



## The Effects of Group Work on Interaction and Learning Outcomes in Non Face-to-Face Synchronous General English Classes in the EFL Setting

Seo, Ji-Young 



Faculty of Graduate School of Education, Kookmin University, South Korea.

Email: [sjy@kookmin.ac.kr](mailto:sjy@kookmin.ac.kr) Tel: +82-2-910-5925

### Abstract

The effects of group work with assigned roles on learner-instructor interaction (LII), learner-learner interaction (LLI), and task achievement were investigated in non-face-to-face general English classes to determine implications for non-face-to-face online group work. The participants were 128 university students in South Korea. Zoom was employed for the synchronous classes (SC), and the university's LMS (Learning Management System) was utilized for the asynchronous classes (AC). The participants were divided into three groups: Group A were assigned designated roles in SC, Group B were not assigned specific roles in SC, and Group C were assigned designated roles in AC. The students were required to produce two English presentation videos. The participants exchanged feedback and comments about the content and structure of the presentation script. The video production and editing through group work, a pre- and post-questionnaire, and task results were employed as analysis data. The results revealed that group work in which roles were assigned had a positive effect on LII and LLI. It should be noted that group work differs from face-to-face instruction. Thus, it is imperative that teachers design detailed plans in advance and monitor student participation closely. Pedagogical implications and recommendations for future studies are outlined.

**Keywords:** Group work, Non-face-to-face synchronous class, Assigning roles, Student-produced video, Learner-instructor interaction, Learner-learner interaction.

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### Contribution of this paper to the literature

The findings of this study provide insights related to implementing successful group work in non-face-to-face synchronous EFL classes by exploring the effects of assigning roles in small group collaboration learning.

## 1. Introduction

In 2020, the Korean Educational Development Institute conducted a survey of 48,845 students from 83 South Korean universities to determine their opinion of online lectures. The results revealed that students preferred recorded video lectures because it was possible to listen to these lectures repeatedly regardless of the time and circumstances. However, they also highlighted the following disadvantages of pre-recorded video lectures: lack of communication, difficulty asking questions and having discussions, and lack of social interaction. It is noteworthy that, although the students demonstrated a preference for and were more satisfied with asynchronous classes (AC), which include recorded video lectures, discussion boards and online quizzes, they felt that their learning outcomes had undergone greater improvement in synchronous classes (SC) – real-time classes delivered via live online meeting tools. One may deduce that in order to enhance the learning effects of online classes, a balanced composition of real-time and non-real-time classes is necessary.

It is natural for students who participate in real-time classes to expect interaction between teachers and students. Kuo, Walker, Schroder, and Belland (2014) argued that the difference between online courses and traditional instruction can be found in the manner in which students interact with their teachers, fellow students, and the course content. Song (2014) noted that the degree of mutual communication and students' opportunities for participation had a significant effect on learning satisfaction. Specifically, studies on the effect of teacher-student and student-student interactions on class satisfaction have revealed that the higher the student-teacher interaction, the higher the learning satisfaction. There is a tendency in Eastern cultures to give preference to teacher-centered traditional lecture classes. In contrast with Western cultures, those in Eastern cultures tend to be less positive about student-student interactions. Because of excessive competition among Korean students in college entrance examinations, there is lack of positive perceptions and experiences of group learning through interaction with peers (Artlet, Baumert, Julius-McElvany, & Peschar, 2003; Choi & Ji, 2020).

In non-face-to-face SC, group activities are not easy to implement among Korean students. They prefer to avoid SC because of the discomfort associated with having to reveal their faces (Son & Chin, 2021). Furthermore, in contrast to face-to-face classes, they hardly have the opportunity to obtain nonverbal cues from others. Technical problems, including audio, video, and internet connections may also be problematic (Kim, Shin, & Jong, 2020). Moreover, students with a low language proficiency level tend to be reluctant to participate actively because of a lack of confidence (Foster & Ohta, 2005; Satar, 2015), particularly in Korea's large mixed-level classes.

In non-face-to-face situations, group work should not be conducted as though the class were face-to-face. Furthermore, it is not enough merely to conduct group activities (Storch, 2002). Blatchford, Kutnick, Baines, and Galton (2003) asserted that students could not merely be placed into groups and be expected to work well together; first, group work skills must be developed. It is difficult to achieve good results in group work if there has been no preparation. Rather, careful advance planning and clear guidance are required. Han (2012) stated that one needs to be aware that the quality of interaction is related to the quality of online learning, especially online collaborative learning (Rosmalen et al., 2008).

Successful group work, however, does have a positive effect on language learning. Gass and Mackey (2007) asserted that interaction through the negotiation of meaning and feedback promotes language development. The purpose of the present study was to explore how different types of group work affect interaction and academic achievement in the Korean EFL context. Accordingly, individual roles were assigned to group members to facilitate interaction (Coggeshall, 2010; Gibson & Earley, 2007; Manis, 2012). The university students were divided into three groups: first, SC with a group in which the team members were assigned roles; second, SC with a group in which discussions were held freely in real time; and third, AC with a group in which the team members were assigned roles in non-real time. Very few experimental studies have been conducted in Korea in which the group work of three groups with different roles and interaction types were observed and the effect on English learning examined. This study is significant in that it suggests an operation plan for non-face-to-face online group work and qualitatively managed enhanced classes that can be conducted in the future. The findings of this study may shed light on how to prepare and manage online group work and understand students from a new perspective.

## 2. Literature Review

### 2.1. Interactions as Predictors of Student Satisfaction

Bernard et al. (2009) conducted a meta-analysis of 74 studies on distance education and revealed that learner-learner interaction (LLI), learner-instructor interaction (LII), and learner-content interaction (LCI) were positively related to learning outcomes. Kuo et al. (2014) found that LCI was the strongest predictor of learning outcomes, followed by LII. They further revealed that LLI was not related to learner satisfaction. Gray and DiLoreto (2016) and Yukselturk and Yildirim (2008) also found a weak relationship between LLI and satisfaction. Alqurashi (2019) demonstrated LLI was not a significant predictor of satisfaction because the students did not experience it as beneficial but suggested that quality interactions, involving receiving feedback from other students, answering students' questions, and communicating, sharing, and commenting with other students, were useful. On the other hand, other studies have found that LLI is the best predictor of satisfaction (Battalio, 2007; Bolliger & Martindale, 2004; Thurmond, 2003). While many studies have demonstrated that LII is the most important factor to affect student satisfaction, there have been conflicting results on LLI in relation to context, gender (Pica, Holliday, Lewis, Berducci, & Newman, 1991; Ross-Feldman, 2007), age (Mackey & Silver, 2005), task complexity (Kim, 2009), language proficiency (Watanabe, 2008), internet self-efficacy (Kuo et al., 2014), degree of collaboration required (Bray, Aoki, & Dlugosh, 2008), and interlocutors (Pilar, Mayo, & Pica, 2000). However, only a paucity of research has been conducted on non-face-to-face EFL situations and thus, more studies in this new context are essential.

In L2 learning, quality input, as well as interaction, is important because language development occurs through the negotiation of meaning. In his theory of cognitive development, Vygotsky (1978) postulated that because development is social and knowledge is constructed through individuals' interactions in society, learning may be explained as the internalization of social interaction. Research has revealed that in language teaching and learning input alone is not as effective as input modified by interaction (Ellis & Fotos, 1999; Gass & Varonis, 1994; Wang & Castro, 2010). Ellis (2000) noted that learning occurs "not through interaction but in interaction." This implies that interaction is not only socially necessary, but a requirement for language learning. Swain, Brooks, and Tocalli-Beller (2002) concluded that learners' collaborative dialogue mediates second language learning. Arnold and Ducate (2006) from their observations of interactions between language learners and native speakers in discussion forums, concluded that social activity was more significant than cognitive density. Researchers that work within the Interaction Hypothesis framework of L2 acquisition have asserted that the range of interactional processes during interactive tasks, such as negotiation of meaning, provision of feedback, and production of modified output, promote L2 development (e.g., (Alali, Ab Rashid, & Al Smadi, 2020; Atek, Hassan, Azmi, Yah, & Azmi, 2020; Gass & Mackey, 2007; Mackey, 2007a; Mackey, 2007b; McDonough, 2004)).

In essence, studies have shown that the quality of classroom interaction is more important than the amount of interaction. However, because students in Korean EFL situations are not accustomed to interacting with each other actively, it is imperative that teachers promote quality interaction in non-face-to-face situations by planning group work.

### *2.2. Small Group Collaboration Learning*

Group work is a helpful way to create classroom interaction and thus, lecturers should maximize group work (Galegane, 2018). Students may be grouped to pursue common goals and develop their knowledge and social skills. Ahn and Class (2011) noted that students interact and participate better when working together than when working individually. Brown (2015) added that group work affords opportunities to speak by increasing practice time and offers an encouraging affective climate. Lou et al. (1996) claimed that learning is most effective in small groups of three to four members, in which the members have different levels of proficiency.

Based on studies on the structure of small groups and consequent learning outcomes, Sung, Kim, and Jo (2017) investigated the effect of group activities on English writing and affective areas for fifth grade elementary school students. They divided the students into three groups: those with individually assigned roles, those without individually assigned roles, and individual groups. The results of the study revealed that the interest and self-confidence of those in the group with assigned roles increased significantly after the intervention. Jang and Hong (2014), in a study on the effects of fixed and flexible leader roles, found that flexible leaders were more effective in collaborative writing activities than those who had fixed roles. In addition, flexible leaders demonstrated more active interaction among middle- and low-level students. Cheng, Wang, and Mercer (2014) assigned the roles of cognitive, metacognitive, and socio-emotional to leaders in an online collaborative concept mapping project and discovered that this role-based approach promoted students' satisfaction, enjoyment, and sense of belonging during small group learning. Strijbos, Martens, Jochems, and Broers (2004) carried out a quasi-experiment to investigate the impact of roles in a distance-education setting. They employed functional roles, including project planner, communicator, editor, and data collector. Their results demonstrated that roles positively affected group efficiency. Moreover, students who had a role contributed more content-focused opinions, thus stimulating collaboration, in comparison to the non-role condition group.

## **3. Method**

### *3.1. Participants*

The participants, who were asked to complete a questionnaire, were 140 students who were enrolled in three General English classes at a private university in Seoul. However, only the data of the 128 participants who submitted both a pre- and post-questionnaire were analyzed. Classes were held twice a week for 75 minutes for a total of 15 weeks. The participants knew in advance that group work and presentation assignments would be conducted. The participants' majors varied: 14 students (10.9%) were studying Humanities, seven (5.5%) Arts and Physical Education, and 107 (83.6%) Engineering. Furthermore, 70 (55.5%) were freshman. While the participants' TOEIC scores ranged from 200 to 890 points, their average score was 571 points.

### *3.2. Procedure and Instruments*

As mentioned above, the participants were divided into three groups. A Chi-square test was first conducted to verify the homogeneity of these groups.

Second, in order to determine the participants' preference for interaction between LII and LLI, a pre-test was performed in the second week and a post-test in the 14th week. The questionnaire (Alqurashi, 2019) employed by the researcher was translated to assist the participants in understanding the statements, as shown in Table 1. Cronbach's  $\alpha$ , which was performed to determine the questionnaire's reliability, was over 0.7.

Third, the students were given the task of producing two personal English presentation videos. The first video was submitted in the fourth week. Subsequently, after receiving feedback from colleagues through group activities during the following eight weeks, their presentation was revised and supplemented. The second and final version was submitted in the 13th week.

Fourth, analysis of variance was performed to determine the mean difference between LII and LLI for the three groups. The data were analyzed using SPSS 18.0.

The following detailed instructional procedure was carried out. First, based on the results of a pre-questionnaire on interaction preferences, three different group types were formed, as outlined in Table 2. LII was conducted in the same way for all participants in that the teachers asked questions by employing either initiation response evaluation (IRE) or initiation response follow-up (IRF) (Hall, 2008). LLI was conducted through group work, and feedback and comments were exchanged about the content and structure of the presentation script as well as the production and editing of the video. While Zoom was utilized for SC, the Learning Management System

(LMS) of the university was employed for AC. Group A used Zoom’s small group meeting function called Breakout Room Sessions in real-time, during which the team members’ roles were assigned.

**Table-1. Interaction questionnaire.**

Category	Items of questionnaire	Cronbach’s $\alpha$
Learner-Instructor Interaction (LII)	I had numerous interactions with the instructor during the class.	0.754 (pre) 0.898 (post)
	I asked the instructor my questions through different electronic means.	
	The instructor replied to my questions in a timely fashion.	
	I replied to messages from the instructor.	
	I received enough feedback from my instructor when I needed it.	
Learner-Learner Interaction (LLI)	I got lots of feedback from my classmates.	0.831 (pre) 0.874 (post)
	I communicated with my classmates about the course content through different electronic means.	
	Group activities during the class gave me opportunities to interact with my classmates.	
	I shared my thoughts and ideas about the lectures and their applications with other students during this class.	
	Class projects led to interactions with my classmates.	

Source: Alqurashi (2019)

Although group B also had real-time interaction through Zoom's Breakout Room Sessions, they exchanged opinions freely without assigning roles to the team members. Group C had non-real-time interactions using discussion boards and forums on the university’s LMS system. The team members were assigned roles, and when they uploaded their assignments, they left comments before class time. In accordance with De Laat and Lally (2005), there were three to four people in each group, who were assigned the roles of leader, researcher, facilitator, and secretary. In instances where there were only three members, the facilitator also served as the secretary. The leader acted as a spokesperson and presented the results to the whole class; the researcher collected and searched for resources on the internet; the facilitator encouraged the participants to discuss ideas by asking questions and commenting; and the secretary took notes, produced summaries, and prepared documents.

**Table-2. Three types of interaction groups.**

	Group A	Group B	Group C
Type	Synchronous (Zoom Breakout Room Sessions)	Synchronous (Zoom Breakout Room Sessions)	Asynchronous (Discussion board, LMS forum)
Learner-Instructor Interaction	IRE or IRF		
Learner-Learner Interaction	assigned roles	free group discussion	assigned roles

The participants submitted their first video in the fourth week. In Week 5 through Week 12, the team members provided feedback on the first video for 40 minutes in Zoom's Breakout Room Sessions. To promote interaction, Otoshi and Heffernen (2008) oral presentation rubric was given to the participants to enable them to assess the work each week. The weekly topics are presented in Table 3.

**Table-3. Weekly topics.**

Period	Procedure
Week 1	Orientation, Pre-test
Week 2	Pre-questionnaire
Week 3	Selection of presentation topic and explanation of how to make the video
Week 4	Submission of first student-made video
Week 5	Getting to know each other
Week 6	Content: message, purpose, narrowing a topic
Week 7	Language: vocabulary, structure, register, conciseness, clarity
Week 8	
Week 9	Nonverbal communication: vocal variety, confidence, pace, volume, articulation, eye-contact, posture, gestures
Week 10	
Week 11	Visual aids and PowerPoint slides
Week 12	Video instructions for making and editing a video
Week 13	Submission of second video
Week 14	Post-questionnaire
Week 15	Voting for the best video presentation

## 4. Results & Discussion

### 4.1. Group Homogeneity

To verify the homogeneity of the three groups, grade, gender, college, TOEIC score, and experience of learning English were confirmed through a questionnaire. The results are displayed in Table 4.



**Table-4. Demographic data and Chi-square test results.**

Category		Group A	Group B	Group C	Total	$\chi^2$	<i>p</i>
Gender	Male	16	27	25	68	4.608	0.100
		23.5%	39.7%	36.8%	100%		
	Female	22	14	24	60		
		36.7%	23.3%	40%	100%		
TOEIC Score	Advanced (651 above)	12	16	18	46	1.797	0.773
		26.1%	34.8%	39.1%	100%		
	Intermediate (501-650)	10	9	16	35		
		33.3%	30%	53.3%	100%		
	Beginner (500 below)	16	16	15	47		
		34%	34%	31.9%	100%		
It is easier for me to communicate in writing than speak in English	Yes	29	29	38	96	0.604	0.740
		30.2%	30.2%	39.6%	100%		
	No	9	12	11	32		
		28.1%	37.5%	34.4%	100%		

The results of the analysis were not significant for any variable. Thus, the homogeneity between the groups was confirmed. Furthermore, no significant difference between the groups was found in the results of the pre-questionnaire on LII and LLI, using an analysis of variance, as illustrated in Table 5.

**Table-5. Pre LII and LLI ANOVA Results.**

Group	N	Pre LII			Pre LLI		
		M	SD	F	M	SD	F
A	38	19.52	2.67	0.426	15.73	3.33	0.295
B	41	18.85	2.89		14.82	4.38	
C	49	19.53	2.56		16.10	3.81	

#### 4.2. Group Work and Post-Questionnaire

The interaction based on the different types of group work is presented in Table 6. Table 6 reveals that group A had the highest average score for LII and LLI, followed by group C and then group B. Furthermore, there was a significant difference between their scores. LII was higher in all three groups. This result concurs with Rho (2019) view that students believe the teacher has expert linguistic knowledge and perceive learning as acquiring knowledge through teachers. In accordance with previous studies, the scores for LLI were lower than those for LII. However, because the score increased after group work, this may indicate that students experienced the group work and interaction as beneficial.

**Table-6. Post LII and LLI ANOVA results.**

Group	N	Post LII			Post LLI		
		M	SD	F	M	SD	F
A	38	23.13	2.988	0.018*	17.18	3.79	0.019*
B	41	21.20	3.25		14.78	4.00	
C	49	22.47	2.95		16.45	3.80	

Note: \* p < 0.5.

A hoc test was conducted to determine whether there was an average difference between the groups. The results are shown in Table 7.

**Table-7. Post hoc results.**

Group (I)	Post LII				Post LLI			
	Group (J)	I-J	Standard Error	Scheffé	Group (J)	I-J	Standard Error	Scheffé
A	B	1.936*	0.689	A>C>B	B	2.404*	0.871	A>C>B
	C	0.662	0.662		C	0.735	0.836	
B	A	-1.936*	0.689		A	-2.404*	0.871	
	C	-1.274	0.648		C	-1.668	0.819	
C	A	-0.662	0.662		A	-0.735	0.836	
	B	1.274	0.648		B	1.668	0.819	

Note: \* p < 0.5.

The post LII and LLI of group A were significantly higher than those of group B. This finding indicates that the group with assigned roles engaged and interacted more than the group that held free discussions in non-face-to-face real-time classes.

#### 4.3. Learning Outcomes

In Table 8, the scores for the second student-produced video presentations are presented according to the English proficiency within the group. Table 8 shows that English proficiency and task scores were not

proportional. In other words, in group A, out of a total of 38 participants, 12 (31.6%) beginner level participants obtained a perfect task score of 20 points, followed by seven (18.4%) advanced and five intermediate (13.2%) participants. However, in group B, 10 (24.4%) advanced level participants obtained a perfect score, followed by five (12.2%) intermediate and four (9.8%) beginner participants. And in group C, while eight (16.3%) intermediate participants scored the maximum, five (10.2%) advanced and five (10.2%) beginner participants also obtained a perfect score.

Considering that students tend to receive high grades in conventional English tests, which have a stronger focus on memorization, grammar, and vocabulary in comparison to basic English proficiency tests, it is encouraging that the beginner-level participants also participated actively through group work and produced high-quality results, which received a good evaluation. This result concurs with Jang and Park (2017) in that the more actively students interact online, the more meaningful the learning outcome is.

Table-8. Task results.

Group	Proficiency	Advanced	Intermediate	Beginner	Total
	Task score				
A	below 17	2(5.3%)	0(0%)	1(2.6%)	3(7.9%)
	18-19	3(7.9%)	5(13.2%)	3(7.9%)	11(28.9%)
	20	7(18.4%)	5(13.2%)	12(31.6%)	24(63.2%)
	Sub total	12(31.6%)	10(26.3%)	16(42.1%)	38(100%)
B	below 17	1(2.4%)	1(2.4%)	6(14.6%)	8(19.5%)
	18-19	5(12.2%)	3(7.3%)	6(14.6%)	14(34.1%)
	20	10(24.4%)	5(12.2%)	4(9.8%)	19(46.3%)
	Sub total	16(39%)	9(22%)	16(39%)	41(100%)
C	below 17	3(6.1%)	3(6.1%)	0(0%)	6(12.2%)
	18-19	10(20.4%)	5(10.2%)	10(20.4%)	25(51%)
	20	5(10.2%)	8(16.3%)	5(10.2%)	18(36.7%)
	Sub total	18(36.7%)	16(32.7%)	15(30.6%)	49(100%)
Total		46(35.8%)	34(26.5%)	47(36.7%)	128(100%)

## 5. Conclusion

This study examined the effects of group work in which roles were assigned in non-face-to-face general English classes on LII, LLI, and learner and task achievement to determine implications for non-face-to-face online group activities. The results revealed that group work in which roles were assigned had a positive effect on LII as well as LLI. In particular, more positive effects were observed in groups A (real-time) and C (non-real-time), which had assigned roles, than in group B (real-time) in which free discussion without any roles was permitted. The findings further demonstrated that the task achievement score achieved through group work was not proportional to the students' current English proficiency.

In accordance with the results of this study, the following suggestions can be made for implementing successful group work. First, the role of the teacher remains crucial for successful group work. In non-face-to-face situations, it is imperative to understand that group work differs from face-to-face instruction, and that therefore more detailed plans need to be implemented in advance, and student participation monitored closely. In order to prevent students from relying on others, it is suggested students write a study journal immediately after the group activity or record the group work process. Second, in order to create a companionable atmosphere and enhance the social relationships among members, it is recommended that they socialize occasionally. Third, when assigning roles and adjusting the difficulty of tasks, it is vital to ensure that students with a low level of English proficiency also contribute. It is important to divide roles evenly so that specific individuals do not carry too much responsibility. Finally, before the start of group work, it is important to develop a code of conduct with students so as to promote an engaging, respectful, and collaborative environment. This may also help to minimize conflict and avoid the expenditure of unnecessary emotions, which will allow students to focus more on the task. This study has certain limitations in that the findings do not reflect the perspectives of a wide variety of students and that findings may vary depending on the lecturer's media literacy. It is recommended that an in-depth study on group dynamics that considers teacher variables be conducted, as well as a qualitative study on the interaction patterns of students in group work.

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