

# Exploring Interactions in Pair Work through Social Constructivism

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## Abstract

Collaborative learning is a type of learning that allows learners to work with others. One type of collaborative learning is pair work. Pair work allows learners to achieve a given task with a team member. The social interaction does more to the learners than just accomplish the given task. This study explores interaction during pair work in a language classroom. The guiding principle behind this investigation is Vygotsky's (1984) social constructivism learning theory that states that learning is a social process and learners construct knowledge as they interact with others. In doing so, they improve their zone of proximal development (ZPD). 36 respondents participated in this quantitative study. The instrument is a questionnaire about pair work interactions. The chosen variables are language, ZPD and social interaction. Statistical analysis was done to analyse the data. Findings revealed that there is a relationship between language use and ZPD. Findings also showed that there is a relationship between ZPD and social interaction as well as relationship between social interaction and language. Findings bear interesting implications for pair work in language classrooms.

**Keywords:** Collaboration, Pair Work, Language, ZPD, Social Interaction

## Introduction

Collaborative learning is a teaching approach in which two or more students work together to complete an assigned task. This form of learning allows students to share ideas, combine forces while they practice problem-solving skills to achieve a shared goal. Group work usually involves more people working together. Pair work is still considered and can be categorized as small group. Tubbs (1998) states that small-groups go through a four-stage process and they are orientation, conflict, consensus and closure. In the orientation stage, the members begin initial getting-to-know team members. Next, once the team members are comfortable getting to know one another and begin brain-storming their ideas, conflicts may set in. Each team member wants to put forth their ideas may sometimes lead to conflicts. If the small group focusses on the goal of the task, they can begin to reach a consensus to complete the task as a group. The last stage is closure when the group's decisions is finalized for submission or presentation.

Nevertheless, there are some drawbacks of small group work, like pair work. According to Najim (2024), one disadvantage is the use of native language among participants. This is an issue of the class is a language class and students are not using the target language. Next, according to Rahmat (2020), conflicts can occur due to misunderstanding of ideas presented. If the conflict is not controlled (by the instructor), the teams involved may use up too much time and may need a longer time to complete assigned tasks. So, what do students think of pair work as part of the class activity? This study is done to explore perception of learners on pair work interactions. Specifically, this study is done to answer the following questions;

- How do learners perceive using language as a tool in pair work?
- How do learners perceive ZPD in pair work?
- How do learners perceive social interaction in pair work?
- Is there a relationship between all components in pair work?

## Literature Review

### *Theoretical Framework*

Classroom activities today emphasize the need to collaborate among students. Assessments are done in the form of individual, pair and also group tasks. This section discusses two theories of learning and they are the (a) social constructivism and (b) social cultural theory.

### *Social Constructivism Theory*

This theory was introduced by Vygotsky (1984) and this theory looks at learning as a social process. Why social process? During learning, learners form their knowledge from the interactions that make with the people around them. Having a social circle to learn with helps learners participate in active construction of knowledge. This is further emphasized in group interaction. According to Rahmat (2020), during class discussions, team members go through a series of processes such as competing, accommodating, avoiding, compromising and collaborating. With reference to figure 1 below, group conflicts how team members learn to communication. The first process is competing. This is the initial getting-to-know one another stage where each team member strives to put their ideas forward. This stage involves the person to use critical thinking and problem-solving skills. The next stage is accommodating stage where the team members look past the conflict and use negotiation skills to accommodate their team members' ideas. The negotiation skills are further enhanced to avoid further conflicts. The success of this stage enables team members to compromise and collaborate to complete the group's task. Hence, this theory supports the need to have group interaction.

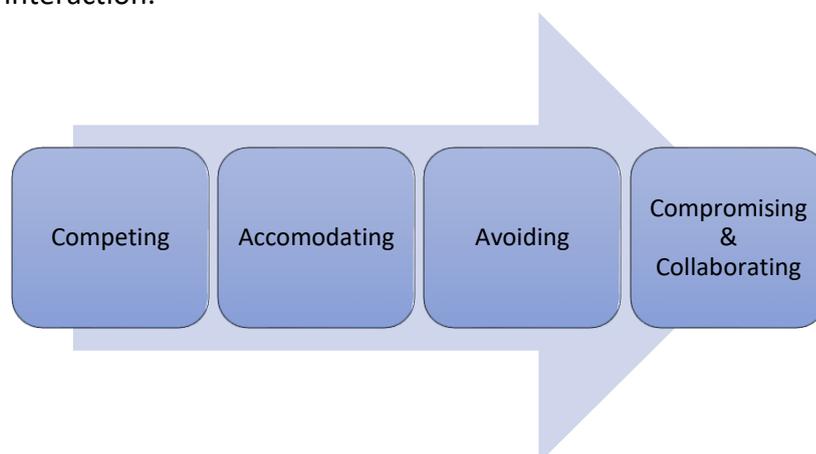


Figure 1-Conflict Resolution in Class Discussion (source: Rahmat, 2020)

### *Social Cultural Theory*

Earlier on, Vygotsky (1978) introduced the sociocultural theory. This theory posits that social interaction influences the development of cognition of a person. In addition to that, this theory claims that learning takes place at two levels. The first level is that interaction influences a person's cognitive structure. Secondly, interaction improves a person's zone of proximal development (ZPD). ZPD is the space that the person can achieve with guidance compared to what he/she cannot achieve on his/her own. In the context of group work, learning is social process where the learners are influenced by interactions, cultural context and the shared knowledge of the group they are in. Studies by Kim (2020), as well as Rahmat & Whanchit (2024) explored language learning through the sociocultural theory. These studies drew on the theory to explain the dynamics of social interaction and how that interaction influences learning.

In addition to that, this theory also emphasizes the need for scaffolding to enhance learning. Scaffolding comprises of a series of learning tasks designed by the instructor to guide learners to build knowledge in stages. This theory is supported by three main concepts. The first concept relates to the need for language use in group interaction. Language enhances communication skills. The second concept is learning takes place in the ZPD where learners are able to achieve more in a group compared to doing the task alone. The third concept is social interaction is seen as a catalyst for learning. Learners learn negotiation skills to get their ideas across. They learn problem-solving skills to learn to adapt to team work.

### *Past Studies*

Rianti, et.al (2022) explored pair work activities on students' speaking anxiety and ability. This quasi-experimental study was done in Palangka Raya. The instrument used was questionnaire and speaking test. The population for the study was 8<sup>th</sup> graders in one public junior high school. The sample was 60 students (2 classes). One class was the experimental while the other was the control group. Findings showed that pair work tasks helped reduce speaking anxiety. It also increased students' speaking ability.

Next, a quantitative study by was conducted by Hiromori (2021) to investigate task management of language learners during pair work activities of collaborative writing. The instrument used was a questionnaire. The instrument focused on behavioral, cognitive, emotional dimensions, social dimensions of task engagement. The study also looked at the whether the combinations of the task engagement result in better task performance. 60 students (30 pairs) from a Japanese university participated in the study. They were given pair work on picture description. Results revealed significant difference in actual engagement between the groups and across time. Results also showed significant impact on task performance. There is a significant difference in actual engagement between the groups and across time; and that such differences had a significant impact on task performance.

The study by Alfino, et.al (2021) was done to explore how different pair-types influence students' writing quality. The pair types were homogeneous(n=18), heterogeneous (n=23) and randomized (n=23) pairs. The pairs were asked to write an argumentative essay. The marks of the pairs were compared. Results revealed that the randomized pair obtained the

highest score (mean=68.87). This is followed by the homogeneous group (mean = 64.17). The group with the lowest mean was and the heterogeneous group (mean = 57.13).

The qualitative study by Kim (2020) used the sociocultural theory to explore how 12 adult (6 pairs) EFL learners interact in pair work. The study also looked at the learners' willingness to engage with their pair to complete the task given. It also explored other factors influencing that willingness to engage. Data was collected from an interview done after all paired activities were completed. The interaction of the pairs was analyzed. The study revealed several types of interactions. The data also revealed learners' willingness to engage influenced the nature of pair work. Learners perceived difficulty of the activity, attitude towards the task and their proficiency level influenced the engagement.

Zawita and Ihsan (2019) investigated the effectiveness of pair work for students' writing ability. The study was done to find out the effectiveness of pair work activities technique on their writing ability. This study adopted the quasi-experimental design with only posttest. Participants were students who were at grade XI vocational school 1 in Sungai Penuhengage. Two classes were chosen as the sample; one experimental and one control class. After undergoing the treatment, the students did their writing test. Findings revealed that the pair work techniques is effective. Students' writing ability were better.

Kaweera, at.al (2019) carried out a qualitative study was done to compare the individual and collaborative writing. The collaborative writing included pair and group of four. The participants were 72 EFL students. The participants were assigned writing tasks using individual or collaborative forms. Data was collected from interviews. There were nine students altogether. They had different levels of English proficiency (low, fair and high). The students were asked about their perspectives on the writing tasks. Their responses were categorized into writing, thinking, participation, communication as well as their satisfaction of these activities. Findings revealed that individual and pair work encourages participation skills. On the other hand, group work encouraged writing skills. When it comes to students of different proficiency, the low group reported they enjoyed co-authoring activities in pairs or groups. Results showed the students' satisfaction increased according to the number of group members-they preferred group writing.

Hence, group collaboration, be it pair or larger group provide more benefits to students compared to individual work. Besides team work, interaction, communication and negotiation play important roles.

### **Conceptual Framework**

Figure 2 below shows the conceptual framework of the study. This study explored pair interaction using the guiding principles of social cultural theory by Vygotsky (1978). The theory states that for interaction among team members during pair work. The first criteria for the theory is that the interaction depend son language as a tool. In the context of this study, the team members used English as a foreign to communicate. The next criteria is ZPD. This refers to the gap between what the members can do independently and what they achieved as a pair. The last criteria is social internation. Students work in pairs to complete the task given. They depended on their negotiation and problem-solving to complete the task as a pair.

In addition to that, this study also investigates the relationship between language use and ZPD. It also explores the relationship between ZPD and social interaction as well as the relationship between social interaction and language use.

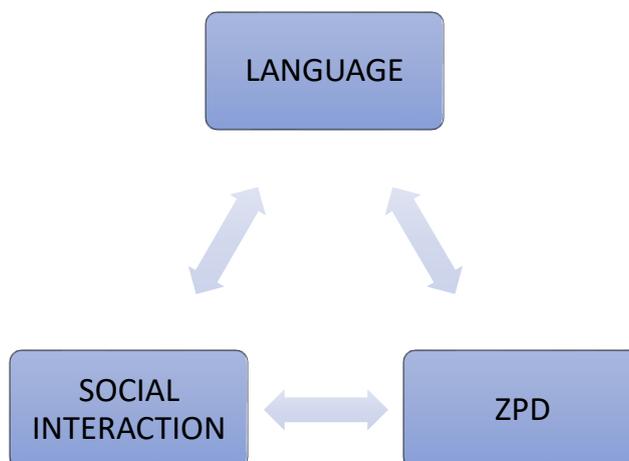


Figure 2- Conceptual Framework of the Study  
Interactions in Pair Work through the Social Cultural Theory

**Methodology**

This quantitative study is done to explore motivation factors for learning among undergraduates. A purposive sample of 36 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is anchored from Vygotsky’s (1984) concept of social constructivism theory and the instrument is replicated from Baleghizadeh & Farhesh (2014) to reveal the variables in table 1 below. The survey has 4 sections. Section A has items on demographic profile. Section B has 14 items on reading difficulties. Section C has 17 items on global strategies. Section D has 8 items on problem-solving strategies and section E has 9 items on support strategies.

Table 1  
*Likert Scale used*

1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Table 2  
*Distribution of Items in the Survey*

SECTION	SOCIAL CONSTRUCTIVISM (Vygotsky, 1984)	ITEM	Cronbach Alpha
B	Language as a tool	9	.876
C	ZPD	9	.953
D	Social Interaction	9	.950
		27	.966

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of .876 for Language as a tool, .953 for ZPD and .95 for Social Interaction. The overall Cronbach Alpha for all 27 items is .966; thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

## Findings

### *Findings for Demographic Profile*

Table 3

Percentage for Demographic Profile

Question	Demographic Profile	Categories	Percentage (%)
1	Gender	Male	53%
		Female	47%
4	Learning Preferences	Online	61%
		Face-to-face	39%

Table 3 presents the percentage for demographic profile of respondents. 53% of them are male while 47% of them are female. Next, 61% of the respondents preferred online classes while 39% preferred fact-to-face classes.

### *Findings for Language*

This section presents data to answer research question 1- How do learners perceive language as a tool in pair work?

Table 4

*Mean for LANGUAGE AS A TOOL*

ITEM	Mean	SD
SIQ1 I like English learning activities in which students work together in pairs or small groups.	4.6	0.8
SIQ2 I prefer to work by myself in the English class, not with other students.	4.2	1.4
SIQ3 Group activities and pair-work in the English class are NOT a waste of time.	4.6	0.8
SIQ4 Pair work or small groups create a relaxing learning environment.	4.7	0.5
SIQ5 Students give more help to each other during pair work or small groups.	4.7	0.6
SIQ6 I enjoy working within a pair or group.	4.7	0.7
SIQ7 I prefer to work within a pair or small groups rather than work alone.	4.7	0.7
SIQ8 I am not afraid to ask for help from my friends in pair work or small groups	4.8	0.4
SIQ9 I feel relaxed within a group or pair or small groups.	4.7	0.7

Table 4 shows the mean for language as a tool. The highest mean is 4.8 (SD=0.4) for item no 8 that reports that the students were not afraid to ask for help from their friends when they work in pairs. Next, five items share the same mean of 4.7. Firstly, students reported that they pair work gave them a relaxing environment (SD=0.5). Second, it was reported that the students gave more help to each other during pair work (SD=0.6). Thirdly, the participants reported that they enjoyed working in pairs (SD=0.7). Next, the students reported that they

preferred to work in pairs than alone ( $SD=0.7$ ). Lastly, they reported that they were relaxed within the group ( $SD=0.7$ ).

#### *Findings for ZPD*

This section presents data to answer research question 2- How do learners perceive ZPD in pair work?

Table 5

#### *Mean for ZPD*

ITEM	Mean	SD
KCQ1 Pair or small groups help students solve tasks better and faster.	4.7	0.7
KCQ2 Pair or small groups help students more chances to exchange ideas with each other.	4.7	0.6
KCQ3 Pair or small groups help enhance students' effective use of English when talking to each other.	4.7	0.5
KCQ4 Pair or small groups help improve students' fluency.	4.6	0.4
KCQ5 Pair or small groups help students understand information better after explaining it to others.	4.6	0.6
KCQ6 Contributing ideas within a group or pair often makes me feel better about myself.	4.6	0.6
KCQ7 Pair or small groups help students understand other group members' ideas.	4.7	.0.5
KCQ8 When pairs or small groups are well organized, the work gets done fast.	4.6	0.6
KCQ9 I often think the work becomes less confusing when done in a pair or small groups rather than individually.	4.5	0.7

Table 5 shows the mean for ZPD. Four items share the highest mean of 4.7. Firstly, participants reported that pair work helped them complete tasks better and faster ( $SD=0.7$ ). Secondly, they reported that pair work enabled them to exchange ideas ( $SD=0.6$ ). Next, they reported that pair work allowed them to practice using the language with their friends ( $SD=0.5$ ). Finally, pair work helped them understand the ideas of their friends ( $SD=0.5$ ). Four items also shared the same mean of 4.6. Students felt pair work improved their fluency ( $SD=0.4$ ). They also reported that they understood better when they had to explain to their friend ( $SD=0.6$ ). The students also felt that when they contributed ideas within the group, they felt better about themselves ( $SD=0.6$ ). They also agreed that when the pair is organised, they complete the work faster ( $SD=0.6$ ).

#### *Findings for Social Interaction*

This section presents data to answer research question 3- How do learners perceive social interaction in pair work?

Table 6

*Mean for SOCIAL INTERACTION*

ITEM	Mean	SD
SCCQ1 Students learn more about how to share the responsibilities when working in pairs/groups	4.6	0.6
SCCQ2 I sometimes feel nervous when I have to give my ideas or communicate to others.	4.3	1.0
SCCQ3 I feel more accepted by others after working within a pair or group.	4.5	0.6
SCCQ4 When the pair is achieving its goal, I feel satisfied.	4.6	0.5
SCCQ5 I often have a strong feeling of satisfaction when I become totally involved in a group achievement.	4.5	0.6
SCCQ6 It is important that other group members take responsibility for the learning as well.	4.6	0.5
SCCQ7 Pairs or small groups should organize themselves so that the work is divided evenly.	4.5	0.6
SCCQ8 I never feel let down by other group members.	4.5	0.6
SCCQ9 I often feel in charge when working within a group.	4.5	0.6

Table 6 reveal the mean for social interaction. Three items share the same highest mean of 4.6. The students reported that pair work helped them share responsibilities (SD=0.6). Next, they reported they felt satisfied when they pair achieved their goal (SD=0.5). They also reported that it was important that each team members needs to take responsibility of their learning (SD+0.5). The lowest mean is 4.3 (SD=1.0) when students reported that they felt accepted when they worked with the pair.

*Findings for Relationship between all Components in Pair Work*

This section presents data to answer research question 4- Is there a relationship between all components in pair work? To determine if there is a significant association in the mean scores between all components in pair work, data is analysed using SPSS for correlations. Results are presented separately in table 7, 8 and 9 below.

Table 7

*Correlation between Language Use and ZPD*

		LANGUAGE USE	ZPD
LANGUAGE USE	Pearson (Correlation)	1	.794**
	Sig (2-tailed)		.000
	N	36	36
ZPD	Pearson (Correlation)	.794**	1
	Sig (2-tailed)	.000	
	N	36	36

\*\* Correlation is significant at the level .01 level (2 tailed)

Table 7 shows there is an association between language use and ZPD. Correlation analysis shows that there is a high significant association between language use and ZPD ( $r=.794^{**}$ ) and ( $p=.000$ ). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation

from 0.5 to 1.0. This means that there is also a strong positive relationship between language use and ZPD.

Table 8

*Correlation between ZPD and Social Interaction*

		ZPD	SOCIAL INTERACTION
ZPD	Pearson (Correlation	1	.762*
	Sig (2-tailed)		.000
	N	36	36
SOCIAL INTERACTION	Pearson (Correlation	.762*	1
	Sig (2-tailed)	.000	
	N	36	36

\*\* Correlation is significant at the level .01 level (2 tailed)

Table 8 shows there is an association between ZPD and social interaction. Correlation analysis shows that there is a high significant association between ZPD and social interaction ( $r=.762^{**}$ ) and ( $p=.000$ ). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship ZPD and social interaction.

Table 9

*Correlation between Social Interactions and Language Use*

		SOCIAL INTERACTIONS	LANGUAGE USE
SOCIAL INTERACTIONS	Pearson (Correlation	1	.757*
	Sig (2-tailed)		.000
	N	36	36
LANGUAGE USE	Pearson (Correlation	.757*	1
	Sig (2-tailed)	.000	
	N	36	36

\*\* Correlation is significant at the level .01 level (2 tailed)

Table 9 shows there is an association between social interaction and language use. Correlation analysis shows that there is a high significant association between social interaction and language use ( $r=.757^{**}$ ) and ( $p=.000$ ). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship social interaction and language use.

## **Conclusion**

### *Summary of Findings and Discussions*

In group work, language is needed as a tool for communication. Findings revealed the students were not afraid to ask for help from their friends when they worked in pairs. The group work gave them the opportunity to practice the target language. They used the language to exchange ideas. This is in line with the studies by Kim (2020) and Rahmat & Whanchit (2024) who used social cultural theory to show that group interaction encourages language usage.

This study also revealed that students found that pair work allowed them to help one another. They reported to have enjoyed the interaction. The findings is in accordance with the study by Raianti,et.al. (2023) who reported that group work reduces students' anxiety.

In addition to that, results of this study indicated that students reported the pair work improved their language fluency. They reported that they were more open to share and receive new ideas from each other. This is also reported by Hiromori (2021) and Alfina,et.al. (2021) who also said that pair work did have an impact on writing quality of students.

### *Implications and Suggestions for Future Research*

This study used its anchor from two major theories; social constructivism and social cultural theory. The main takeaway from social constructivism is the social interaction in group/pair work increase students' cognitive components. The interaction increased opportunities to practice problem-solving skills (when there are conflicting ideas) and also negotiation skills.

As far as social cultural theory is concerned, the pair interaction gave students the opportunity to practice the target language in a more relaxed environment. The concept of ZPD (zone of proximal development) is applied when students showed they achieved (in terms of ideas, knowledge construction) more in a group/ pair than they would alone.

The results of this study showed the need to have more group activities. Students gain more than the completed assigned task. Future research could look into making a comparison between paired and group (3 or more in a group) interaction. Results of this study added the existing body of knowledge concerning pair work activities. Pair work is as important as group work. The interaction between learners in pair work is as beneficial (if not more) when it comes to improving problem-solving and critical thinking skills.

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