

Comparative investigation of the effect of cooperative group size on Iranian EFL learners' writing proficiency and attitudes

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Abstract

This study scrutinized the comparative effect of cooperative group size (pair-work vs. group work) on Iranian EFL learners' writing proficiency and their attitudes towards this form of learning. To do this, 60 homogenized participants took part in this study and they were randomly assigned to two experimental groups (20 in pair-work, and 20 in group work) and one control group (20 participants). Before the treatment, they all had one writing task which was used as the retest. The experimental groups went through collaborative writing and the control group was based on the usual mainstream class procedure for 10 writing topics chosen based on their preferences. They all had the final writing task after treatment which was used as the post-test. The result of the independent samples t-test showed that pair-work and group did have a positive effect on the writing, but pair-work turned out to be more efficient than group work. In the interview section, it was revealed that the main reason was the dynamism of the group and the structure of the interaction among the peers in the pair work and the group work that made the difference.

Keywords: Attitudes; cooperative group size; EFL learners; writing proficiency

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1. Introduction

Collaborative writing has gained interest in the last decade; however, as stated by Shin et al., (2016) more research is required to delve into various aspects of this multifarious class activity. Cooperative learning can be defined as a variety of concepts and techniques that put a premium on improving the inherent value that it postulates to exist in student-student interaction (Jenkinson et al., 2019).

Cooperative learning can be used in different language skills, such as writing. The reason that it can prove viable for the instruction of writing is that as stated by Brwon (2015), it is a Cinderella skill, not getting the attention it deserves. The situation gets worse when we consider the point that writing can be regarded as an activity that is challenging for most learners, especially in a foreign language context like Iran and for Iranian EFL learners. Therefore, they have to allocate much time to accomplishing those subject materials that are related to writing to meet the minimum requirement in the expectation in the real world. However, most of the time, they are not able to deliver satisfactory work and they avoid being an active learner in writing classes because the writing process seems unpleasantly challenging for them.

To obviate some of the inherent difficulty in writing tasks, Flowers and Hayes (1981) proposed a model namely the cognitive writing process comprising several stages of writing such as generating an idea, planning, reexamining, and translating thought into text which can be dealt with separately to make them less challenging for the students. If applied and practiced especially collaboratively, they can be hoped to reduce some of the problems associated with EFL learners' writing such as less cohesion and more errors (Hyland, 2003).

Therefore, various teaching approaches are being used to improve students' writing levels (Ahangari & Samadian, 2014; Shaaban & Ghaith, 2005; Zamani, 2016; Yamashita, 2021; Tsiriotakis et al., 2020). Group work and pair work are effective ways to improve the quality of writing solo (Shammout, 2020; Teng, 2022; Campbell & Batista 2023). They help to create an interactive student-student and teacher-student atmosphere. This study intended to scrutinize the comparative effect of cooperative group size (pair-work vs. group work) on Iranian EFL learners' writing proficiency and attitudes towards pair-work vs. group work.

1.1. Purpose of study

Collaborative writing is widely researched for its effects on students' writing accuracy; however, previous research studies fail to prove its effects on students' writing skills. Also, none of the previous studies have investigated the framework for students to compose argumentative essays collaboratively in the Iranian EFL context. The purpose of this article is to fill these gaps by considering group size as the independent variable by having collaborative vs. pair-work on EFL learners' writing skills.

The Research questions are as follows:

1. Does pair work have a significant effect on EFL learners' writing skills?
2. Does group work have any significant effect on EFL learners' writing skills?
3. Is there any significant difference between the effects of pair work vs. group work on EFL learners' writing skills?
4. What are Iranian EFL learners' attitudes towards the effect of pair work vs. group work on their writing proficiency?

1.2. Review of related literature

Group work is a method that includes working in groups to enhance critical, decision-making, collaborative, and communication skills to increase productivity (Slavin, 2010). Students in their

school and college life and individuals in their professional lives have to work in groups at one time or another. This practice is encouraged a great deal as it helps the team members to understand the content in a better way so that everyone can benefit from peer-to-peer instructions (Forslund Frykedal & Chiriac, 2014; Pourdana & Asghari 2021).

At present, there is strong support for the benefits of students learning and working in groups (Cooper, 1995; Faryadi, 2007). In addition, the research shows that collaborative work promotes both academic achievement and collaborative abilities (Baines et al., 2007). By working interactively with others, students learn to inquire, share ideas, clarify differences, problem-solve, and construct new understandings (Collazos & Mendoza, 2006; Jolliffe, 2007). Thus, group work might serve as an incentive for learning, in terms of both academic knowledge and interpersonal skills. Nevertheless, studies about what occurs during group work and which factors influence the student's ability to learn are still lacking in the literature, especially when it comes to addressing the students' points of view (Hansen, 2006). Positive group experiences, moreover, have been shown to contribute to student learning, retention, and overall college success (Alexander, 1993; Nelson Laird et al., 2006; Tinto, 1998; Heemskerk & Malmberg 2020). Properly structured, group work can reinforce skills that are relevant to both group and individual work (Griggs & Olson, 1997).

Overall, effective student participation in group work is an important learning outcome for higher education courses (Elgort et al., 2008). They believe that although many students feel as though they can accomplish assignments better by themselves rather than in a group, instructors find that group work helps the students apply knowledge. However, merely assigning a group does not by itself create critical thinking outcomes. Therefore, the instructor must be cognizant of how best to facilitate effective collaborative learning environments.

1.2.1. The effect of pair and group work in collaborative on students' writing quality

In a foreign language writing classroom, collaborative pre-writing activity is one of the common activities used by students to help them generate and evaluate their ideas before they write a text (Fitze & Glasgow, 2009; Lee, 2013; Beiki et al., 2020). A teacher usually assigns students to work in pairs or groups to accomplish the activity. However, whether the group size or the number of participants in collaborative pre-writing activity influences the quality of students' writing or not is still mysterious and needs to be investigated further. This study intended to investigate the effect of the group size as the independent variable on EFL learners' writing skill and their attitudes

1.2.2. Attitudes on pair work and group work in writing

Attitude and motivation have been studied extensively in TEFL. Salvin (1995) stated that cooperative learning had a positive effect on learners' attitudes. It seems that large numbers of studies have attested to the positive effect of cooperative learning on learners' attitudes. A big portion of studies indicates that the use of cooperative learning techniques can lead to positive attitudes towards cooperative learning and increased speaking skills (Suhendan & Bengu, 2014; Ning and Hornby, 2010; Ning, 2011; Pattanpichet, 2011; Yang, 2005). Recent studies have attested to his findings. The positive effect of cooperative learning on learners' achievement and attitude has been reported by different studies (Ning and Hornby, 2010; Ning, 2011; Talebi and Sobhani, 2012; Pattanpichet, 2011 and Sühendan & Bengü, 2014). Farzaneh and Nejadansari (2014) investigated EFL learners' attitudes toward the application of cooperative learning in reading classes. Analysis of the quantitative questionnaire results showed that the participants generally had positive perceptions about this method of learning reading comprehension. This was in line with the findings of Al-Tamimi & Attamimi, (2014) who studied the EFL learners' attitude toward cooperative learning in speaking classes in Yemen. Their results showed that in that context too, the learners held a positive attitude about cooperative learning in improving their speaking skills.

2. Materials and Method

A mixed method research design was used in this study where the effects of cooperative learning with different group sizes (pair-work vs. group work) were studied on EFL learners' writing skills and their attitude was studied.

2.1. Participants

The participants in the present study were 60 Iranian young adult EFL learners at the intermediate level of English proficiency studying at Kish Language School in the city of Kashan. They were selected from 90 students based on their performance on a Preliminary English Test (PET) administered to them before conducting the study. The selection was based on convenient non-random sampling. Following the administration of the PET to the 90 students, 60 of the participants whose scores fell between one standard deviation above and below the sample mean were selected as the main participants of the study and they were randomly assigned to the two experimental groups, 20 for pair work, 20 for group work, and 20 for the control group. Two experienced English language teachers also participated in the current study to rate the writings before the treatment (pre-test) and the writings after treatment (post-test).

2.2. Data collection instrument

The first material used in the current study was the English Proficiency Test (PET), except for the speaking part. The second instrument was the instructional material for writing which was used during the treatment. This included a different pamphlet on how to generate the idea, brainstorming, and different steps in writing, such as pre-writing, writing, and post-writing which included successive revisions based on the feedback the participants received either from their peer in pair work or the group members in group work. Before putting learners into different groups, the topics for the writing that had been collected from the internet were shared with the students for them to choose the ones they had an interest in. Out of 30 topics 10 that had received the highest votes were selected as the topics to work in all three groups. The reason for this was to keep the variable of the topic which could affect the quality and quantity of their writing the same across all three groups.

To have a relatively acceptable inter-rater reliability index, Weir's TEEP Attribute Writing Scales (Weir, 1990) were utilized. Both raters studied it and scored sample writings independently exchanged their ratings and via discussion tried to come to an acceptable level of mutual understanding for rating.

2.3. Research design

A mixed-method design was used in the current study. In the quantitative part, a pre-test, and post-test design was utilized with three groups; two experimental groups (one for pair-work, and one for group work) and one control group. Quantitative and qualitative data were collected together but analyzed separately so that different data types could complement each other in finding out the potential and possible effect of cooperative group size (pair-work vs. group work) on Iranian EFL learners' writing proficiency and their attitudes towards it.

2.4. Procedure

At first 90 EFL learners who were on the intermediate level at Kish (a well-known) Language School were selected based on convenience sampling. They all took PET which was administered to ascertain their homogeneity in their English language proficiency. In the next step, the participants took the pre-test argumentative writing test to ensure they had a relatively similar level in their writing. These writings were collected for data analysis for the pre-test state.

In the next stage, the participants were divided into three groups randomly; two experimental groups, one for pair work and one for group work; and one for the control group. The 10 topics for all three groups were the same and they were the ones that had received the highest votes out of the 30 topics the participants had received.

In the pair-work experimental group, the 20 participants were divided into 10 pairs and they were given the first topic to brainstorm and exchange their ideas. Then they were asked to write their first draft. After that, they exchanged their draft and provided each other with their comments about different aspects of the writing. This included spelling, grammar, punctuation, overall organization, and diction. Based on the feedback they received from each other, they revised their writing. The revised copy was once more exchanged for further comments and further revisions to improve the quality of the writing as much as possible. This procedure was repeated for all 10 topics.

In the group-work experimental group, a similar procedure to the pair-work group was adopted except for the fact that in this group, four rather than two members were in each group. They followed the same steps, brainstorming, writing the first draft, exchanging the drafts, exchanging feedback and revising the drafts based on their peer's feedback, and exchanging the revised feedback, for further feedback and revision. This procedure was repeated for 10 topics. In the control group, the participants did their writing assignments on the same topics as the two experimental groups without according to the usual mainstream class management by the teacher. They did this for 10 writing topics. After 10 sessions, all participants in the experimental and control groups wrote their final writing, and these writings were collected to be analyzed as the post-test.

In the qualitative part of the data on EFL learners' attitudes about the independent variable (the size of the cooperative group), a semi-structured interview was conducted with 10 participants (five from either of the experimental groups) to find out how they felt about different aspects of cooperative learning.

2.5. Ethical consideration

In the course of conducting this research, the researcher had full consideration of ethical issues. The participants took part in the current study completely voluntarily without any obligation. They had informed consent to be part of this study and they were ensured that the researchers would maintain the participants' anonymity and confidentiality. All steps were taken to prevent any possible harm.

3. Results

In this section, the data analysis and the answers to the research questions will be presented.

As seen in Table 1, the reliability index of PET, comprising 75 items, was computed using the KR-21 method and turned out to be 0.91. Furthermore, Table 1 shows that the inter-rater reliability values for the argumentative writing pretest and posttest were estimated at 0.84 and 0.86 respectively via Pearson product-moment correlation coefficient between the two raters who scored the essays using Weir's (1990) TEEP Attribute Writing Scales.

Table 1
Reliability Statistics for PET and PET Argumentative Writing Test

Instrument	No. of Items	Reliability Method	Reliability Index
PET	75	KR-21	.913
Writing Pretest	60	Inter-rater	.843
Writing Posttest	60	Inter-rater	.858

The result of the homogeneity test of PET is presented in Table 2.

Table 2
Descriptive Statistics for PET Score Before Selection (Scores out of 75)

N	Mean	Median	Mode	SD	Skewness Ratio	Kurtosis Ratio
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88	48.13	48	43	9.66	-.374	-1.203
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Based on the results of PET (Table 2 above), among 90 students, those 60 students whose scores were one standard deviation minus plus the mean (scores between 38 and 58) were selected as homogeneous upper-intermediate participants for the present study. Also, Table 2 shows that the normality of the scores is proved as the ratios of skewness and kurtosis over their respective standard errors do not exceed the ranges of +/- 1.96.

3.1. Investigation of Research Question 1

The first research question of this study asked if pair work affected Iranian EFL learners' writing proficiency or not. To answer this research question, the first experimental group (pair-work) and the control group were compared with each other using an independent samples t-test in the pre-test and the post-test. The result of the independent samples t-test for the pretest is shown in Table 3 and Table 4.

Table 3

Descriptive Statistics of Pair-work Group and Control Group in Pre-test

	group	N	Mean	Std. Deviation	Std. Error Mean
pretest	pair	20	12.35	1.089	.243
	control	20	11.75	2.359	.527

As shown in Table 3, the mean score of the pair-work and the control group was 12.35 and 11.75 and the standard deviation was 1.08 for the pair-work and 2.35 for the control group. The results of the independent samples t-test are shown in Table 4.

Table 4

Independent Samples t-Test between the Mean Score of the Pair-work Group and Control Group in the Pre-test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
pretest	Equal variances assumed	1.539	.222	1.033	38	.308	.600	.581	-.576	1.776
	Equal variances not assumed			1.033	26.751	.311	.600	.581	-.592	1.792

As shown in Table 4, the significance level of the Levene test is .22 which is larger than .05, indicating that the assumption of the equality of variances has been assumed and the first row must be used for the interpretation of data. The result of the independent sample t-test shows that there was not a significant difference between the mean scores of the pair-work experimental group and the control group in the pre-test, indicating that any difference in the post-test can be attributed to the effect of the treatment (pair-work). The results of the post-test between the mean scores of the pair work and the control group are presented in Tables 5 and 6.

Table 5

Descriptive Statistics of Pair-work Group and Control Group in Post-test

	group	N	Mean	Std. Deviation	Std. Error Mean
posttest	pair	20	14.75	.850	.190
	control	20	11.40	1.231	.275

As presented in Table 5, the mean score and the standard deviation of the pair-work group in the post-test were 14.75 and .85 and for the control group, it was 11.40 and 1.23 respectively. Table 6 shows the result of the independent samples t-test

Table 6
Independent Samples t-test between the Pair-Work Group and Control Group

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	Lower	Upper
posttest	Equal variances assumed	2.200	.146	10.011	38	.000	3.350	.334	2.672	4.027	
	Equal variances not assumed			10.011	33.775	.000	3.350	.334	2.669	4.030	

As shown in Table 6, the significance level for the Levene test is .15 which is larger than .05 indicating that the assumption of the equality of variances has been assumed. The result of the independent samples t-test shows that there was a significant difference between the mean scores of the pair-work group and the control group in the post-test; $t(38) = 10.01$, sig. = .000, rejecting the null hypothesis and indicating that the pair work had a positive effect on the EFL learners' writing skills.

3.2. Investigation of Research Question 2

The second research question was if group work had any significant effect on the writing proficiency of EFL learners. To answer this question, the mean scores of the group work group and the control group in the pre-test and post-test were compared with each other. The result is shown in Tables 7 and 8 for the pre-test.

Table 7
Descriptive Statistics of Control Group and Group-Work Group in Pre-test

	group	N	Mean	Std. Deviation	Std. Error Mean
pretest	control	20	11.7500	2.35919	.52753
	group	20	12.5500	.94451	.21120

As shown in Table 7, the mean score and the standard deviation of the group work group were 12.55 and .95 and for the control group, it was 11.75 and 2.36 respectively. The result of the independent sample t-test is shown in Table 8.

Table 8
Independent Sample T-test between Group Work and Control Group in Pre-test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	Lower	Upper

pretest	Equal variances assumed	2.444	.126	-	38	.167	-.800	.568	-1.950	.350
				1.408						
	Equal variances not assumed			-	24.93	.172	-.800	.568	-1.970	.370
				1.408						

Based on the information presented in Table 8, the significance level for the Levene test is .13 which is larger than .05 indicating that the assumption of the equality of variance has not been violated. The result of the independent samples t-test shows that there was not a significant difference between the group-work group and the control group in the pre-test; $t(38) = 1.4$, $sig = .17$, indicating that any difference in the post-test can be attributed to the effect of the treatment. The result of the independent samples t-test in the post-test is presented in Tables 9 and 10.

Table 9

Descriptive Statistics of Group-Work Group and Control Group in Post-test

	group	N	Mean	Std. Deviation	Std. Error Mean
posttest	control	20	11.40	1.231	.275
	group	20	14.15	.988	.220

As shown in Table 9, the mean score and the standard deviation of the group-work group in the post-test were 14.15 and .99 and for the control group, it was 11.40 and 1.3 respectively. The result of the independent samples t-test in Table 10 shows is this difference in the mean scores is significant statistically.

Table 10

Independent Sample t-test between the Group-Work Group and the Control Group in Post-test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	Lower
posttest	Equal variances assumed	.952	.335	-	38	.000	-2.750	.352	-3.464	-2.035
				7.79						
	Equal variances not assumed			-	36.29	.000	-2.750	.352	-3.465	-2.034
				7.79						

According to the information in Table 10, the significant level of the Levene test is .34 which means that the assumption of the equality of variances has been fulfilled. The result of the independent samples t-test shows that there was a significant difference between the mean scores of the group-work groups and the control group in the post-test, $t(38) = 7.8$, $sig = .000$, indicating that the null hypothesis is rejected and that the group work as the independent variable had a significant effect on the writing proficiency of EFL learners.

3.3. Investigation of Research Question 3

The third research question was if there was any significant difference between the effects of pair work vs. group work on EFL learners' writing skills. To answer the research question, the mean scores of the two experimental groups (pair work vs. group work) in the pre-test and post-test are compared using an independent samples t-test. Table 11 and Table 12 show the results of the pre-test.

Table 11

Descriptive Statistics of Pair-Work vs. Group-Work in Pre-test

	group	N	Mean	Std. Deviation	Std. Error Mean
pretest	pair	20	12.35	1.08	.24
	group	20	12.55	.94	.21

As shown in Table 11, the mean score and the standard deviation of the pair-work group in the pre-test were 12.35 and 1.99 and for the group-work group, it was 12.55 and 0.94 respectively. The result of the independent samples t-test in Table 12 shows is this difference in the mean scores is significant statistically.

Table 12

Independent Sample t-test between the Pair-Work Group and the Group-Work Group in Pre-test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	Lower	Upper
pretest	Equal variances assumed	.550	.463	-.620	38	.539	-.200	.322		-.852	.452
	Equal variances not assumed			-.620	37.25	.539	-.200	.322		-.853	.453

According to the information in Table 12, the significant level of the Levene test is .47 which means that the assumption of the equality of variances has been fulfilled. The result of the independent samples t-test shows that there was not a significant difference between the mean scores of the pair-work groups and the group-work group in the post-test, $t(38) = .62$, $sig = .54$, indicating that in the pre-test they did not differ in their mean score, hence any significant difference in t post-test can be attributed to the effect of the treatment. The result of the post-test is presented in Table 13 and Table 14.

Table 13

Descriptive Statistics of Pair-Work vs. Group-Work in Post-test

	group	N	Mean	Std. Deviation	Std. Error Mean
posttest	pair	20	14.75	.850	.190
	group	20	14.15	.988	.220

As shown in Table 13, the mean score and the standard deviation of the pair-work group in the post-test were 14.75 and .85 and for the group-work group, it was 14.15 and .99 respectively. The result of the independent samples t-test in Table 14 shows is this difference in the mean scores is significant statistically.

Table 14

Independent Sample t-test between the Pair-Work Group and the Group-Work Group in the Post-test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	Lower	Upper

									Lower	Upper
posttest	Equal variances assumed	.235	.630	2.05	38	.046	.600	.291	.009	1.190
	Equal variances not assumed			2.05	37.17	.047	.600	.291	.009	1.190

According to the information in Table 14, the significant level of the Levene test is .63 which means that the assumption of the equality of variances has been fulfilled. The result of the independent samples t-test shows that there was a significant difference between the mean scores of the pair-work groups and the group-work group in the post-test, $t(38) = 2.05$, $sig = .046$, indicating that the null hypothesis is rejected and that the pair-work group outperformed group-work group in the post-test, a result that needs explanation and discussion.

4. Discussion

The fourth research question aimed to investigate Iranian EFL learners' attitudes towards the effect of group work vs. Pair work on their writing skills. To respond to the fourth research question, data from the semi-structured interviews were analyzed to explore the EFL learners' attitudes toward this variable of interest. To this end, the qualitative data were analyzed to see how the students evaluated the effect of group size in collaborative writing activities in both positive and negative aspects. Implementing collaborative writing activities in the writing classrooms had certain benefits as well as limitations. Communication difficulties were unavoidable issues. Ten participants from the two experimental groups were selected (five from either) and expressed their evaluation of the positive and negative sides of the group size in collaborative learning.

The main question asked was which one they preferred as the mode of collaborative learning; pair work or group work. Seven out of 10 learners opted for pair work. the main reason they expressed their preference was that in pair work they could have their privacy and the management of turn-taking was a lot easier than it would be the case in group work which posed a challenge in this regard because some of the participants held the floor more than the other members which led to the dissatisfaction of the latter and minimized their cooperativeness. This seemed to be even more important because the class time for the pair work or the group work was limited and management of turn-taking in a way that all members had a relatively equal amount of time available was very important. The positive point mentioned for group work against the pair-work was the vibrant nature and the fact that feedback could be obtained from different sorts and could cover each other's weaknesses. The positive point that both group sizes shared was the opportunity for the learners to practice their autonomy and sort out their problems in writing by scaffolding each other, independent from their teacher, whose assistance in crowded classes is impossible. Even if the classes were not crowded, the status disparity between the teacher and the students is likely to reduce the quality of interaction between the two, a point which is obviated in the pair-work or group work.

The other important point that became clear is that contrary to the common perception that a certain kind of arrangement must be practiced to pair a less proficient with a more proficient member to achieve the optimal result, the students interviewed mentioned that this does not have to be the case, and even paring two less proficient learners can do the job optimally. It seems that even less proficient learners could do something in collaboration and by scaffolding each other that neither could do alone, a point that seems to be in line with the findings of McCafferty et al., (2006).

The positive effect of collaborative writing has been acknowledged and studied extensively in the field of language learning. However, the effect of group size has not attracted enough attention and this current study aimed to partially fill this gap. The first research question asked if pair work affected Iranian EFL learners' writing proficiency. The result of the independent samples t-test indicated that

pair work had a significantly positive effect on the writing proficiency of Iranian EFL learners. The second research question inquired whether group work affected Iranian EFL learners' writing proficiency. Once more the result of the independent sample t-test showed that it had a significantly positive effect on EFL learners' writing. The purpose of the third research question of the current study which was the main variable of the study was to find out if there was any significant difference between the effects of pair work and group work on the Iranian EFL learners' writing proficiency. Independent samples t-test results revealed that the pair-work group outperformed the group-work group, a result that was interesting and needed explanation.

The explanation for the higher efficacy of the pair work in comparison to the group work came from the interview in which the main reason was the dynamism and inherent feature of pair work; the orderly and constructive interaction between the pairs in which turn-taking was observed and the feedbacks could be negotiated with a better quality than the one in the group-work group. The reason was that in the absence of management of turn-taking, the group work can turn into confusion with a less positive result or with more likelihood that the whole group could be monopolized by those members who are more proficient or more outgoing than the less proficient or less sociable member who needed more attention or scaffolding.

On the general notion of efficacy of the collaborative writing, the result of the current study follows Ajmi and Ali (2014) who revealed that collaborative writing activities helped create opportunities for students to share skills and experiences so that they could learn a lot from one another. It also gains support from Dobao and Blum (2013), who found that collaborative writing greatly impacted the learners' grammatical and lexical accuracy. These findings are also congruent with the study of Pham and Usaha (2016), who found that the EFL learners could fix the surface errors by themselves, but they needed help from their peers to clarify mistakes relating to the content, idea development, and writing organizations. Pham and Usaha also found that when students worked together to compose writing, they could learn from one another about idea development, writing styles, vocabulary, and sentence structures. Dobao and Blum (2013) also concluded that when students discussed or brainstormed ideas together to compose collaborative writing, they could learn many things from each other, a point that taking the findings of the current study seems to happen more in pair work rather than group work.

The result of the current study is in contrast with AbuSeileek (2012) who found that the 5-student group significantly outperformed other groups of 2–7 members on the post-test communication skills due to a higher amount of constructive interaction among the group members, a point that due to poor management of turn-taking tuned out less likely in groups with less-than-ideal interaction structure. The effect of the interaction dynamics as an important factor is emphasized by Saqr et al., (2019). They found that in general, larger group size leads to decreased performance of individual students and poorer and less diverse social interactions. In their study, a high group size led to a less cohesive group, with less efficient communication and less information exchange among members. Large groups may facilitate isolation and inactivity of some students, which is contrary to what collaborative learning is about.

Finally, the fourth research question of this study explored the Iranian EFL learners' attitudes toward the effect of group work on their writing proficiency. The results of the qualitative analysis showed that generally, the EFL learners have a positive attitude towards learning writing through collaborative group work; in fact, they expressed that they gain motivation, independence, negotiation, and peer support. However, the qualitative results indicated that the learners dispute and disagree with each other inevitably, leading to making noise in the classroom so much so that it can be disturbing to classmates' concentration. This point was emphasized in the difference between the pair-work and group work which led to more learners choosing pair work rather than group work as the optimal collaborative organization in the class because they could both receive constructive feedback from their peers and at the same time avoid the confusion among the different group

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members. This point is supported by Ajmi and Ali (2014), who concluded that their students did not collaborate positively in writing, and they tended to have conflicts when they worked together in writing activities in groups.

In general, it can be concluded that the optimal group size as a fixed and unitary concept does not exist and in each class or instructional situation, the optimal group size must be determined with the help of the learners' attitudes and perception about its efficacy and usefulness rather being imposed by the teacher. The other point is that varying group sizes might prove useful provided the group members are made aware of the characteristics and mechanism of the group, the nature of the interaction, turn-taking, attention to intonational pattern, facial expression, or body language in either holding or relinquishing the floor in interaction, to make the group as useful as possible.

5. Conclusion

The current study investigated the effect of group size on EFL learners' writing skills. It was found that pair-work was more optimal than group work due to problems related to interaction patterns between peers in group work. It was suggested that for optimizing the efficiency of group work, teachers and learners need to be aware of conversational patterns such as the importance of turn-taking, noticing body language and facial expressions to let their peers have enough time to express themselves and feel satisfied with their contribution. Future qualitative studies can focus on the important factors expressed by the learners about their level of satisfaction or dissatisfaction with the group size.

The pedagogical implication is that determining group size should be done with the personality characteristics of the students and their level of language proficiency as important factors into account by the teachers to make a group function efficiently and optimally.

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