The Nature of Peer Interaction:
Role Relationships Formed in Pair Interaction

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This study examines the nature of peer interaction, in particular pair interaction, of adult learners engaged in a range of activities in naturalistic EFL lessons. Six pairs engaged in seven different activities followed by a stimulated recall interview. Data from the transcripts of the audio-recorded pair talk and interviews were analysed to describe different types of pair interaction according to mutuality and equality. Five different types of pair interaction were observed during pair work: collaborative, cooperative, dominant/passive, expert/passive and expert/novice. Only one pair displayed a single type of pair interaction while the others showed more than two types of pair interaction. However, on the last activity, all six pairs showed collaborative interaction. These findings suggest that pair interaction can be collaboratively enhanced in a socially developed relationship between learners over time.

Key words: collaborative learning, peer interaction, social relationship, pair work

1. INTRODUCTION

Over the past 30 years, second language acquisition (SLA) research has increasingly focused on second language (L2) interaction and its importance in the language learning process. This area of research has tended to focus on the interaction between L2 learners and native speakers or language teachers based on Long's (1983) interaction hypothesis, rather than on peer interaction. However, research findings on peer interaction adopted from sociocultural theory have clearly revealed its differences from other types of L2 interaction (e.g. Mackey, Oliver & Leeman, 2003; McDonough, 2004; Sato & Lyster, 2007), and the socially constructed nature of peer interaction and its significance to L2 learning (e.g. Brooks, Donato & McGlone, 1997; Swain, Brooks & Tocalli-Beller, 2002;

Swain, 2006; Watanabe, 2008). Based on their research findings, Philp, Adams, and Iwashita (2014) argued that peer interaction could provide a context for experimenting with the target language for learners. In order to better understand the complex nature of peer interaction and to maximise opportunities for L2 learning through peer interaction in contexts of foreign and second language learning, more investigations based on sociocutural perspectives are necessary. Sato and Ballinger (2016, p. 1) suggest advancing the field of peer interaction "by closely examining the nature of peer interaction, determining and testing mediating factors affecting L2 learning during that interaction, and seeking ways to maximize its pedagogical potential". Therefore, this study investigates the first central question, namely, the nature of peer interaction. The aim of this study is to examine and describe the nature of pair interaction when adult learners are engaged in seven different language-related activities in a college classroom setting. In order to understand the nature of peer interaction, this study focuses on the role relationship between the learners. Specifically, the research question is: how do learners interact with their partner while accomplishing the language learning activities in college EFL lessons in South Korea? It is hoped that the answers to the questions can provide increased information and a detailed description of the processes of interaction between learners. Thus, this study aims to contribute to knowledge about language learning via peer interaction as it occurs in EFL contexts, as well as informing and illuminating classroom practice.

2. LITERATURE REVIEW

2.1. Peer Assistance

Sociocultural researchers on SLA regard language acquisition as internalisation of L2 through social interaction and they believe that language acquisition happens through a dynamic transformative process (Wertsch, 1985). Internalisation of social interactive processes occurs in the zone of proximal development (ZPD). Vygotsky (1978, p. 86) defines ZPD: "It is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers". The meaning of the ZPD in the Vygotskian sense is extended in SLA to mean "the difference between the L2 learner's actual development level as determined by independent language use, and the higher level of potential development as determined by how the target language is used in collaboration with a more capable interlocutor" (Ohta, 1995, p. 96). Although Vygotsky views the partner providing assistance in ZPD as a more

knowledgeable other, the SLA researchers apply his idea to a broad range of learning situations beyond novice-expert interaction, including other learners (van Lier, 1991). However, the question is whether the learners are able to provide assistance conducive to each other's language learning in the case of pair or group work, which is a common practice in language classroom contexts. The answer to this question is shown by applying the extended use of ZPD in SLA studies.

Some research found that learners could play the role of the more knowledgeable other, comparing teacher-learner interaction and learner-learner interaction. For example, Lantolf and Aljaafreh (1995) examined interaction between adult ESL learners and a non-native tutor. The learners were shown to make language learning progress in ZPD through developmental assistance in tutoring sessions and also through peer interaction where there was no clear expert present. Ohta (1995) compared language use by the learner in teacher-fronted and pair-work contexts in order to examine the effects of a collaborative pair-work task. The students in pair work were shown to perform at a higher level of competence. The findings of these studies suggest that learners can assist each other with little or no expert guidance from their teacher.

Other research found that in the process of peer interaction, learners tended to take the role of the expert in turn (e.g. Kowal & Swain, 1994) or to provide a mutual or collective scaffold to each other (e.g. Donato, 1994). Differential linguistic strengths and weaknesses among peers allow the ZPD to become obvious in groups or pairs when experts are not present and may be pooled in order to be complementary (Donato, 1994; Lantolf & Aljaafreh, 1995; Ohta, 2000, 2001; Swain, 2000, 2010). These studies have shown how peer interaction can scaffold or mediate language development, providing guidance in students' ZPD effectively through the use of various interactive strategies.

Donato (1994), who was one of the first to base research in L2 on sociocultural theory, investigated how L2 development occurs through a triadic planning task and found evidence of mutual assistance in his data. He discovered that the learners were novices individually but simultaneously they were experts collectively: they presented sources of new orientations for each other and also guided each other through complex linguistic problem solving. The important finding of Donato's research is that it introduces the concept of collective mutual scaffolding, which refers to the interaction in which "second language learners mutually construct a scaffolded output of the discursive process of negotiating contexts of shared understanding" (p. 42). That is, groups act as collectives: there is no one clearly identifiable expert in such groups, but, instead, acting as a collective members of the group draw on their mutual resources to solve problems in a task.

Other important research was conducted by Ohta in 2001. She has shown that all learners benefit from peer interaction, whether with more or less proficient learners. Certainly, more proficient learners provide more assistance and less proficient learners

make more gains, but even proficient learners benefit via interaction with less proficient peers. For the more proficient learners, this interaction can enhance their fluency and their awareness of own knowledge status. It can therefore be said that peer assistance is mutual. Like Donato's finding, Ohta found that each learner has strengths and weaknesses that occur in peer interaction: when the learners work together and are able to pool their knowledge, they can create a greater expertise as a group or pair than as individuals.

The research described above shows that, as Lantolf (2002) states, expertise can be collaboratively constructed in dialogic interaction between/among learners who share their learning goal in order to solve a linguistically based problem. The extended views of ZPD and scaffolding in L2 seem to contribute to the justification of language learning through peer interaction in L2 classrooms. The basic assumption underlying the advocacy of peer interaction of L2 is that L2 learners can provide the same kind of support and guidance for each other as adults do for children in the situation of 1LL. Additionally, ZPD is constructed through mutual scaffolding between learner and learner, and this mutual scaffolding contributes to each learner's development. Many L2 researchers (Anton & DiCamila, 1998; Swain & Lapkin, 1998; Villamil & de Guerrero, 1998) regard learners themselves as a source of knowledge in the social context of L2 learning, and concede that there are benefits of language learning through peer interaction. Therefore, learners themselves should not be excluded and ignored in the category of more knowledgeable others since collaboratively constructed peer interaction can create learning expertise. For this reason, this study focuses on both the social context and the dynamics of the relationship between individual learners.

2.2. The Type of Peer Interaction

The studies mentioned above show that peers can concurrently be both experts and novices, providing assistance to each other in order to achieve a higher level of performance. However, some research has demonstrated that not all peer interaction provides an occasion for learning: only certain types of interaction can be more conducive to L2 learning than others and provide learners with opportunities for language learning (e.g. Lee & Lee, 2013; Storch, 2002). In order to understand the relationship between peer interaction and language learning, it is important to closely investigate how learners interact with their partner while performing pair work.

The study by Donato (1994) found that learners in the collective groups pooled their incomplete knowledge and co-constructed resolutions to language related issues, providing each other with valuable assistance. He labelled such situations as 'collective scaffolding'. On the other hand, it was relatively hard to find the features of collective scaffolding in the loosely knit groups. As Storch (2002) mentions, Donato's findings are significant for

research on peer interaction in that the findings emphasise the need to take into consideration the type of peer interaction functioning in any research on peer interaction. However, Donato's focus on groups was simply to divide them into groups of collective scaffolding or loosely knit clusters. Other types of group formation are hard to account for, such as the expert/novice relation.

In Storch's (2001, 2002) longitudinal investigation into the pattern of interaction in an adult ESL classroom context, she demonstrates that not all peer group work collaboratively. Drawing on the work of Damon and Phelps' (1989) three types of peer interactions including peer tutoring, cooperative learning and peer collaboration, Storch reports a series of findings that describe specifically four distinct patterns of dyadic interaction: collaborative, dominant/dominant, dominant/passive and expert/novice. The patterns are distinguishable in terms of two intersection criteria: equality of contribution and mutuality.

In the collaborative pattern, learners work together in order to complete the task and help each other. They seem to prefer to interact with each other when left to their own devices. In dominant/dominant pattern of interaction, even if learners work jointly and contribute equally to the task, they tend to fail to engage with each other's contribution. In the dominant/passive pattern, the dominant participant takes control of the task with an authoritarian stance and the other participant tends passively to engage in the task in a subservient role. In expert/novice pairs, the expert participant takes control of interaction, but this participant actively encourages or assistants the novice to participate. Storch (2002) labelled these four patterns of dyadic interaction, but it is possible to find a role relationship that would not be identifiable according to Storch's classification. Using Storch's framework, Watanabe and Swain (2007) identified an expert/passive pattern of interaction in which task engagement of the passive learner was decreased because they felt intimidated and reluctant to say something to their partner, despite the consistent encouragement of the expert. Such a pattern of peer interaction was not identified in Storch's study. It implies a need for further study in this area in order to depict other possible types of pair interaction according to the degree of equality and mutuality.

Storch's findings suggest that collaborative orientation such as collaborative and expert/novice patterns are more conducive to language learning than non-collaborative orientation like dominant/dominant and dominant/passive patterns in that the former showed a great number of instances of knowledge transfer. More interestingly, in Storch's study pairs in non-collaborative orientation showed more instances involving either no transfer of knowledge or missed opportunities for learning.

Based on the findings of the above studies, it can be said that all peer interaction does not necessarily lead to language learning. For guiding language learning through peer interaction, interactions need to be characterised as collaborative. When learners work together, using such methods as co-construction of new knowledge, peer assistance and

solving problems together, the opportunities for language learning can only be increased and the process can thus be helpful to language learning. Therefore, in studies on peer interaction and language learning it is important to understand the type of peer interaction, such as how learners engage with each other and how they engage in activities. For this reason, this study focuses on examining and describing the role relationship between the learners when they are engaged in pair work in naturalistic EFL lessons. In order to understand the nature of peer interaction, this study explores.

3. METHODOLOGY

3.1. Context of the Study and Participants

This study was classroom based. It was implemented in a Tourism English course at a college in South Korea. As an EFL credit subject, the course was open to students in the Department of Tourism Management. The aim of the course was to develop language skills in relation to tourism English within a curriculum. With this in mind, students took a lesson for two hours per week for one semester. The researcher taught three classes of approximately 28 to 30 students.

TABLE 1

Participants

Class No.	Pair No.	Name (Pseudonym)	Mock TOEIC[1] Score	Relative English Proficiency among participants	Gender	Age
Class A	Pair 1	Hyuk	680	High	Male	23
		June	450	Low	Male	23
	Pair 2	Min	750	High	Male	22
		Jang	730	High	Male	20
Class B	Pair 3	Mia	760	High	Female	19
		Sung	600	Intermediate	Male	19
	Pair 4	Young	800	High	Male	19
		Jimin	650	Intermediate	Male	19
Class C[2]	Pair 5	Jina	780	High	Female	24
		Sun	310	Low	Female	43
	Pair 6	Mijin	610	Intermediate	Female	23
		Chang	600	Intermediate	Male	27

The twelve students were selected from three classes (i.e. two pairs in each class): the

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[1] The college provided a mock TOEIC test for the first-year students which they had to take on a specified date in the first semester.
[2] Class C was an evening course.

entire class was allowed to work in the same self-selected pairs throughout the whole semester. The students came from a range of backgrounds as seen in Table 1 that presents a brief profile of each participant. What the reasercher expected from the participants was not representativeness or typicality of peer interaction in language lessons but diversity of peer interaction according to their different levels of English proficiency, their age and sex. The diversity was not utilised to compare the differences, but to gather fruitful data from the range of participants. Thus, in order to carry out detailed investigations into the individual processes involved in the pair interactions, six pairs were selected for closer analysis.

Seven different language-related activities were used as the main data collection instrument to record the processes of peer interaction undergone by the learners while accomplishing the activities. There were two main methodological purposes of the activities. One was to provide the learners with an opportunity to engage with each other in the process of activity performance. The second was to encourage the learners to reflect on the tourism English by working on the activities. The following is a description of each activity used in the study.

Activity one: Filling in the blanks
Students were asked to fill in each blank of a presented dialogue using a word or words found in a given box. This activity provided pre-selected language items that learners were required to use. The intention of the activity was to enhance vocabulary learned in the lesson and to show how to use the vocabulary in a real conversation about how to book a round-trip ticket.

Activity two: The different time zones
After practising a given sample dialogue, students were asked to compose a dialogue about the different time zones, using presented clocks. This activity provided the learners with conversational practice that included expressions such as 'ahead of' or 'behind'.

Activity three: An information activity
After reading a notice about restricted items on flights, students were asked to answer three questions related to the notice. The main focus of the activity is on learners' comprehension of the given text, but there is another implicit aim. The given text contained comparative forms such as 'less than', 'more than' and 'bigger than' and the three questions actually tested learners' understanding of the meaning of the comparative form. Thus, besides a comprehension check, the subsidiary focus of this activity is on learning how to use the comparative form.

Activity four: Jumbled dialogues

Two jumbled dialogues related to seats were presented to students: one situation was about looking for a window seat and the other was about asking for empty seats that were together. The given dialogues are real world examples for learners, not only regarding what people do in a particular situation, but also how they deal with such a situation.

Activity five: Reconstruction of text

The given text about how to complete an immigration card contains some errors. Students were asked to reconstruct the text in order to produce one that is meaningfully and grammatically correct. The grammatical structures included a focus on subject-verb agreement, verb inflections and plural inflections. The lexical focus included changing a modal verb and an adverb, depending on the meaning of the text.

Activity six: Making a story

Twelve word cards were provided to students. The students were asked to choose at least five cards from these and use them to make a story. The words on the cards were related to travel English. There was no predetermined or finite solution. However, the intention was to use the cards to induce the learners to employ expressions learned in previous lessons and activities. The activity could therefore provide them with an opportunity to freely practice what they had learned.

Activity seven: Adding a sentence

The topic of this activity was holidays. Using the topic, students were asked to start with one sentence, then join a new sentence to the previous sentence, making a chain of at least 10 sentences. With the suggested topic, learners would be free to decide on the composition of their story and the outcomes would vary.

As can be seen, the content of all the activities was linked to the course syllabus involving the tourism English. These activities were not formally assessed but formed part of the regular class work to give students opportunities to practice English expressions they had been exposed to in class. The students were expected to use various aspects of their English ability.

3.2. Data Collection Procedure

Data were collected in three of the researcher's own courses over a seven-week period during the Spring semester. Students were asked to complete seven activities in pairs. They were told that if they felt that their L1 would be helpful to them in completing the activities, they should feel free to use it. The dialogue of the pairs was audio-recorded as they worked

on the activities and the audio-recorded data were transcribed verbatim. In addition, observation notes were made by the researcher while the students completed the assigned activities in pair work or immediately following the class. Given that the researcher was the lecturer who was responsible for the entire class, observation notes were fairly brief and were of the most salient behavioural features. The features were marked when transcribing the dialogues of the pairs. The transcription of the pair talk as the main source of data used to describe the pair interactions attempted to reflect the nature of peer interaction and to represent the interaction as it occurred.

Unlike the previous studies on pair interaction that relied only on recorded pair talk, in order to gain an understanding of pair interaction from learners' perspectives, this study included stimulated recall interviews (SRI) as another important source of data. In particular, as Gass and Mackey (2000) insist on the importance of introspective method, this study chose SRI to reveal participants' cognitive processes regarding interaction while performing activities with their partner. Therefore, all participants were interviewed individually after each lesson (i.e. seven times each). SRI took place within two days of the original activity performance because individual interviews were closely related to the information gathered through the audio recordings of pair work. The interviews were audio-recorded and conducted in the researcher and participants' first language, Korean. The interview data were transcribed and for the purpose of this report, some parts of the transcriptions were translated into English.
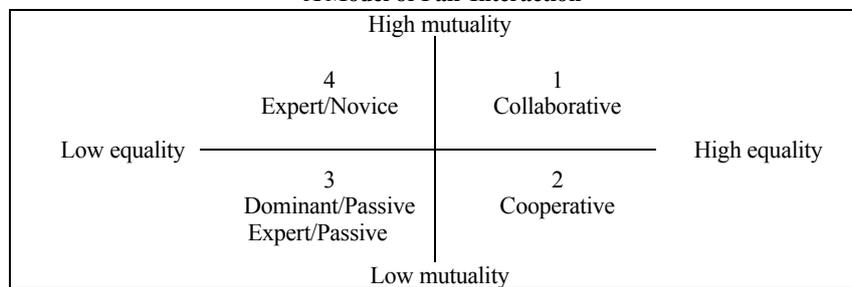
3.3. Data Analysis

In order to examine how each pair approached and completed the activities, transcribed pair talk data were analysed by following five steps. For the preliminary steps, pair talk data were segmented into types of episodes. Then the segmented data were used to examine the nature of the episodes, such as how episodes were initiated and how the pair responded to each other. The detailed analysed episodes were then examined by the level of learner engagement. According to the nature of response, including the nature and direction of assistance, the level of involvement was identified as non-, low, medium or high interactive. Based on the salient features of episodes and the level of engagement, different types of pair interaction were recognised to describe the role relationship of each pair. Following Storch's (2002) model of dyadic interaction, the two indices, for equality and mutuality, were used to distinguish a different role relationship for each pair. In this study, according to the level of involvement coded from non-interactive or low to high interactive, the degree of mutuality, which refers to the level of engagement with each partner's contribution, was determined. For determining the level of equality, defined as the degree of control or authority over the activity, the coded data of the features of episodes

were used: how the pairs approached each activity, who initiated the episodes and who contributed to solve the problems. The observation notes and the stimulated recall interviews were used to supplement this analysis.

Five distinct types of interaction emerged from the process of data analysis and were labelled as collaborative, cooperative, dominant/passive, expert/passive and expert/novice. Adopting Storch's (2002) graph, these five types could be graphically represented by four quadrants as shown in Figure 1.

FIGURE 1
A Model of Pair Interaction

	High mutuality	
	4 Expert/Novice	1 Collaborative
Low equality		High equality
	3 Dominant/Passive Expert/Passive	2 Cooperative
	Low mutuality	

It is important to note, as Storch (2002) has acknowledged, that learners could perform differently according to the type of activity, and multiple types of pair interaction might emerge during a single activity of pair work. Therefore, pair interaction was coded separately for each activity and if learners changed attitudes to their interaction during a single activity performance, each type of pair interaction was coded due to the importance to explore and fully understand the nature of pair interaction.

4. RESULTS

Table 2 displays the type of pair interaction for each pair in the seven activities. As can be seen, only one pair (pair four) among the six displayed the same type of pair interaction across the seven activities, the others showing more than two types of pair interaction. Only three types of pair interaction were dominantly displayed in 42 cases of pair work: collaborative, cooperative and expert/novice. The other types, dominant/passive and expert/passive, were found only once and even these types changed to other types while performing an activity. Although these types might not be significant, it is necessary to see how the types changed during a single activity performance.

TABLE 2
The Type of Pair Interaction in the Activities

Activity No.	Pair 1 Hyuk / June	Pair 2 Min / Jang	Pair 3 Mia / Sung	Pair 4 Young / Jimin	Pair 5 Jina / Sun	Pair 6 Mijin / Chang
1	Expert / Novice	Cooperative	Expert / Novice	Collaborative	Expert / Novice	Cooperative
2	Expert / Novice	Collaborative	Collaborative	Collaborative	Expert / Novice	Collaborative
3	Expert / Passive → Novice	Collaborative	Cooperative	Collaborative	Expert / Novice	Collaborative
4	Expert / Novice	Cooperative	Collaborative	Collaborative	Expert / Novice	Collaborative →Dominant/ Passive
5	Expert / Novice	Collaborative	Collaborative	Collaborative	Collaborative	Collaborative
6	Expert / Novice	Collaborative	Collaborative	Collaborative	Collaborative	Collaborative
7	Collaborative	Collaborative	Collaborative	Collaborative	Collaborative	Collaborative

In order to highlight salient features of each type, following sections present five different types of pair interaction with excerpts from the data.

4.1. Collaborative Type of Pair Interaction

Collaborative interaction was predominantly found in most pair interaction. In a collaborative relationship, the pair tends to work together on most parts of performing an activity, including deciding the activity direction and the problem-solving process by engaging in the activity with equal or similar involvement. In the problem-solving process, learners pooled their resources via collaborative dialogue, such as frequent requests, questions and elaborative explanations.

Pair talk data revealed how to request and provide assistance when learners were struggling. The following excerpt shows how Sung and Mia solved the grammar-related problem. Sung had a difficulty expressing his idea in English and asked Mia about it (line 20). In response to the question, Mia produced the sentence in English (line 21). However, Sung did not understand the use of 'must have had' and suggested another expression (line 22). Challenged, Mia elaborately explained why her suggestion should be accepted (line 23). As a means of agreeing to the suggestion, Sung expressed his understanding of the explanation (line 24).

Excerpt 1: Pair talk in activity 6[3]

20 Sung: Wow. Umm …   (I would like to say "you must have had a great time: Korean translation". How do you say it?)

21 Mia: Um … you must must … have had a great time.

22 Sung: must have had(?)   (If you just say 'you had a great time', is this wrong?)

23 Mia: (Ah:: As far as I know, the meaning of 'must have plus p.p.' is to indicate that you believe that something was happening in the past. So, you need to use 'you must have had a great time'.)

24 Sung: (Right. So I can say that 'you must have had a great time' Okay.)

25 Mia: Good.

Both learners recalled that they came to clearly understand the meanings of the two expressions owing to Sung's other-suggestion (Excerpt 2 and 3). Webb (2002) says that explainers can be encouraged to clarify and reorganise material to make it understandable to others in the process of formulating explanations, and receivers can correct their own misconceptions and strengthen connections between new information and previous knowledge in the process of receiving the explanations. Thus, the act of providing and receiving the explanation may be beneficial for language learning.

Excerpt 2: Mia's SRI[4]

23[5]   When I heard Sung's question, I wondered whether I was wrong. By verbalising the meaning of 'must have p.p', I thought it was right. While explaining it, I could organise my thoughts.

Excerpt 3: Sung's SRI

23   At first, I didn't understand why she used 'must have had', but Mia explained it well. After listening to it, I could know the meaning.

The resolutions in language-related episodes (LREs), which are interpreted as segments of dialogue that illustrate what learners attend to and then the process with which they resolve the linguistic problems that arise via interaction (Swain & Lapkin, 1998), were

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[3] The transcription conventions used in this study are as follows:
   (in English) Brackets indicate translation made by the researcher
   ('hi') Single quotation marks in brackets indicate original language of the speaker
    ("hi: Korean translation) Double quotation marks with the words, Korean translation, in brackets mean to re-translation from translation made by the speaker into Korean to English by the researcher
[4] Interview comments were translated from the original language, Korean, to English.
[5] The number of stimulated recall comments is matched with the line of pair talk transcription.

resolved not only through assistance provided by one learner but also through a process of mutual assistance. As Donato (1994) has shown, learners are able to offer each other assistance regardless of their linguistic abilities. Sometimes, they provided co-constructed solutions beyond their current knowledge. Excerpt 4 displayed evidence of co-constructive assistance through dialogic interaction. In order to make the sentence, 'how long does it take to London by plane?', the pair mutually assisted each other. When they were puzzling over a choice of a proper subject, they did not achieve the answer simply through individual reflection. Rather, they consistently talked about the difficulties and eventually found the solutions. Mijin's questioning triggered Chang to find the proper subject (line 8) and by verbalising each possibility, this pair ultimately solved their problem (line 9). As Swain (2000) argues, through reciprocal verbalisation in trying to produce the sentence correctly, they came to reflect on the language form, identify their knowledge gaps and finally find solutions. These learners could build competence via co-construction (Ohta, 2001).

Excerpt 4: Pair talk in activity 2
4   Chang: How long:: take to London?
5   Mijin: (Ah: doesn't it miss the subject?)
6   Chang: (Subject?) Flight? How long does flight(?) … take to London?
7   Mijin: (By plane, plane is not the subject …)
8   Chang: Okay okay. ('IT' because of time)
9   Mijin: (Right. It) How long does it take to London?
10   Chang: Right.

Both learners recalled the process of producing the sentence:

Excerpt 5: Mijin's SRI
5   I knew the subject in the sentence made by him was missing, but I didn't know how to correct it.
9   When he said 'it', I knew 'it' was correct. Then we made the sentence to London, but we puzzled to how to say by plane.

Excerpt 6: Chang's SRI
7   When Mijin said the plane was not the subject, the word 'it' occurred to me.

Their recall displayed that listening to their partners' comments triggered their own thoughts and achieved solutions to the problems. Wells (2000) points out that not only by saying and responding but also by listening to someone provides opportunities for

developing a student's own understanding. Therefore, their recall verified that producing the sentence was reached through the dialogic interaction of co-construction.

When disagreements arose, learners in collaborative interaction negotiated the problem to reach consensus. They reached resolutions accepted by both through verbalising the problem reciprocally, not through individual reflection. For example, excerpt 7 illustrates how they resolved the pair's disagreement over the grammatical choice. Min did not agree to Jang's suggestion, pointing out the past progressive tense via other-repetition (line 36). As Ohta (2001) mentions, the repetition of an erroneous utterance could provide Jang with an opportunity to reflect on and work to repair his own utterance. Jang explained why he chose the tense form and, after a few seconds, requested a confirmation of his other suggestion (line 37). In response to Jang's request, Min agreed to the suggestion with an elaborative explanation (line 38). After saying the sentence but changing the verb form to past tense, Jang accepted the resolution (line 39). The excerpt shows that the pair tried to resolve their disagreement by offering explanations and justifications in order to support their own view and persuade their partner.

Excerpt 7: Pair talk in activity 7

35   Jang: On on on the way home, I was:: thinking about my next holiday.
36   Min: Was thinking? (Suddenly past progressive?)
37   Jang: (Ah:: I mean I was thinking on the way home … Is this simple past?)
38   Min: (As the meaning of simply thought, isn't it correct to use 'thought'? I think so.)
39   Jang: (Um:: Is that so?) I thought about my next holiday. (Um:: It seems right.) (It's better to use simple past.) Okay. (Decided to say 'I thought'.)

Moreover, collaborative learners were able to self-correct without any assistance from others over time. They seem to learn how to monitor and correct their own performance without relying on another's assistance in the process of collaborative interaction. These features were found from some learners while performing the last activity. For example, excerpt 8 shows that June solved a problem by himself without receiving any hints or assistance from his partner. June corrected the error of a verb form while repeating his utterance (line 34). it seems that he learned how to monitor and correct his performance without any help.

Excerpt 8: Pair talk in activity 7

34   June: Airport closed no no airport was closed because of the earthquake.
35   Hyuk: Right. Airport was closed. Good.

36   June: (Passive form)
37   Huyk: (Yes, passive form.)

Excerpt 9 shows that Jimin also realised his mistake in the process of making a past tense negative question and successfully self-corrected it.

Excerpt 9: Pair talk in activity 7
20   Jimin: You: no did you:: no didn't you: lose anything in your bag?

Through repeated practice acquired during previous activities, it seems that both learners learned how to monitor and self-correct their own performance rather than relying on their partner. As Ohta (2001) argues, this kind of experience may not only build enough confidence for the learner to successfully produce their own utterance but also promote self-correction.

4.2. Cooperative Type of Pair Interaction

Four cases of a cooperative type of pair interaction were found in pairs two, three and six. In this type, the learners tended to contribute to activity completion at a similar or equal level, but they rarely engaged with each other. It is hard to find occasions when the learners invite their partner in the process of problem solving or seek assistance from each other. Rather, they tend to resolve the problems individually.

In Storch's pattern, this type is labelled as dominant/dominant in that although both learners contribute the activity, they have unwillingness to fully engage with each other and in their discourse, they do not reach an agreement but frequently show disagreement on a problem. Unlike in Storch's analysis, I have hardly found any unwillingness to work together or disagreement. Rather, as Damon and Phelps (1989) explain, pair talk shown as cooperative interaction in this study reflects that learners seem to have sole responsibility to each part of the activity without providing or receiving assistance to each other or suggesting their own opinion on the activity. Therefore, the cooperative nature of interaction is labelled in relation to division of labour.

Excerpt 10 shows that the correct words for the blanks were suggested by a series of monologues. Min read the dialogue, adding the correct answer in the blank and explaining the reason that he chose the answer. However the explanation seems self-directed: even though the speech may look communicative, it seems that there is no expectation of a response (line 10). As a response to Min's utterance, Jang's phatic utterance followed. In Jang's turn, he also showed self-directed speech: talking to himself he said that he needed to read the next dialogue before suggesting answers for the blanks (line 11). After Jang's

long monologue, Min also merely answered with the phatic utterance, 'yes'. Although Jang asked his partner to confirm his suggestion (line 13), it seems that he did not intend to seek assistance from Min. Rather, it seems to be just a formal request. In response to Jang's request, Min simply confirmed his partner's suggestion without any challenges or comments (line14).

> Excerpt 10: Pair talk in activity 1
> 10   Min: 'Just my luck. Put me on your::: … waiting list for Saturday and book me for Sunday, please.' (Have to wait. So, the answer is 'waiting list'.)
> 11   Jang: Right. (Ah:) 'Certainly, sir. What about the::' … (This sentence is too short so that I can understand after reading next sentence. Skip it:) 'Do you have a:: in mind or do you want an::' (Um:: the answer is 'open ticket, please' so it is 'do you want an open ticket'.)
> 12   Min: (Yes.)
> 13   Jang: (The first blank might be 'fixed date in mind' and before the blank: Ah:) 'What about the return date?' Right?
> 14   Min: Yeah.

Both learners seemed not to intend to discuss the solution of the problem by providing and receiving any assistance. Rather, they seem to have taken respective responsibility for each part of the activity.

4.3. Dominant/Passive & Expert/Passive Types of Pair Interaction

Dominant/passive and expert/passive types were found only in the case of pair one in activity three and pair six in activity four. Interestingly, both types changed during a single activity performance: dominant/passive changed from being collaborative, whereas expert/passive changed to expert/novice. This implies that learners can change their attitude during an activity, even if working with the same partner.

In the case of dominant/passive, the dominant learner tends to lead the activity by initiating conversation, suggesting own ideas and solving problems by oneself. The other learner, who seems to be passive, tends to accept partner's suggestions or solutions without any challenges or contributions. Thus, there is no negotiation between them and their talk reflects low level of interaction, as seen in Excerpt 11. Chang and Mijin started the fourth activity collaboratively in the problem-solving process with a discussion of the meaning of a word, then continued by translating each sentence in the given dialogues into Korean and sharing their understanding of the two dialogues. However, when they started sequencing the jumbled dialogues, Mijin appropriated the activity and proceeded to complete it on her

own. When Chang asked for sequencing of second dialogue (line 27), Mijin went into a long monologue without involving Chang in the process (line 28), where Chang did not contribute to or challenge Mijin's suggestions. Rather, he became a silent listener to his partner's utterances and was not involved in any part of the problem-solving process.

Excerpt 11: Pair talk in activity 4

27   Chang: (What about another dialogue?)
28   Mijin: (At first, the first sentence is number seven. Number one that is about asking to seat together because their seats are separate. Then number ten is that after searching it, there are seats available at the back of the cabin. And the numbers left: are numbers three and five. That's the order. Number three is asking whether it's okay and number five is answering it's fine.)
29   Chang: Okay. Good. (You found well.)

In SRI, Chang recalled that he did not feel necessity to participate in the problem solving process because it was not difficult to find the order. However, it was not clear that this attitude would benefit his learning in that other researchers suggest fewer benefits for low-participation learners, including observers on language learning (McDonough, 2004; Philp & Iwashita, 2013).

Another type of interaction having low level of mutuality and equality was labelled as the expert/passive type. The expert tended to invite the partner to participate in the activity like the expert in the expert/novice type, whereas the passive one seems not to be interested in participation or in contribution to the activity. With low level of interaction, their interaction could not continue further because the passive responded with simple phatic utterance or uncertainty for partner's request, as seen in Excerpt 12. June started the third activity with negative comments (line 1) because he felt it was difficult, as shown in SRI below. On the other hand, Hyuk consistently invited June to participate in the activity (line 2, 4, 6), when June responded to Hyuk's invitation without any concern (line 3, 5, 7).

Excerpt 12: Pair talk in activity 3

1   June: (There are three questions:: then why are the questions so long. I don't understand them.)
2   Hyuk: (Let's see. Let's slowly translate them together. It won't be difficult. First, let's look at the contents in 'notice'. 'Restriction' means "restriction: Korean translation".)
3   June: (Right.)
4   Hyuk: (Can you think what kind of restrictions they are?)

5   June: (Well:: it may be the things written here. …) 'liquids, gels, aerosols'
6   Hyuk: (Right.)   ("Restrictions on liquids, gels, and aerosols in carry-on bag: Korean translation". This is the title of this information. After reading the title, do you know roughly the content of this writing?)
7   June: (No, I don't know. Why don't you translate it?)

Excerpt 13: June's SRI
1   When I saw the content, I didn't know what it was. Ummm honestly I thought I didn't want to do. …[ ]…

However, this type changed to expert/novice owing to the expert learner's persistent efforts. Following excerpt shows how June's attitude was changed while performing the activity:

Excerpt 14: SRI
9   June: When I heard Hyuk's translation, I was wondering how to translate 'less than' and I thought it wasn't difficult as much as I thought.
     R[6]:   So did you have in mind that you would like to participate?
     June: Yes, I thought I would like to do together. …[ ]…
17   June: When Hyuk said that we had to do together, I thought I needed to participate. I felt sorry to Hyuk so that I participated in the activity even if I didn't do well.

With a partner's persistent invitation and encouragement, the passive one seems to change his own attitude to become active. The following pair talk verified June's changed attitude. June suggested the answer (line 31) and extended on his utterance (lines 33, 35) following his partner's elicitation (line 32).

Excerpt 15: Pair talk in activity 3
31   June: (Um:: "Passengers with less than 100ml of a liquid (?) with containers what can do: Korean translation". Um:: it was here. The answer is …) They can carry the container.
32   Hyuk: (Right, then where is the 'container' =)
33   June: = Ah, plastic bag
34   Hyuk: (Right.)
35   June: They can carry the container in a plastic bag.

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[6] R stands for the researcher.

June showed a changed attitude in his engagement with his partner and contribution to activity completion while doing the third activity, whereas Hyuk consistently assumed a leading role in doing it. Thus, the equality was enhanced from low to low/medium and the mutuality from low/medium to medium/high.

4.4. Expert/Novice Type of Pair Interaction

Pair 1 and 5 showed the distinct role relationship of expert/novice in most activities. Expert learners took more control over an activity, but they invited or encouraged the novice to participate, providing elaborative explanations and assistance. They might also say 'well done' or 'good' when the novice suggested a solution to the problem. The expert tended to provide unidirectional assistance to the novice, as illustrated in Excerpt 16.

According to Hyuk's direction in the activity (line 3), June tried to make a sentence in English (line 4). However, he had a difficulty in choosing a word (line 4). Then, Hyuk acting as the expert, offered elaborate explanations to his partner (line 5). Furthermore, in relation to the incorrect verb form suggested by June (line 6), Hyuk elicited June's self-correction with further explanations (line 7). Hyuk's prompting led to June's success in correcting the verb form (line 8) and forming the correct sentence (line 10).

> Excerpt 16: Pair talk in activity 2
> 3   Hyuk: (Then, first of all, do we ask where they are travelling?)
> 4   June: (Yes.) Where:: are you … (How do you say "travel: Korean translation"? 'Travel' is a noun.)
> 5   Hyuk: ('Travel' can be used as a verb form.)
> 6   June: (Then) Where are you travel?
> 7   Hyuk: (Can you use 'are' and 'travel' together? They are both verb forms. When you ask future =)
> 8   June: = are travelling?
> 9   Hyuk: Right.
> 10   June: Where are you travelling?
> 11   Hyuk: (Right.)

What is interesting in this extract is the process of assistance depicted: Hyuk as the expert learner attempted to provide the novice learner, June, with a hint rather than present the correct answer. This process invited the novice to take part in the search for the problem solution. This sort of assistance is described as proleptic and often occurs in instructional situations (Kowal & Swain, 1997). Teachers deliberately do not present correct answers, but give some hints. They expect that learners can figure out the problems

by themselves using the hints. In excerpt 16, Hyuk elicited June to reach a resolution through proleptic assistance, rather than by imposing his view. While performing the activities, Hyuk frequently provided this kind of assistance to his partner in regard to the target language use, whereas June participated in the activities by asking explicit questions about the language and accepting Hyuk's assistance.

On the other hand, excerpt 17 shows that assistance did not lead to self-correction. Sun made an error involving a part of speech when forming the sentence in English (line 30). Jina noticed the error and provided proleptic assistance, explaining how to correct the error (line 31). However, Sun seemed not to notice how to use the hint, simply repeating it with a rising tone. Eventually, Jina directly corrected the error (line 33). Webb (2002) suggests that explanations provided by a helper should be sufficiently clear in order to enable the help-receiver to correct their own misconception or misunderstanding. Even though Jina provided an opportunity for Sun to solve the problem, her assistance might not be sufficient for Sun.

> Excerpt 17: Pair talk in activity 2
> 30   Sun: How about the time different?
> 31   Jina: ('Different' is an adjective and time difference is a noun. So …
>   'time'?)
> 32   Sun: (Noun?)
> 33   Jina: (Yes, 'time' …. 'difference'. 'Difference' is a noun so that is the
>   correct expression, 'how about the time difference?')
> 34   Sun: (Right.) time difference.

Excerpt 18 shows that learners in expert/novice relationship are able to provide mutual assistance to each other. In order to reconstruct the text in activity five, June discovered the error (line 27) but seemed to find it difficult to correct it himself. Hyuk explained how to change the error (line 30), but June could not correct the error following Hyuk's explanation. Eventually, Hyuk corrected it himself. At the moment of Hyuk's utterance, June immediately repeated it as he knew the word.

> Excerpt 18: Pair talk in activity 5
> 27   June: (Okay … Um: "and married couple … travelling together with
>   children under the age of 18 years only complete one form: Korean
>   translation". Um:: the "and: Korean translation" is odd. Before the
>   sentence, all passengers must complete the form. But now only one
>   form is completed. This conflicts with previous content.)
> 28   Hyuk: (Right, then how do you think to change "moreover"?)

29   June: But?

30   Hyuk: (Not a conjunction. An adverb like 'moreover')

31   June: (Ad:verb. Don't know. What can that be?)

32   Hyuk: However =

33   June: (= Ah 'however.' Right it means "however: Korean translation"). Okay.

Hyuk recalled that he did not notice the error until June pointed it out:

Excerpt 19: Hyuk's SRI

27   I didn't notice the error in this sentence before June said it. After I heard, I noticed it's the opposite meaning from the previous sentence.

It shows that an expert learner can benefit from the assistance of a novice, as presented in previous research (e.g., Donato, 1994; Ohta, 1995, 2000). Certainly, there are many cases where a more capable learner provides more assistance to a novice partner. However, Ohta (2001) explains that no learner is universally more or less capable than a peer, but that each learner presents an array of strengths and weaknesses that may be complementary. Thus, even if this pair has the relationship of expert and novice, mutual assistance can be observed, rather than only an expert helping a novice.

5. DISCUSSION

In order to discover how peer interaction works in language learning in the context of a naturalistic language classroom, this study investigated different types of pair interaction that naturally occurred between learners during pair work and found five different types of pair interaction.

In the case of the collaborative type of pair interaction, both learners similarly contributed to complete the given activities and were actively engaged with each other to decide activity direction and resolve LREs. As Swain and Lapkin (1998) argue, an LRE can be said to be a helpful unit for understanding the L2 learning process and product. Such an episode can be seen as representing opportunities for language learning (Swain, 1998; 2000). When one partner was struggling or produced an error, the other provided assistance, pointing out and correcting the error. In the process of providing and receiving assistance, learners can monitor and correct own performance. Over time, on the last activity with the highest level of equality and mutuality among seven activities, self-correction without any external assistance was found. Through the experience of

monitoring their partner's performance and providing and receiving assistance during pair work, learners seemed to learn how to monitor their own performance and correct their own utterances, not relying on others to correct them, as Ohta (2001) argues. Therefore, the ability to self-monitor and self-correct might help learners improve language accuracy.

A process of co-construction was also found in the collaborative type of peer interaction. As what Donato (1994) describes as mutual scaffolding, in the collaborative type, learners provided scaffolding to one another by pooling their knowledge and providing mutual assistance in order to resolve disagreements or uncertainties. That is, learners dialogically co-constructed their knowledge. The findings can be explained by the sociocultural perspective that learning is essentially social. Using language as a cognitive tool mediates learners' thinking and other's thinking and then facilitates cognitive development. Thus, the knowledge co-constructed between learners via social communicative speech could be internalised by the learners.

In the case of the expert/novice type of pair interaction, the expert learner with more responsibility for activity performance and completion tended to invite and encourage the novice partner to participate in the activity. In order to resolve LREs, unidirectional assistance was provided from the expert to the novice with elaborative explanation. This does not mean that the novice was a passive learner. As Damon and Phelps (1989) point out, pair work may make the novice feel more comfortable about acknowledging their own uncertainties and then able to ask for help from their partner. The novice's active engagement gave more confidence, and over time pair work changed from expert/novice to collaborative type. Pair talk data illustrates that assistance from expert learners gradually decreased and initiations and resolutions of the LREs by the novice steadily increased. When novice learners' confidence and responsibility for the activity increased, they were no longer novices, but became collaborative partner.

There is an important point to make about this expert/novice relationship, concerning the role of an expert. In this study, the role of expert was not assigned to learners. Rather, they assumed the role. This can be related to their interpretation of the meaning of pair work. Hyuk and Jina believed that pair work should be done with their partner. That belief seemed to result in taking responsibility for activities and their partner's participation. Lantolf and Aljaafreh (1995) are uncertain whether learners can provide effective help because they need not have responsibility for helping one another, unlike in tutoring situations. However, this study shows that learners' perspectives on working together in pair work make them decide to take on the role of an expert, with responsibility for encouraging and assisting their partner in order to perform and complete an activity together.

In the cooperative type of peer interaction, learners engaged in activity performance actively and contributed activity completion equally, but unlike these described above as

having a collaborative orientation, they hardly engaged with each other. They rarely invited their peer to join in the problem-solving process. Rather, they tended to solve the problems individually. The loose engagement between the pair might negatively influence both partners' learning opportunities, as observed in other research (e.g. Donato, 1994; Storch 2002). While performing in a non-collaborative orientation, learners focused on learning product rather than the learning process. In other words, when learners were more concerned about activity outcomes without collaborative dialogic, learning opportunities might not be provided.

An expert/passive type of pair interaction was observed once among 42 cases and that type changed to an expert/novice relationship during the same activity. In this case, June (pair 1) was passive when he perceived the given activity to be difficult for him, but his partner's persistent efforts to invite his participation made him participate actively. On the other hand, a dominant/passive relationship was also observed only once, but the relationship changed from collaborative interaction on the same activity. After collaboratively discussing activity direction and the content of given dialogues, Chang (pair 6) did not involve himself in suggesting answers because he thought that finding answers was relatively easy. Instead, he passively listened to his partner who dealt with it entirely by herself. These cases show how the role of peer is important. Both passive learners were differed in the role taken by the non-passive partner. In the expert/passive type, the expert encouraged the passive partner to work together, whereas the dominant learner did not involve the passive peer in the activity. This suggests that the role taken by a partner might change the other partner's attitude.

Although the six pairs predominantly displayed the collaborative and expert/novice types of pair interaction with a collaborative orientation while performing the seven activities, all pairs except pair 4 displayed more than two types of pair interaction. However, most pairs presented relatively higher equality and mutuality on the last three activities in comparison with the earlier activities and all six pairs displayed the collaborative type of pair work with the highest mutuality and equality on the last activity. The findings indicate that learners become more collaborative over time but before then, their interaction seems not to be stable. That is, time might influence pair interaction as being socially developed, as claimed by Brooks et al. (1997). As classmates sharing the same studies in tourism management, although the learners were on terms of familiarity with each other, they were not accustomed to supporting each other in learning contexts at the beginning of the semester (before starting this research). However, over time they came to understand their partner's learning style, negotiated how to work together and then had an affiliation with their partner. It seemed to take time for them to build a stable collaborative relation. Baralt, Gurzynski-Weiss and Kim (2016) present similar findings: that learners who trust each other and are friends tended to engage more often in social

scaffolding, leading to more examples of cognitive engagement. On the other hand, these findings differ from Storch's (2004) finding, which focused on individual learners' orientation. She suggests that patterns of dyadic interactions remain stable over time because learners bring their prior experiences and preferences into the pair work contexts rather than building a peer-to-peer relationship. However, as Philp and Mackey (2010) argue, social factors may positively impact on peer interaction when working with a friend. This study shows that if learners develop a social relationship with their partner in learning context, their own learning situation can be changed to a joint learning situation.

6. CONCLUSION

This study provides valuable descriptions and insights in relation to the complicated nature of pair interaction in classroom learning contexts. The data in the current study document how learners interact with their peer while performing seven different activities in naturalistic EFL lessons; therefore, they present the salient features of five different types of peer interaction and highlight that collaborative peer interaction is likely to be enhanced over time. As Donato (2004) emphasises the importance of time required to develop social relationship to be collaborative, this study show that time can be a significant factor in establishing a stable relationship between learners. Based on the evidence from this study, suggestions are made that studies of peer interaction need to be consider the importance of time when trying to understand the type of socially developed peer interaction. Socially developed relationships between learners cannot occur instantly but would take time.

7. LIMITATIONS AND FUTURE RESEARCH

This study was limited to pair work as a subject of peer interaction. As benefits of pair work, when interviewed the learners suggested a high quality of activity outcome, the use of complex and diverse content and active engagement in activities. However, group work may be very different. Philp and Mackey's (2010) study suggests a flip side to peer interaction in a group of three learners. Although this study suggests the importance of peer-to-peer relationship in influencing pair work, the nature of peer interaction in group work may be more complicated than pair work in that more learners may bring a range of social factors that may influence group work, and types of peer interaction may therefore be more diverse. If further research covered group work using the same research questions, such research could provide additional fruitful information about peer interaction in the

language classroom.

Furthermore, the findings imply that the established type of pair interaction might not be stable across activities. Passive learners in expert/passive and dominant/passive relationship revealed in SRI that their perceived level of activity influenced their participation in pair work. This means that the nature of activity may affect the type of pair interaction. This implication can be addressed in future research in order to understand peer interaction more deeply: what factors affect the nature of peer interaction. Investigation of mediating factors affecting peer interaction, which is the second agenda suggested by Sato and Ballinger (2016), will be able to suggest teachers how to encourage learners to work collaboratively.

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Applicable levels: Tertiary

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