Fostering Learner Autonomy through a Socio-Cognitive Model of Reading Comprehension Instruction

Yen-Chi Fan[1*]

[1]*Department of Applied English, I-Shou University, Taiwan.*

Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

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ABSTRACT

Many research studies have proposed that the use of group work in teaching reading provides a social context which enhances participation, encourages sharing of ideas among group members, and increases interests for learning [1-8]. The purpose of this study aims to investigate the efficacy of a socio-cognitive reading comprehension instruction called Collaborative Strategic Reading (CSR) in fostering EFL learners' autonomous learning and strategic competence. A class of fifty-four Taiwanese engineering students received CSR instruction participating in this study. Both quantitative and qualitative data including a Likert-scale questionnaire of 22 items and group interviews about students' perspectives of CSR were collected for data analysis. The findings from the students' evaluations confirmed the effectiveness of CSR in increasing EFL university learners' interest in English learning, enhancing classroom interaction, and creating a learning environment for collaborative support. In addition, the results also showed that CSR helped the students to develop their strategic reading ability, particularly in terms of distinguishing the most important information from the supporting ideas of the texts. Based on the findings of this study, it is suggested that the socio-cognitive model of reading comprehension is beneficial to fostering learner autonomy and helpful in increasing students' reading comprehension.

Corresponding author: E-mail: fanchi@isu.edu.tw;

1. A SOCIO-COGNITIVE MODEL OF COMPREHENSION STRATEGY INSTRUCTION

Collaborative Strategic Reading (CSR) is an approach to learner-centred comprehension strategy instruction [2,9]. The aim of CSR is to help learners improve their strategic reading ability and help them take on more responsibility on their learning. 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 [10,11]. 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 [12] 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 [13] 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. [11] 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. [14], El-Dinary [15] and Pressley [16] 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. In collaboration with their peers for meaning negotiation and construction, learners internalise and challenge their cognitive strategic knowledge through small group discussions.

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 [3,4,17-21]. Holec [18] defines learner autonomy as "the ability to take charge of one's own learning" (p. 3). On the other hand, Little [19] 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 [18,20]. In a discussion of the principles of promoting learner autonomy, Cotterall [17] 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 [1,3,4,5]. Kohonen [3] 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 [4] 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 [21] and Yang [22] 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 [2,11,23,24]. 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 [25].

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 [6] 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 [5] 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.

3. METHODS

3.1 The Research Setting and Participants

This study was carried out at a university in the southern part of Taiwan. In the university, it is mandatory that all of the first year students take "Practical English" for three hours a week. All of the first year students were allocated into classes based on three levels– beginning, intermediate and advanced. An intact class of 54 students of intermediate level 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 Electrical Engineering, and Computer Information Engineering.

3.2 The Reading Materials

The reading materials used in the present study consisted of selected texts from three textbooks called *Reading for the Real World* [26], Issues for Today: An Intermediate Reading Skills Text [27] and Reading Challenge 3 ([28]. 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.

3.3 Instructional Procedures

At beginning of the instruction, the teacher described what CSR is and demonstrated the entire procedure for two weeks. A thinking aloud technique was applied to explain explicitly why, when and how to use the four reading strategies. Before reading the entire text, the teacher introduced the previewing strategy by asking students to look at the headings, pictures 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.

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. Another important strategy for students to learn during the reading activity is to identify the main idea of the text and exclude unnecessary details. 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. 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 were requested to summarise what they had learnt from the text by writing down the main idea in their learning logs to help them grasp the central themes when they needed to revisit the texts.

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. 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 [29], and they rotated the roles every two weeks to enhance their participation and experience different responsibilities of the tasks. In this study, four roles including leader, clunk expert, gist expert and reporter 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.

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.

3.4 Data Collection and Analysis

3.4.1 Questionnaire

The questionnaire asked for participants' perceptions of the CSR instruction. The questionnaire adopted a closed-ended Likert question format. 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 21 close-ended questions and one multiple choice question and it was divided into two categories. The first category (items 1-10) dealt with students' general perceptions of the CSR approach. The second category (items 11-21) asked the students to self-evaluate the impact of CSR on their English learning. Item 22, a multiple choice question, required them to tick the difficulties they had encountered during the CSR intervention.

The respondents 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.

3.4.2 Group interviews

This study adopted a semi-structured pattern for group interviews. Three groups were randomly invited for the group interviews at the end of the semester. The group interviews lasted approximately 50 minutes and the interviews were tape-recorded. 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. For the sake of confidentiality, all of the students' names are pseudonyms for the data analysis. Due to the space limit, I will not 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 later.

4. FINDINGS - RESULTS OF THE QUESTIONNAIRE SURVEY

4.1 Students' General Perceptions of CSR Instruction

The data of the students' responses to Items 1-10 regarding their general perceptions of CSR are summarised in Table 1. First, 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. 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 the "Discussion" section.

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 for my learning in CSR", 92.6% of the respondents gave positive responses.

As to Item 8, 85.2% of the students indicated that their interest in English learning increased as a result of the intervention. With regard to Item 9, 77.8% of the informants agreed or strongly agreed that they were more attentive in CSR. In addition, when asked about the feasibility of CSR, 77.8% of the students remarked that it was feasible to implement CSR in the university setting.

Table 1. Students' general perceptions of CSR instruction

Questionnaire Items	SA	A	NO	DA	SDA
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 traditionallarge 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. CSR increases myinterest in English.	12(22.2%)	34(63.0%)	6(11.0%)	1(1.9%)	1 (1.9%)
9. I am more concentrated on the class in CSR.	10(18.5%)	32(59.3%)	12(22.2%)	0 (0%)	0 (0%)
10. 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%)

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.

4.2 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 11-21) can be further classified into two sub-categories: (1) the impact of reading strategies in CSR on their reading (Item 11-15), and (2) their self-evaluation of their English abilities after the intervention (16-21).

4.2.1 Impact of instructed reading strategies in CSR on students' reading

From Items 11-15, the participants were asked to evaluate the impact of the reading strategies students learned through CSR comprehension strategy instruction on their reading.

According to the results displayed in Table 2 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.

4.2.2 Students' self-evaluation of their english abilities after the intervention

Questions 16-21 were used to elicit data concerning students' perceptions of their English abilities after CSR instruction. Based on the results tabulated in Table 3, 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 17).

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 20, 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.

4.3 Dilemmas Students Encountered in CSR

On item 22, 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.

Table 2. Impact of the reading strategies in CSR on the students' reading

Questionnaire Items	SA	A	NO	DA	SDA
11. 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%)
12. 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%)
13. 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%)
14. 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%)
15. CSR helps me summarise the articles I read.	9(16.6%)	23(42.5%)	15(27.7%)	5(9.2%)	2(3.8%)

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.

5. DISCUSSION

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.

Table 3. Students' self-evaluation of their English abilities after CSR

Questionnaire Items	SA	A	NO	DA	SDA
16. After CSR, I can read faster.	10(18.5%)	23(42.6%)	14(25.9%)	4(7.4%)	3(5.5%)
17. After CSR, my oral reading fluency has improved.	9(16.7%)	28(52.0%)	12(22.2%)	5(9.2%)	0(1.9%)
18. After CSR, my vocabulary has improved.	7(13.0%)	34(63.0%)	7(13.0%)	6(11.1%)	0 (0%)
19. 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%)
20. After CSR, my grammar has improved.	6(11.1%)	26(48.1%)	17(31.4%)	5 (9.3%)	0 (0%)
21. After CSR, my English reading comprehension has improved.	16(29.6%)	28(51.9%)	7(13.0%)	3(5.5%)	0 (0%)

Table 4. 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%)

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.

5.1 Excerpt 1

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)

5.2 Excerpt 2

Teachers dominate in the big class teaching; sometimes I have problems, but I don't dare to ask the teacher. But in CSR, I can discuss with others if I have any questions if I have any questions. (Young)

The students' responses shown above and the results of the questionnaire survey 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 [6,7,8,13]. 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 2 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 [30] 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 [1,2,3,4,5]. Researchers such as Cotterall [17] ,Holec [18] and Little [19] 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 [3] and Sinclair [20] 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 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 [18,29]. 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 self-directed for their learning. The following excerpts exemplify how CSR fostered the participants' autonomous learning:

5.3 Excerpt 3

I was not interested in English before, but now I encourage myself more to learn English. (Hong)

5.4 Excerpt 4

I am more responsible for my English learning because everyone has been assigned roles. (Jae)

5.5 Excerpt 5

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 [23,31-36]. For example, Chi [33] 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 [35] 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 [23] 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.

5.6 Excerpt 6

We stuck if there were some vocabulary or complicated sentences which nobody in the group knew how to interpret. (Young)

As Youn pointed out in Excerpt 6, 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. 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 [35] and Lee [23], 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.

In relation to the 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 7 from the group interview with the researcher(R), the students in Group 2 self-evaluate the impact of CSR on their reading comprehension.

5.7 Excerpt 7

Jae: I read faster and knew how to look for the topic sentence.
Shiang: On the whole, I understood more so that it was easier to answer the questions.
Chi: I felt more confident when answering the questions.
R: What did you do when you saw the words you did not understand?
Shiang: Guessing from the context.
Shien: Me too.
Chang: I might have given up before; while now, I would try to make a guess.

As shown in the Excerpt 7, 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. 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 earlier, 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, 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.

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 [7] and Farrell [37] 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. [38] 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.

6. CONCLUSION AND PEDAGOGICAL IMPLICATIONS

The findings from the students' evaluations provided insights into the impact of 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 the pedagogical implications for English teaching in Taiwanese contexts particularly at the tertiary level, the results of this study suggested that CSR offers an alternative approach to dealing with the problem of traditionally large teacher-centered classroom in Taiwan, where individual differences cannot be taken into account and students are passive learners without interaction with others. Through the structural framework of small group discussion embedded in CSR, students take on more responsibility for their own learning by performing the assigned roles and they have more opportunities to internalize their learning through social interaction with others [39]. Most importantly, the teacher may be able to create a more effective and active context of English

reading instruction for students so that he or she can monitor students' learning and provide instant assistance to those who need it in order to maximize students' learning potentials.

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 counselor, facilitator, observer, creators, active participant and guides [5,22]. In CSR, teachers play a new role as a facilitator and they are ready to empower students to take charge of their own learning [40]. This, however, does not mean that responsibility is all transferred to the students. As McDonell 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 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 [22] 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.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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