Peer Collaboration for Text Comprehension among Taiwanese University Learners

Yen-Chi Fan
Department of Applied English
I-Shou University,
Taiwan

Abstract

This study investigates how the Taiwanese university students collaboratively constructed meaning from the texts in an English classroom. The study is qualitative, classroom-based and examines the pattern of collaborative interaction of the EFL learners for 14 weeks. Based on the analysis of group discussions, five distinct patterns of peer collaboration emerged from the transcription data. It was found 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 results of this study suggest that, through engaging in construction of meaning with their peers, the Taiwanese university students demonstrate great amount of mutual support, feedback and guidance and have more opportunities to collectively scaffold their language development. At the end of the study, some pedagogical implications are discussed, which is believed to be beneficial for ESL/EFL teachers who are interested in increasing their instructional repertoires to maximise students' English learning.

Keywords: Peer collaboration, collective scaffolding, sociocultural theory, reading comprehension, meaning construction

Introduction

For the past decades, a large body of first and second language research has recognised the significance of peer collaboration in language classrooms. Advocates for collaborative learning call for a need to switch from the traditional teacher-dominated teaching method to a learner-centred approach in ESL or EFL instruction for the purpose of maximising learners' opportunities for language practice. Based on this line of studies, language competence is developed through social interaction such as communication, information sharing and meaning negotiation. Classrooms focusing on peer collaboration provide a non-threating environment in which learners are encouraged to clarify their meaning, explore to different viewpoints and modify their understanding, which is believed to be beneficial for learners' construction of knowledge and cognitive development (Aljaafreh & Lantolf, 1994; Dixon-Krauss, 1996; Donato, 1994; McDonell, 1992; Mercer, 2000; Storch, 2007; Swain & Lapkin, 1998).

However, despite the abundance of interesting research examining learners' collaborative interaction, much remains unanswered. Most of the existing 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; De Guerrero & Villamil, 1994, 2000). Since different task types and linguistic aspects may prompt students' involvement in dialogic interaction to different degrees, empirical studies are needed to shed some light on how L2 learners help each other in tasks with an open-ended nature such as reading for text comprehension.

The purpose of this study is to examine how the Taiwanese university students collaboratively constructed meaning from the texts and expanded our understanding of the patterns of their helping behaviours.

Literature Review

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 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, 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; 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 argue 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.

Researchers are also concerned about the nature, content and form of peer collaboration for text comprehension. 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 collaboration engaged in more conflicts within self and with text than students in teacher-led groups. 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.

Deering & Meloth (1991) investigated the content and form of elementary students' verbal interaction using a coding scheme of four categories including procedural, academic, individualistic and socio/emotional. The quantitative analysis of students' utterances during reading discussion activities found that great amount of interaction was procedural and academic talk; however, the length and cognitive development were not significant. In another study, Klinger et al. (1998) investigated the peer collaboration of fourth graders when they engaged in a comprehension strategy instruction. The results of their study indicated that 65% of the peer-led discourse was academic, 25% of the group discussion was content-related, 8% was feedback and only 2% was task unrelated.

Although the studies of Deering & Meloth (1991) and Klinger et al. (1998) add to our understanding of how learners learn to comprehend reading passages, much remains unanswered. As the quantification of peer collaboration does not provide much insight into the gradual process of intellectual development for reading comprehension, research focusing on discovering learners' collaborative efforts at meaning construction during peer discussion for text comprehension is needed.

Method

Participants

This study was conducted in a university in the southern part of Taiwan. Participants were recruited from an intact class of 54 first year non-English major students taught by the researcher. They were required to take "Practical English" three hours a week. All of the students majored in subjects related to engineering such as Electrical Engineering and Computer Information Engineering. Their English levels ranged from low-intermediate to intermediate levels.

Procedures and Instructional Materials

The instruction was composed of pre-reading, during reading and post reading tasks. In pre-reading activity, students were asked to discuss questions provided in the texts to help them activate their background knowledge related to the topics. During the reading task, they would discuss the meaning of difficult words leading to reading obstacles and tried to identify the topic sentence in each paragraph to help them distinguish the main idea from the supporting statements in the passages. After reading, students would work collaboratively to summarize what they had learnt from the texts. In the follow-up stage, the teacher involved the whole class to check students' reading comprehension. If there were difficult sentences or passages, the teacher would explain them to help the students clarify the text meaning.

The implementation period of peer collaboration lasted for 14 weeks. At the beginning of the instruction, learners were divided into 10 small collaborative peer-led groups consisting of 5 or 6 people. There were four roles assigned to the group members, namely leader, clunk expert (dealing with difficult words), gist expert and reporter to scaffold their content learning and reading comprehension (Cohen, 1994; Klingner et al., 1998). Students decided how the roles could be allocated. They stayed in their original group but rotated the roles on a regular basis to foster their participation and experience different responsibilities of the tasks.

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.

Data Collection and Analysis

The technique of audio-recording was used to investigate how the university learner collaboratively constructed meaning from the texts. Group discussions were audio-taped at the beginning, middle and end of the instruction to examine the nature of peer collaboration. Three out of ten groups (Group 2, 5 & 6) were randomly selected to be recorded and 9 recordings of group discussions in total were collected for data analysis. 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). The recordings were transcribed verbatim first, and Mandarin, the students' mother tongue which was mainly used for group discussions, was then translated into English for the ease of presentation of the data analysis.

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 inquiry of this study.

The next step was to further investigate the categories by applying the principles of axial coding (Flick, 1998; 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.

Findings

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:

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).

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 between "lonely" and "alone".

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

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

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

3. 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 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.

Appeal for Assistance

Throughout the 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".>

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.

Prompts

Besides 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. Despite 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!>

Discussion

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. Based on the data analysis, 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 11, 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 11 (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: 這段主旨怎麼是第一句呢？<Why the topic sentence of this paragraph

          is the first one?>

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 Excerpt 9), 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 the previous section (Excerpt 8). Another example from Group 5 is presented in Excerpt 12 below.

Excerpt 12 (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.

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. 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.

Conclusion and Pedagogical Implications

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. Such assistant behaviour was evident in abundant episodes where the learners engaging in peer-led group discussions 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 EFL learners used multiple techniques of prompting in the process of problem-solving activities. Different prompting strategies were used, 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.

Furthermore, it was found that the provision of corrective peer feedback was an important means of aiding text comprehension. 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.

In terms of the pedagogical implication, this study suggests 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; Foster & Ohta, 2005; Lantolf & Appel, 1994). The implementation of peer collaboration 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, 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.

About the Author

Yen-Chi Fan is an associate professor of Applied English Department at I-Shou University in Taiwan. Her research interests include sociocultural theory, comprehension strategy instruction, collaborative learning, and second culture teaching and learning.

References

Aljaafreh, A., & Lantolf, J. P. (1994). Negative feedback as regulation and second language learning in the zone of proximal development. *The Modern Language Journal, 78*, 465-483.

Almasi, J. (1995). The nature of fourth graders' sociocognitive conflicts in peer-led and teacher-led discussions of literature. *Reading Research Quarterly*, *30*, 314-351.

Anton, M., & DiCamilla, F. (1999). Socio-cognitive functions of L1 collaborative interaction in the L2 classroom. *The Modern Language Journal, 83*, 233-247.

Carroll, S. & Swain, M. (1993). Explicit and implicit negative feedback: An empirical

study of the learning of linguistic generalizations. *Studies in Second Language*

Acquisition, 15, 357-386.

Cohen, E. (1994). *Designing group work: Strategies for the heterogeneous classroom* (2nd ed.). New York: Teacher College Press.

Deering, D. & Meloth, M. S. (1991). A descriptive study of naturally occurring discussion in cooperative learning groups. *Journal of Classroom Interaction*, *28*, 7-13.

De Guerrero, M. C. M., & Villamil, O. S. (1994). Social-cognitive dimensions of interaction in L2 peer revision. *The Modern Language Journal, 78*(4), 484-496.

De Guerrero, M. C. M., & Villamil, O. S. (2000). Activating the ZPD: Mutual scaffolding in L2 peer revision. *The Modern Language Journal, 84*(1), 51-68.

Dixon-Krauss, L. (1996). Vygotsky's sociohistorical perspective on learning and its application to western literacy instruction. In L. Dixon-Krauss (Ed.), *Vygotsky in the classroom: Mediated literacy instruction and assessment* (pp. 7-24). New York: Longman Publishers.

Donato, R. (1994). Collective scaffolding in second language acquisition. In J. P. Lantolf (Ed.), *Vygotskian approaches to second language research* (pp. 33-56). Norwood: Ablex Publishing Company.

Flick, U. (1998). *An introduction to qualitative research*. London: Sage Publications.

Foster, P., & Ohta, A. S. (2005). Negotiation for meaning and peer assistance in second language classrooms. *Applied Linguistics, 26*(3), 402-430.

Klingner, J. K., Vaughn, S., & Schumm, J. S. (1998). Collaborative strategic reading during social studies in heterogeneous fourth-grade classrooms. *The Elementary School Journal, 99*(1), 3-22.

Lantolf, J. P., & Appel, G. (1994). Theoretical framework: An introduction to Vygotskian approaches to second language research. In J. P. Lantolf & G. Appel (Eds.), *Vygotskian approaches to second language research* (pp. 1-32).

Norwood: Ablex Publishing Co.

Malarcher, C., & Janzen, A. (2005). *Reading challenge 3*. New York: Compass Publishing Inc.

McDonell, W. (1992). Language and cognitive development through cooperative group work. In C. Kessler (Ed.), *Cooperative language learning: A teacher's resource book* (pp. 51-64). Englewood Cliffs: Prentice Hall.

Mercer, N. (2000). *Words and mind: How we use language to think together.* London: Routledge.

Ohta, A. S. (1995). Theoretical issues in examining learner-learner interactions. *Issues in Applied Linguistics, 6*(2), 94-121.

Silverman, D. (2001). *Interpreting qualitative data: Method for analyzing talk, text and interaction*. London: Sage Publications.

Smith, L. C., & Mare, N. N. (1995). *Issues for today: Book 3* (3rd ed.). Boston: Thomson Heinle.

Storch, N. (2007). Investigating the merits of pair work in a text editing. *Language Teaching Research, 11*(2), 143-159.

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park: Sage Publications.

Swain, M. (2000). The output hypothesis and beyond: Mediating acquisition through collaborative dialogue. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 97-114). Oxford: Oxford University Press.

Swain, M., & Lapkin, S. (1998). Interaction and second language learning: Two adolescent French immersion students working together. *Modern Language Journal, 83*, 320-377.

Swain, M., & Lapkin, S. (2000). Task-based second language learning: The uses of the first language. *Language Teaching Research, 4*, 251-274.

Tudge, J. (1990). Vygotsky, the zone of proximal development, and peer collaboration: Implications for classroom practice. In L. C. Moll (Ed.), *Vygotsky and education: Instructional implications and applications of socio-historical psychology* (pp. 155-172). Cambridge: Cambridge University Press.

Vygotsky, L. (1978). *Mind in society*. Cambridge: Cambridge University Press.

Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry, 17*, 89-100.

Zwier, L. J., & Stafford-Yilmaz, L. (2004). *Reading for the real world 2*. New York: Compass Publishing.