings also suggested that Mandarin, the students' mother tongue, served multiple functions in text comprehension. It helped alleviate the anxiety, create a common ground for negotiation, maintain the focus on the target tasks and foster language learning.

It was evident that the students demonstrated various degree of strategic and active reading throughout the intervention process. For example, evidence was found to suggest that they had become more competent in distinguishing the main information of the texts from the unimportant information. However, the learners had difficulty performing some reading strategies such as "preview" and "summarise". This phenomenon was attributed to several possible causes including low English proficiency, lack of prior knowledge and insufficient practice. Unsurprisingly, the present study found that limited vocabulary knowledge was the main source leading to the impairment of reading comprehension. To deal with the breakdowns, both decoding skills, for instance, translation and dictionary consultation, and contextual clues were used. Nevertheless, the findings seemed to reveal that the learners had a tendency to rely more on bottom-up decoding.

The participants generally held a positive attitude towards the collaborative reading approach. Their evaluations supported the effects and feasibility of implementing CSR in the Taiwanese university classroom. In spite of its strengths, some drawbacks and problematic issues emerged, which indicates that some refinement of this scaffolding instruction is needed for the EFL context.

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Having provided a summary of the critical discussion of the findings, I will discuss the limitations before moving into the final chapter which contains conclusions drawn from this present study along with the pedagogical implications and suggestions for future research.

6.8 Limitations of the Study

Some of the limitations discerned in this present study have been discussed in Chapter Three, for instance, my dual role as a teacher-researcher (section 3.3) and the issues of internal validity and generalisation (sections 3.7.1 & 3.7.2). These critical themes will not be addressed again to avoid repetition. Here, I will discuss other methodological weaknesses in more details.

One drawback of this present study was related to the measure of reading comprehension. The reliance on a single measure of reading comprehension to determine the effect or gains of a reading intervention seems not to be sufficient. As Bernhardt (1991) points out, every type of reading measure has its own strengths and weaknesses. The adoption of multiple reading measures in investigating the effects of reading models is necessary to provide a multidimensional picture. Therefore, a wider range of assessment methods would be valuable to investigate the effects of CSR instruction on EFL learners' reading comprehension.

In addition, originally I was intending to include a series of field notes as another source of data to provide an aid to on-going contextual information for the research setting. Researchers, such as Flick (1998) suggest that field notes should be taken as soon as possible after an event; otherwise it may become difficult to remember what has been observed. However, my initial intention was not successfully achieved. As I

was the sole researcher in this present study, I was busy observing, monitoring the group work, answering questions and providing assistance when it was necessary. Due to other responsibilities involved, I did not manage to write down all of the details occurring at the research site. Therefore, I only recorded my general impressions in the classroom after each session, but was not able to recall any particular issues or specific behaviours noticed during CSR group work.

Chapter Seven

Conclusions, Implications and Suggestions

7.1 Introduction

The purposes of this study, as discussed in Chapter One, were to (1) investigate the impact of CSR, a scaffolding reading approach, on the Taiwanese university learners with regard to their reading comprehension, (2) explore the process of how they help each other towards text comprehension, and (3) examine the learners' perceptions of CSR instruction. In the final part of this thesis, the major findings in reply to the research questions will first be summarised. In addition, some pedagogical implications for Taiwanese English teaching will be suggested. Then, some suggestions for future studies will be proposed at the end of the chapter.

7.2 Summary of the Major Findings of the Study

This section aims to summarise the most important findings drawn from the analysis of the quantitative and qualitative data gathered to help the reader grasp the most salient issues discussed in this current study. It is hoped that this summary can provide a more comprehensive picture of the outcomes to cast some light on the place of CSR instruction in the EFL Taiwanese context.

7.2.1 Is CSR More Effective in Improving the EFL Learners' Reading Comprehension Than the Traditional Teacher-Led Reading Approach?

With regard to the first research question, the findings did not confirm the positive effect of CSR, in this case, on the Taiwanese university students' reading comprehension. The analysis of mixed between-within subjects ANOVA suggested that both of the control and experimental groups made significant improvement after 14 weeks. However, there was no significant difference when comparing the effect between two instructional approaches. Therefore, the statistical results seem to suggest that CSR might not be a more facilitative reading approach in improving reading comprehension scores of the university learners with low-intermediate to intermediate level than traditional teacher-dominated reading instruction.

This outcome, in fact, is not contrary to expectation because previous research has pointed out that it is not easy to demonstrate immediate evidence showing improved pre-test-to-post-test comprehension performance in standardised reading measures (Lysynchuk et al., 1990; Rosenshine & Meister, 1994). Duffy & Roehler (1983) suggest that learners, particularly those who are less competent readers, "need time to successively restructure their instructional experiences and a rich context in which to build a meaningful conceptual mosaic for why strategies are useful" (p.139). Given that the CSR group outperformed the control group in the post-test by a gain of 4.52 after the intervention, the potential effect of this scaffolding approach on the students' reading comprehension over a longer time span cannot be simply dismissed.

7.2.2 What Is the Effect of CSR on the EFL Learners' Post-Test Responses to Specific Types of Comprehension Questions?

In terms of the effect of CSR on five different types of comprehension questions categorised in the reading measure, the One-Way ANOVA showed a mixed result. A comparison of the post-test of the experimental and control groups suggested that CSR had positive effects on the students' abilities to get the main idea and find the supporting details. The beneficial results were backed up by the findings from other sources of data. For example, based on the transcription of group discussions, ample evidence was found that the students were engaged in the joint efforts looking for the topic sentence (or the gist) of the passages and distinguishing the most salient ideas from the less important supporting information. Apart from these favourable results, however, the statistical analysis did not show that CSR significantly promoted the EFL learners' strategic reading competence in regard to predicting, making inferences and dealing with vocabulary problems. As discussed in the previous chapters, qualitative data helped shed some light on inefficiency in strategic reading behaviours. Some inconsistent use of reading strategies may be attributed to the learners' misconceptions of the reading process, past habitual comprehension patterns, incomplete background knowledge and limited English proficiency. This result was in accord with the observations by Huckin & Bloch (1993) and Farrell (2001) that learning of reading strategies tends to be gradual and developmental. The findings of the study suggest that one semester of comprehension strategy instruction may help learners adopt some degree of strategic reading behaviours, but may not be enough to successfully change adult EFL learners' predetermined concepts of the reading process or their long-term reading habits.

7.2.3 How Do the EFL Learners in CSR Collaboratively Construct Meaning from the Texts?

In answer to the third research question, the study found that the Taiwanese university learners with relatively homogenous English level worked together through collaborative discussions, assisting each other in negotiating and discovering meaning of the reading texts they had been assigned. Their collective scaffolding for text comprehension can be classified into five recurrent patterns consisting of co-construction, elaboration, appeal for assistance, corrective feedback and prompts. In this study, such behaviour was evident in abundant episodes where the learners engaging in CSR contributed their expertise to the meaning-constructing tasks, elucidated unclear explanations or comments made by others and provided necessary assistance for the understanding of the text meaning. Of particular interest was that the adult learners used multiple techniques of prompting in the process of problem-solving activities. The findings suggested that the learners exploited different prompting strategies, for example, role assignment, special sounds calling for attention, group members' nicknames, comprehension checks and complimentary utterances to sustain collaborative interaction, call for task involvement and express praise for prominent contributions to the target tasks.

Another significant finding in this present study was that the provision of corrective peer feedback was an important means of aiding text comprehension. The study found that the instant corrective feedback was offered explicitly or implicitly by the peers when misunderstanding or erroneous interpretation was noticed in the collaborative work. Interestingly, the finding suggested that the learners tended to rely much more on explicit corrective feedback to modify deviant text understanding. The nature of the tasks and the level of English proficiency may have contributed to this phenomenon. As text comprehension involves complex linguistic knowledge, it seems

that explicit corrective feedback providing a clear model of appropriate linguistic performance may be beneficial to learners with low-intermediate to intermediate English ability who may not be able to notice and repair their mistakes from implicit guidance. Additionally, it was evident that the learners' first language played a facilitative role in uncovering the text meaning. The use of Mandarin was found to serve multiple functions. It not only created a common ground for mutual agreement to work toward the same target in problem-solving tasks but also enabled the learners to engage in text comprehension throughout the process of peer collaboration. There was a wealth of evidence showing that the use of L1 helped the learners provide collective scaffolding for their mutual linguistic development.

7.2.4 What Are the Strategies Used by the EFL Learners in CSR to Cope with Comprehension Breakdowns?

This study also sought to gain deeper insights into how the learners dealt with comprehension dilemmas. The findings suggested that limited lexical knowledge was the main impediment to text understanding. The most commonly used strategies to deal with linguistic obstacles were translation and dictionary consultation. In most of the cases, the integration of these two strategies helped the students extract meaning from the texts. However, it was noticeable that problems arose when words contained multiple meanings in the dictionary. The learners' failure to inferring meaning of the target items may, in some cases, be attributed to improper selection of word definitions or insufficient awareness of the differences in the use of metaphor in L1 and the target language. Only some learners with slightly higher proficiency occasionally proposed or used global strategies such as contextual clues, analysis of grammatical features and word parts to decipher the meaning of difficult words. In other words, the majority of the students participating in this study still revealed a

stronger tendency of depending on local decoding skills to deal with comprehension obstacles. This finding seemed to suggest that the Taiwanese university learners who were less proficient readers need to develop and expand their vocabulary ability before they can become more effective in the application of context-based strategies for text meaning.

7.2.5 What Are the EFL Learners' Perceptions of the CSR Approach?

The findings from the students' evaluations provided insights into the impact and feasibility of the CSR approach in the EFL context. Their accounts confirmed the effectiveness of CSR in increasing interest in English learning, enhancing classroom interaction, creating a learning environment for collaborative support, improving reading comprehension and fostering learner autonomy. Dilemmas and challenges were also identified. Learners' linguistic deficiencies particularly insufficient lexical and syntactic knowledge were pointed out as the two main obstacles leading to unsuccessful text discussion. The occasional absence of some members seemed to be another major difficulty of CSR.

As to reading strategies learned in CSR, almost all of the students participating in this present study thought that "get the gist" was the most useful strategy which helped them extract the most important information from the passages. Surprisingly, it was found, with regard to "preview" strategy, that the results were inconsistent. In the questionnaire survey, 83.3% of the students agreed that CSR helped them activate background knowledge related to the target text. However, the reliability of this figure is doubtful as it became apparent that four students in the group interviews misunderstood the meaning of 'preview" and thought it meant "preparing the lessons in advance". The qualitative group discussion data and the statistical quantitative data

both seemed to disconfirm the effective use of this strategy. As to the 'clink and clunk" and 'wrap-up" (summarise) strategies, the findings revealed that the EFL learners struggled to apply them. This indicates that short-time teaching of these reading strategies may not be sufficient to enable the learners to apply them in particular contexts. Regarding the implementation of CSR in a university setting, the findings suggested that the students felt that it would be feasible. However, if it is to be adopted in other educational settings in Taiwan, more evaluative studies are needed.

7.3 Pedagogical Implications

The findings of this present study suggest several pedagogical implications for English teaching in Taiwanese contexts, particularly at the tertiary level. First, the quantitative and qualitative findings demonstrated the positive effect of CSR on the university learner' development of strategic reading for certain reading strategies such as getting the main idea of the passages and distinguishing the most important information from the unnecessary details. Teaching students to read for the gist by looking for the topic sentence in each paragraph can facilitate their text comprehension. However, previous research has pointed out the longitudinal nature of comprehension strategy instruction (Duffy & Roehler, 1983; Farrell, 2001; Grabe, 1991; Janzen & Stoller, 1998; Koda, 2004; Pressley, 2006). It is important for Taiwanese English teachers to bear in mind that training students to become strategic and interactive readers who can use bottom-up and top-down reading strategies is a long term process. Learners' effective use of reading strategies, particularly some of the top-down strategies such as predicting, making inferences and making use of the

contextual clues, requires teachers' thoughtful planning to help them reconceptualise the nature of the reading process and raise their awareness of the necessity for a shift in reading behaviours. Developing students' strategic reading is not simply a matter of introducing them to a number of reading strategies. Promoting mastery of the comprehension strategies involves teachers' constant modelling and instant feedback for mastery of the comprehension strategies not only at the beginning but through the whole implementation of comprehension strategy instruction.

Another implication is that CSR offers an alternative approach to dealing with the problem of traditionally large teacher-centred classrooms in Taiwan, where individual differences cannot be taken into account and students are passive learners without interaction with others. This collaborative reading approach enables teachers to create a more effective and interactive context for English learning so that they can recognise individual learners' strengths and weaknesses and provide instant assistance to those who need it in order to maximise students' learning potentials. Through collaborative small group discussions embedded in CSR, students take on more responsibilities for their own learning by performing the assigned roles. In spite of similarly limited linguistic proficiency, they pool their linguistic knowledge to the problem-solving tasks and develop text understanding through collective thinking. During the process of negotiating for meaning, they demonstrate greater amount of mutual support, feedback and guidance and have more opportunities to internalise their learning through social interaction with others (Dixon-Krauss, 1996; Donato, 1994; Little, 2000; Loranger, 1997; Mercer, 2000; Ohta, 1995; Vygotsky, 1978).

The development of efficient decoding skills particularly lexical knowledge is fundamental to Taiwanese university English curricula aiming to foster strategic reading. Alderson (2000) speculates that less skilled second language readers tend to have lexical difficulty and "guessing will not overcome this deficiency and lead to

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automatic recognition" (p. 19). Similarly, Pressley (2000) contends that developing second language readers need to master the lower-level decoding ability such as automatic word recognition before improving in higher-level top-down cognitive reading strategies. Therefore, explicit vocabulary instruction is needed in Taiwanese university settings to enhance students' lexical knowledge. For example, teachers may pre-teach key vocabulary words in the context and allow students to familiarise themselves with the meaning and word formation before engaging in the meaning construction of the text.

Another area where CSR has implication for Taiwanese English instruction is in the role of teachers. To foster learner autonomy, teachers change their traditional roles and assume multiple different roles such as learning counsellor, facilitator, observer, creators, active participant and guides (Maloch, 2002; Yang, 1998). In CSR, teachers play a new role as a facilitator and they are ready to empower students to take charge of their own learning (Klingner & Vaughn, 1999). This, however, does not mean that responsibility is all transferred to the students. As McDonell (1992a) points out, "effective facilitators are prepared to intervene and to assist in the problem-solving process" (p. 169). In CSR, teachers have to encourage participation, give feedback and provide assistance for learners to become more self-directed. This may be challenging for English instruction at the tertiary level because Taiwanese students have been conditioned in the teacher-dominated instructional format and some of them may not be accustomed to the new role of their teacher. To help teacher-dependent learners become more self-directed, Yang (1998) suggests that teachers aiming for learner autonomy should help students transform their learning beliefs and attitudes; thus particular guidance should be offered. For example, attention should be paid to strengthen learners' sense of interdependence and understand learners' concerns and learning styles before implementing collaborative reading instruction.

Many researchers have called for the need of teacher training for comprehension strategy instruction (for example, Almasi, 2003; Dole, 2003; El-Dinary, 2002; Pressley, 2002). As Almasi (2003) points out, it is difficult for teachers who are not aware of how to deal with comprehension impediments to provide appropriate guided practice for their students. Echoing this view, Dole (2003) also indicates that, being automatic in strategic processing, many teachers may have difficulty making their cognitive processes visible to their students. Pressley (2002) contends that the best way to become a good teacher of comprehension strategies is to be a strategic reader oneself and be aware of methods of teaching strategic reading. In other words, to effectively facilitate strategy instruction in language settings, it is important for teachers to have training in how to put the concept into practice and make their thinking and strategic actions visible to their students. For those who are interested in implementing CSR in their own contexts, workshops or seminars that help teachers understand the complexities and the importance of reflecting on their teaching of the strategies would be helpful in building up teachers' professional knowledge of strategic instruction and at the same time supporting students' deepening understanding of how and when to use various strategies.

7.4 Suggestions for Future Research

Based on the findings of this study, some suggestions are provided for future research in the areas of CSR instruction. First, this study has centred on learners with low-intermediate to intermediate English proficiency in a Taiwanese university. Only two classes of students who majored in engineering-related subjects were recruited. Thus, the number of participants was rather small and the findings reflecting the

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impact and feasibility of CSR were highly context specific. To further validate the effectiveness of this scaffolding instruction, it is suggested that both homogeneous and mixed-ability groups with a larger sample size from different disciplines should be included in future studies.

In this study, the reading materials used were exclusively expository texts which were formatted so as to make passages well-organised and supportive for strategy use. The application of CSR to other genres of texts remains uncharted. Future research is needed to add to our understanding of the extent to which CSR enhances EFL readers' comprehension when exposed to different genres and writing styles such as narratives, newspapers and magazine articles and works of fiction.

Third, a wider range of assessment methods would be valuable to investigate the effects of CSR instruction on EFL learners' reading. Although five different sources of data were collected to examine the impact of CSR in this study, only one reading measure was used, which appeared to be one of the weaknesses discussed in the earlier section. To provide deeper insights into the effects of the CSR approach, it is recommended that not only summative but also formative assessments be included. For example, comprehension question checks of the contents, midterm and final grades or short essay questions to test comprehension.

Further research could also be conducted to link CSR with content learning. As the research has shown, although it did not outperform teacher-led reading instruction, comprehension strategy instruction is conducive to improving learners' reading comprehension and increasing their motivation in English learning, therefore, the teaching of reading strategies through peer collaboration can be a sociocognitive resource for conceptual learning of the academic subjects. Sweet & Snow (2002) contend that the application of reading strategies to the content areas allows learners to raise their awareness of strategy use and increase their understanding of the specific

content of the texts. In this regard, investigating the use of CSR in content areas would add to our understanding of the extent learners can benefit from this collaborative strategic reading approach not only in the English classrooms but also outside the language learning context.

7.5 Concluding Remarks

This study set out to explore whether CSR can help my students who were less skilled EFL readers improve their strategic reading ability and motivate their English learning. The mixed-method design including multiple sources of data was deemed to provide a holistic view of the impact of this scaffolding comprehension strategy instruction. Although the findings have demonstrated mixed success in the students' application of reading strategies, there were, nevertheless, a number of positive outcomes. For the EFL students, the fact that they went beyond simply struggling with content of the reading passages to capitalise on some reading strategies they learned in the instruction to aid reading comprehension was convincing proof to support the strategic approach.

As a teacher, it was rewarding to witness the process how the EFL students benefited from collective scaffolding (Donato, 1994). In this study, it was evident that collaborative meaning construction allowed the university students to share their understanding of the text, self-monitor the process of the application of reading strategies, receive instant feedback and assistance from other group members and thus gradually helped increase their reading comprehension. Additionally, the findings of the students' self-reports suggested a positive link between the collaborative strategic reading and improved self-regulation.

In conclusion, the undertaking of this thesis marked the beginning step of the investigation in terms of the impact of CSR on the university students in an EFL context. The results of this study seemed promising enough to warrant further trials and evaluations of CSR. It is hoped that more research can be conducted in other university English classes in Taiwan to contribute to our further understanding of the possible effect of collaborative comprehension strategy instruction on adult EFL learners.

Appendix A: Reading Comprehension Test

Direction: In this reading comprehension test you will read several passages. Each one is followed by a number of questions. Please choose the one best answer to each question and write your answer on <u>the answer sheet.</u>

QUESTIONS 1-6

  Few people realized that, starting in the 1920s, scientists began to develop "super-plants". Unlike natural plants, these plants were developed to <u>withstand</u> pollution, drought, dirty soil, and poor light. Super-plants were first created with chemical changes in the plants, then with genetic changes. Some plants created this way include most new roses, and some new cotton and corn.

  Giant pumpkins, tomatoes, and strawberries are being developed now, as well as new flowers. These super-plants were designed to <u>thrive</u> in home gardens, but the techniques have created plants that resist disease, require less care, and, more importantly, grow larger seeds and fruits on fewer nutrients and less water. So what began as an effort to make stronger houseplants may end up as a major way to increase the garden crops.

1. This paragraph is mainly about _____.
  (A) super-plants that grow in gardens (B) developing hardier houseplants
  (C) the development of super-plants (D) techniques of growing super-plants

2. The underlined word "withstand" in line 2 of this passage closely means _____.
  (A) require (B) treat (C) eliminate (D) resist

3. The underlined word "thrive" in line 7 of this passage closely means _____.
  (A) be protective (B) grow well (C) observe (D) remain

4. Originally, one of the purposes of developing super-plants was _____.
  (A) to induce some genetic changes (B) to bear rich fruits
  (C) to survive dry weather (D) to protect soil

5. We can conclude from the paragraph that _____.
  (A) scientist did not fully expect the results of their initial experiments
  (B) super-plants pose a problem because they are resistant to disease
  (C) super-plants reproduce more quickly than natural ones
  (D) genetic engineering could also work on people

6. The paragraph suggests that _____.
  (A) super-plants are more nutritious than natural ones
  (B) consumers prefer super-plants for their gardens
  (C) the chemicals used to develop them are dangerous
  (D) super-plants may be a way of meeting the world food shortage

QUESTIONS 7-11

     A police officer on the street typically feels a high degree of psychological stress. A look at statistics will explain why. In 1990, a total of 119 police officers were killed on the street. Over half of them died while making arrests, 20% while responding to calls for help, and 12% while making routine traffic stops.

     An important source of stress to a police officer is the growing number of cases to handle and the lack of manpower or time to handle them. There were 34 million crime victims for 1990. That <u>figure</u> grew by 10% the following year, and has been rising ever since. In the meantime, police forces have not expanded their numbers, with the policeman-to-citizen ratio staying at two to 1,000. Faced with the increased incidence of crime and <u>escalated</u> degrees of violence in crime, the police officer simply cannot fulfil the ideal role of active prevention of crime. He can only passively respond to it, and barely, at that.

7.   The passage is mainly about _____.
    (A) sources of stress for police officers
    (B) crime statistics and control for 1990
    (C) worsening security on the streets of America
    (D) a serious shortage of police officers

8.   It can be inferred that all of the following are true of police fatality statistics for 1990 EXCEPT that _____.
    (A) in all, 119 policemen were killed on the streets
    (B) over 50 policemen died while trying to arrest suspects
    (C) more than 20 had received calls for help
    (D) most were killed while making traffic stops

9.   The underlined word "figure" in line 7 of this passage most closely means _____.
    (A) number   (B) police station
    (C) stress   (D) crime

10.   The underlined word "escalated" in line 9 of this passage most closely means _____.
    (A) unrelated   (B) moderated
    (C) increased   (D) distinguished

11.   A paragraph following the passage would probably deal with which of the following subjects?
    (A) A psychological profile of the typical rapist.
    (B) Crime statistics of the early 1980s.
    (C) The danger of drugs to the juvenile population.
    (D) Another source of stress for the police officer.

QUESTIONS 12-17

In May 1927, Charles Lindbergh became the first man to fly non-stop across the Atlantic Ocean from New York to Paris. This was a <u>milestone</u> in aviation history. In the years before his epic journey, Lindbergh had made hundred of airmail delivery flights from St. Louis to various parts of the United States. It was on one of these flights that he conceived the idea of flying <u>solo</u> across the Atlantic. Flying alone, in all types of weather, he believed that he had the experience to succeed where others had failed. He named his aircraft the *Spirit of St. Louis* and supervised every detail of production and testing before the flight. It was also extremely uncomfortable because the cockpit was small and cramped. But, Lindbergh was an aviator with immense courage and determination who refused to give in to fatigue on the long thirty-three and a half hour flight to Paris. The *Spirit of St. Louis* is now on permanent display in the National Air and Space Museum in Washington. Aviation has come a long way since Lindbergh's pioneering flight. It's now possible to complete the same journey in less than four hours by flying supersonically on Concorde!

12. What is the best title of the passage?
    (A) One Man's Dream
    (B) Lindbergh, The Great Aviator
    (C) Flying Solo
    (D) The First Non-Stop Flight
13. The underlined word "milestone" in line 2 of this passage closely means _____.
    (A) a piece of rock
    (B) a type of aircraft
    (C) a very important event
    (D) an airport near Paris
14. The underlined word "solo" in line 5 of this passage closely means _____.
    (A) well
    (B) dangerously
    (C) tremendous
    (D) alone
15. When is the one hundredth anniversary of Lindbergh's flight?
    (A) 2027
    (B) 2037
    (C) 2007
    (D) 1927
16. This passage implies that Lindbergh was _____.
    (A) stubborn and unreasonable
    (B) reckless and careless
    (C) strong willed and independent
    (D) foolish and romantic
17. A paragraph following the passage would probably deal with which of the following subjects?
    (A) Lindbergh's contribution to modern aviation
    (B) How Lindbergh spent the rest of his life
    (C) How Lindbergh made his *Spirit of St. Louis*
    (D) Lindbergh's childhood

QUESTIONS 18-22

The native people of North America made general use of body painting. When <u>warriors</u> prepared for battle, they would paint themselves with bold designs. They concentrated on their faces which were decorated with red stripes, black masks or white circles around the eyes. These designs made the warrior look fierce and aggressive. Other peoples also used war paint. When the Romans invaded Britain, they found that the ancient Britons painted themselves with blue paint called woad before going into battle.

Body painting can be used for occasions other than battles. The <u>aboriginal</u> peoples of Australia often decorate their bodies with bold white markings for a corroboree. It is a special meeting at which men dance and sing.

18. The best title for this article is _____.
    (A) battle and body painting   (B) war paint
    (C) body painting   (D)ways of body decoration
19. The underlined word "warriors" in line 2 of this passage closely means _____.
    (A) fighters   (B) painters
    (C) native people   (D) rulers
20. _____ wore "woad" for battle.
    (A) The Romans   (B) The ancient Britons
    (C) Australian aboriginal peoples (D) The native people of North America
21. The bold designs focused on the _____ of the native warriors of North America.
    (A) bodies   (B) faces
    (C) arms and legs   (D) eyes
22. The underlined word "aboriginal" in line 7 of this passage closely means _____.
    (A) native people   (B) sculptors
    (C) artists   (D) fighters

QUESTIONS 23-27

Although the *Wealth of Nations* by Adam Smith appeared in 1776, it includes many of the ideas that economists still consider the foundation of private enterprise. The ideas put forth by Smith compose the basis of the philosophies of the <u>school</u> of thought called classical economics.

According to Smith's ideas, free competition and free trade are vital in fostering the growth of an economy. The role of government in the economy is to ensure the ability of companies to compete freely.

Smith, who was himself a Scot, lived during the period of the Revolutions in America and in France. During this epoch, the <u>predominant</u> political thought was a strong belief in freedom and independence in government. Smith's economic ideas of free trade and competition are right in line with these political ideas.

23. This passage is mainly about _____.
    (A) Adam Smith and his *Wealth of Nations*
    (B) *Wealth of Nations*
    (C) Adam Smith's life
    (D) Adam Smith's influence on economics
24. The underlined word "school" in line 3 of this passage closely means _____.
    (A) a common belief　　　　　　(B) a college
    (C) a university　　　　　　　　(D) an educational system
25. Which of the following statement is not true?
    (A) Adam Smith supported free market policies.
    (B) The *Wealth of Nations* was published in 1776.
    (C) The principles of *Wealth of Nations* are the foundations of classical economics.
    (D) Adam Smith disagreed the political ideas at his times.
26. The underlined word "predominant" in line 9 of this passage closely means _____.
    (A) more important　　　　　　(B) general
    (C) understandable　　　　　　　(D) independent
27. Adam Smith was a _____.
    (A) French　　　　　　　　　　(B) Scottish
    (C) American　　　　　　　　　(D) Irish

QUESTIONS 28-33

Elephants are the largest land mammals in the world. They live on two continents, Africa and southern Asia. Asian elephants, also known as Indian elephants, are easier to tame than African elephants and have been domesticated for 4000 years. The elephants you see in the circuses and zoos are nearly always Asian. African elephants are larger and have great ears like fans. Both the African and Indian elephants have strong, tough skin and long, lovely tusks. That is their problem. Elephants are in danger. People kill these animals in order to use their skin and their tusks. Because of the massive killings, elephants are <u>dwindling</u> in number and it is feared that by the end of the century, these huge mammals may be extinct. However, elephants are problems in some parts of Africa.

In areas where the largest herds exist, they have become giant pests to the farmers. No fence is strong enough to keep these monsters away from the crops. Elephants go where they wish, destroying food crops and farm buildings. African farmers wonder if they can allow the elephants to continue to exist in their neighbourhood.

28. What does this passage mainly discuss?
    (A) The difference between Asian and African elephants
    (B) Elephants are the largest land mammals in the world.
    (C) Some problems about elephants
    (D) Asian elephants are more valuable than African elephants.

29. In a zoo, one will most likely see an Asian elephant because _____.
    (A) Asian elephants can survive in a human environment
    (B) Asian elephants are smarter than African elephants
    (C) Asian elephants are easier to train than African elephants
    (D) Asian elephants are more destructive than African elephants

30. Based on the passage, elephants are killed because _____.
    (A) they are pests to farmers
    (B) they destroyed food crops and buildings
    (C) they compete with humans for food and water
    (D) their tusks and skin are valuable

31. Which of the following statements is not true?
    (A) Elephants are the largest mammals in the world.
    (B) African elephants are larger than Asian elephants.
    (C) African elephants have created some problems for humans.
    (D) Elephants live on two continents, Africa and southern Asia.

32. The underlined word "dwindling" in line 8 of this passage closely means _____.
    (A) increasing
    (B) decreasing
    (C) distributing
    (D) enlarging

33. A paragraph following the passage would probably deal with which of the following subjects?
    (A) How to protect elephants
    (B) How to deal with the problems about African elephants
    (C) How to stop people from killing Asian elephants
    (D) How to make use of the elephants

When early humans hunted and gathered food, they were not in control of their environment. They could only interact with their surroundings as lower organisms did. When humans learned to make fire, however, they became capable of altering their environment. To provide themselves with fuel, they stripped bark from trees, causing the trees to die. Clearings were burned in forests to increase the growth of grass and to provide a greater grazing area for the wild animals that humans fed upon. This development led to farming and the domestication of animals. Fire also provided the means for cooking plants which had previously been <u>inedible</u>. Only when the process of meeting the basic need for food reached a certain level of sophistication, was it possible for humans to follow other pursuits such as the founding of cities.

34. The best title for this passage is _____.
    (A) The Development of Civilization   (B) The Evolution of Farming Techniques
    (C) Basic Food-gathering Techniques   (D) Hunting as a Source of Food
35. The underlined word "inedible" in line 8 of this passage closely means _____.
    (A) capable   (B) impossible
    (C) available   (D) uneatable
36. According to the passage, one way that humans maintained their food supply before they dominated their environment was by _____.
    (A) cooking plants   (B) hunting animals
    (C) stripping trees   (D) burning forests
37. According to the passage, early humans gained better control of their environment when they learned to _____.
    (A) eat meat   (B) make fire
    (C) live with lower insects   (D) improve their hunting skills
38. Which of the following led to the founding of cities?
    (A) Hunting   (B) Feeding animals
    (C) Agriculture   (D) Gathering food
39. A paragraph following the passage would probably deal with which of the following subjects?
    (A) How people founded the cities.   (B) How early humans hunted for food.
    (C) The techniques to find more land (D) How to develop trade system

Cardamom is another kind of spice which is not widely used in America as it is in other

parts of the world. This fruit of the ginger plant provides an oil that basically has been used <u>solely</u> as a stimulant in American and English medicines. Other cultures have recognized the <u>multipurpose</u> benefits of this aromatic fruit. In Asia it is used to season sauces such as curry; in Middle Eastern countries it is steeped to prepare a flavourful, golden-colour tea; in parts of Northern Europe it is used as a spice in various types of pastry.

40. The paragraph preceding the passage most probably discusses _____.
    (A) A different spice which Americans do not like.
    (B) Why Cardamom is not popular in America.
    (C) Other countries which do not like Cardamom.
    (D) The functions of spices

41. What is the main idea of this passage?
    (A) Cardamom is a spicy plant.
    (B) Cardamom is one kind of medicine.
    (C) Cardamom is not popular in America.
    (D) Cardamom has many different usages.

42. The underlined word "solely" in line 3 of this passage closely means _____.
    (A) commonly   (B) only
    (C) initially   (D) originally

43. The underlined word "multipurpose" in line 4 of this passage closely means _____.
    (A) recognized   (B) various
    (C) beneficial   (D) prosperous

44. Which of the following statements is NOT TRUE?
    (A) Cardamom is part of ginger.
    (B) Cardamom does smell good.
    (C) People in Middle Eastern use Cardamom as a spice.
    (D) Some people drink Cardamom tea.

QUESTIONS 45-50

Why do people take part in such a <u>risky</u> activity as bungee jumping? They jump from a high place 200 meters above the ground with an elastic rope tied to their ankles. According to psychologists, it is because life in modern societies has become safe and boring. Not very long ago, people's lives were constantly under threat. They had to go out and hunt for food, diseases could not easily be <u>cured</u>, and life was a continuous battle for survival. Nowadays, according to many people, life offers little excitement. They live and work in really safe environments; they buy food in shops; and there are doctors and hospitals to look after them

if they become ill. The answer for some of these people is to seek danger in activities such as bungee jumping.

45. In bungee jumping, people _____.
    (A) jump as high as they can   (B) slide down a rope to the ground
    (C) attach a rope and fall to the ground   (D) fall towards the ground without a rope
46. People probably take part in dangerous sports nowadays because _____.
    (A) they have a lot of free time   (B) they can go to hospital if they are injured
    (C) their lives lack excitement   (D) they no longer need to hunt for food
47. The underlined word "risky" in line 1 of this passage closely means _____.
    (A) funny   (B) healthy
    (C) exciting   (D) dangerous
48. The underlined word "cured" in line 5 of this passage closely means _____.
    (A) treated   (B) killed
    (C) discovered   (D) removed
49. Life in the past was basically a continuous battle for _____.
    (A) fame   (B) wealth
    (C) survival   (D) power
50. What would be a suitable title for this passage?
    (A) The Reasons to do bungee jumping   (B) How to do bungee jumping
    (C) The Boring and Safe life   (D) An Interesting Sport

Appendix B: Transcription Conventions

S(s)	Student(s)
T	Teacher
中文	Chinese characters
"Thriving"	Specific words or expressions call for clarification
Plain font	English spoken in discussion
Italic font	Students' reading out aloud of the passages
< >	Translation into English
[ ]	Comments on what was happening in the classroom
{	Overlapping speech
{ }	Contextual information
At-ti-tu-de	English articulation
H-O-S-T	Capital letters to show the spelling of English words
^	Rising intonation
(???)	Unintelligible speech
Um…	Sounds articulated to indicate hesitation
…	A short pause less than 3 seconds
….	A long pause less than 4 seconds
lo---	Omitted syllable
。	Chinese equivalent to the full-stop

Appendix C-1: Questionnaire (Mandarin Version in Fieldwork)

EFL 大學生對合作策略閱讀教學（CSR）的看法之問卷調查

各位同學:

謝謝你們參與此次合作策略閱讀教學的課程。麻煩撥空填寫本份問卷提供您寶貴的意見。本問卷只做爲研究之用，您的答案及相關的任何資料都將嚴格保密。再次感謝您的協助。

請就以下問題選出一個最適合的答案

問　卷　題　目	非常同意	同意	沒意見	不同意	非常不同意
A　你對合作策略閱讀教學的看法					
1.　我喜歡合作策略閱讀教學。	5	4	3	2	1
2.　我喜歡合作策略閱讀教學勝過傳統的大班上課方式。	5	4	3	2	1
3.　我主動參與小組討論。	5	4	3	2	1
4.　藉著跟其他組員的討論我比較了解文章的內容。	5	4	3	2	1
6.　在合作策略閱讀教學中我加強我的溝通能力。	5	4	3	2	1
6.　在合作策略閱讀教學中我學習如何與他人合作。	5	4	3	2	1
7.　在合作策略閱讀教學中我自動自發學習。	5	4	3	2	1
8.　我認爲合作策略閱讀教學適合在大學英文課堂上實施。	5	4	3	2	1
B.　你對合作策略閱讀教學實施細則的看法					
9.　上課的閱讀教材適合我的程度。	5	4	3	2	1
10.　角色分配有助於小組討論的進行。	5	4	3	2	1

11. 一組有四個角色是適當的。	5	4	3	2	1
12. 組裡的每一個人都應輪流當組長。	5	4	3	2	1
13. 每兩個星期更換角色是適當的。	5	4	3	2	1
14. 一組有 5-6 人是適當的人數。	5	4	3	2	1
15. 提示卡有助於我了解合作策略閱讀教學的實行步驟。	5	4	3	2	1
16.學習日記幫助我紀錄英文課的學習。	5	4	3	2	1
17. 合作策略閱讀教學中所教的閱讀策略是實用的。	5	4	3	2	1
18. 我認為在本班實施合作策略閱讀教學是適當。	5	4	3	2	1
C. 合作策略閱讀教學對你英文學習的影響					
19. 合作策略閱讀教學提高我學習英文的興趣。	5	4	3	2	1
20. 合作策略閱讀教學提升我閱讀的動機。	5	4	3	2	1
21. 在合作策略閱讀教學中我上課較專心。	5	4	3	2	1
22. 合作策略閱讀教學幫助我在讀文章前將主題與我原有的背景知識連結。	5	4	3	2	1
23. 合作策略閱讀教學幫助我了解文章的大意。	5	4	3	2	1
24. 合作策略閱讀教學幫助我區分主旨及細節。	5	4	3	2	1
25. 合作策略閱讀教學幫助我能夠了解文章中困難的生字。	5	4	3	2	1
26. 合作策略閱讀教學幫助我在閱讀文章後能夠摘要文章的重點。	5	4	3	2	1
27. 在上過合作策略閱讀教學後，我閱讀的速度增加了。	5	4	3	2	1

28. 在上過合作策略閱讀教學後，我口語閱讀的能力進步了。	5	4	3	2	1
29. 在上過合作策略閱讀教學後，我的字彙能力增加了。	5	4	3	2	1
30. 在上過合作策略閱讀教學後，我比較不依賴字典查不懂的單字。	5	4	3	2	1
31. 在上過合作策略閱讀教學後，我的文法進步了。	5	4	3	2	1
32.在上過合作策略閱讀教學後，我的閱讀理解能力進步了。	5	4	3	2	1

33.在合作策略閱讀教學上你遇到最困難的事是什麼? 請就下列敘述勾選答案。

□ 我這組有些組員不參與小組討論。

□ 我這組有些組員有時會缺席。

□ 我很害羞因此不想參與小組討論。

□ 我還是不熟悉合作策略閱讀教學中教的閱讀策略。

□ 有很多我不懂的生字。

□ 我不了解複雜的文法結構。

□ 我對英文沒興趣。

□ 班上非常吵。

□ 小組討論的時間不夠。

□ 其他: _____

Appendix C-2: Questionnaire (English Version)

Questionnaire of EFL Learners' Perceptions of CSR Instruction

Dear Students:

Thank you very much for your participation in Collaborative Strategic Reading instruction. I would greatly appreciate if you can take a few minutes to complete this questionnaire. This questionnaire is only used for the research purpose. **Your identity will not be disclosed and your answers will be strictly confidential**. Many thanks for your assistance again.

Direction: Please circle one answer which best suits your perceptions of CSR.

Questionnaire Items	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
A. Your general perceptions of CSR instruction					
1. I like CSR in the class.	5	4	3	2	1
2. I prefer CSR to traditional large classroom teaching.	5	4	3	2	1
3. I am actively engaged in group discussions.	5	4	3	2	1
4. By discussing with my group members, I understand better about what I read.	5	4	3	2	1
5. I enhance my communication ability in CSR.	5	4	3	2	1
6. I learn how to cooperate with others in CSR.	5	4	3	2	1
7. I am self-motivated for learning in CSR.	5	4	3	2	1
8. I think it is feasible to implement CSR in the university English class.	5	4	3	2	1
B. Your perceptions of the implementation procedures of CSR.					

9. The reading materials used in the class are suitable to my level.	5	4	3	2	1
10. The assigned roles in groups help group discussion.	5	4	3	2	1
11. It is appropriate to have four different roles in a group.	5	4	3	2	1
12. Everyone should take turns to be the group leader in each group.	5	4	3	2	1
13. It is appropriate to rotate the roles every two weeks.	5	4	3	2	1
14. It is a good size to have 5-6 people in a group.	5	4	3	2	1
15. Cue cards help me understand the procedures of CSR.	5	4	3	2	1
16. Learning logs help me keep the record of my English learning.	5	4	3	2	1
17. The reading strategies taught in CSR are useful.	5	4	3	2	1
18. I think the implementation procedures of CSR are appropriate in our classroom.	5	4	3	2	1
C. The impact of CSR on your English learning.					
19. CSR increases my interest in learning English.	5	4	3	2	1
20. CSR increases my motivation to read.	5	4	3	2	1
21. I am more concentrated on the class in CSR.	5	4	3	2	1
22. CSR helps me activate my background knowledge about the topics before I read	5	4	3	2	1
23. CSR helps me understand the main ideas of the articles I read.	5	4	3	2	1
24. CSR helps me distinguish between the main idea and supporting information of the articles I read.	5	4	3	2	1

25. CSR helps me understand difficult words in the articles I read.	5	4	3	2	1
26. CSR helps me summarise the articles I read.	5	4	3	2	1
27. After CSR, I can read faster.	5	4	3	2	1
28. After CSR, my oral reading fluency has improved.	5	4	3	2	1
29. After CSR, my vocabulary has improved.	5	4	3	2	1
30. After CSR, I don't rely on dictionaries to look up the meaning of unknown words.	5	4	3	2	1
31. After CSR, my grammar has improved.	5	4	3	2	1
32. After CSR, my English reading comprehension has improved.	5	4	3	2	1

33. What are the most difficult things you encounter in CSR? Please tick your answers in the following statements:
   □ There are some members in my group who don't participate in group discussion.
   □ There are some members in my group who are sometimes absent.
   □ I am very shy so that I don't want to participate in group discussions.
   □ I am still not familiar with the reading strategies taught in CSR.
   □ There are a lot of unfamiliar words that I don't know.
   □ I don't understand complicated grammatical structures.
   □ I am not interested in English.
   □ The class is very noisy.
   □ The time assigned to group discussions is too short.
   □ Others: _____

Appendix D: Semi-Structured Questions for Group Interviews

1. Have you learned reading strategies before?

2. Have you had group discussions in your English classes before?

3. What was your reading habit before CSR instruction?

4. Does CSR change your reading habit?

5. What do you think of CSR instruction in comparison with the traditional teacher-dominated approach?

6. What do you think of the cooperation in your group discussions?

7. What are the difficulties when you are engaging in CSR group discussions?

8. Do you use the reading strategies taught in CSR when you discuss with your group members?

9. Which of the four reading strategies are most helpful? Why?

10. Which of the four reading strategies are most difficult to use? Why?

11. How does CSR affect your reading comprehension?

12. What do you think of the implementation procedures of CSR?

13. Are there any procedures needed to change or improve?

14. Will you recommend CSR used in other English classrooms in the university?

15. What are the advantages and disadvantages of CSR instruction?

16. Do you have any suggestions regarding CSR instruction?

Appendix E: CSR Cue Sheets

Before reading	During reading	After reading

Preview
● Predict what you might learn today (look at the title, pictures and headings).
● Relate to what you know to the text you are going to read.
● Call someone to share ideas.
	Click and Clunk
	● Check if there are any difficulties or any unknown words in the passage.
	● Ask the clunk expert to help.
	● If the clunk expert does not know, discuss it with the whole group.
	● Try to use the following strategies to help you understand it.
	  (a) Reread the sentence and look for key ideas to help you understand.
	  (b) Look for clues before and after the sentence which contains the word/expression you do not understand.
	  (c) Look for a prefix or suffix in the word.
	  (d) Break the word apart and look for smaller words.
	
	Get the gist
	● Look for the topic sentence to understand the main idea of each paragraph.
	● Distinguish the main idea from the supporting information.
	● Ask the gist expert for help.
		Wrap-up (Summarise)
		
		● Make two questions to check if you understand the text you read.
		● Use the main idea of each paragraph to help you summarise the text (delete unnecessary information).

Appendix F: CSR Learning Logs

Name:	Class:	ID. Number:

Topic:

The ways you deal with the clunks(words you don't know)

Clunks	The way you deal with the clunks						Modifications	
	Look for contextual clues	**Guess the meaning from the key ideas**	**Look for a prefix or suffix of the words**	**Look for smaller parts of the words**	**Check a dictionary for definition**	**Still too difficult**	**Group discuss-ion**	**Teacher's explan-ation**

Make two questions to check if the members in your group understood what they read.

Summarise the main idea of this passage (100 words)

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