Research Article

A Sociocultural Perspective on Second Language Writing: The Effect of Symmetrical versus Asymmetrical Scaffolding on Intermediate EFL Learners' Writing Accuracy, Fluency, and Complexity and Their Attitudes

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This study investigated the effect of different patterns of scaffolding (symmetrical and asymmetrical) on Iranian English as a Foreign Language (EFL) students' writing accuracy, fluency, and complexity. For this purpose, 90 intermediate female EFL learners took a Preliminary English Test (PET), based on which those whose scores fell one standard deviation below the mean were considered as low intermediate and those whose score was one standard deviation above the mean were considered as high intermediate learners. So, the participants were grouped into three symmetrical and asymmetrical patterns in terms of their language proficiency level: one asymmetrical group with High Intermediate-Low Intermediate learners (H-L), two symmetrical groups with High Intermediate learners (H-H), and another with Low Intermediate learners (L-L). There were 30 students in each group who were, then, divided into smaller groups to interact with each other to develop their essays during a treatment. To evaluate participants' writing skill, they were made to take a pretest and a post-test. The results of one-way ANOVA and Kruskal–Wallis H tests showed that there were significant differences between the three scaffolding patterns in the writing accuracy and complexity of the EFL students, but not their writing fluency. The findings of the content analysis for the interview further showed that the students had positive attitudes towards the use of the collaborative writing method as they found it enjoyable and beneficial. The results have implications for teachers and learners.

1. Introduction

The development of the writing skill has been subject to different changes according to varying instructional approaches. One major shift was from a teacher-centered classroom to a student-centered one where the focus of the communicative approaches has been altered towards learning the second language (L2) in contextualized and meaningful ways. In the same way, Collaborative Writing (CW) activating the social resources of the learners focuses on their agency in learning and helps the development of learner autonomy [1].

Various meta-analyses of research studies on effective instructional practices confirm the assumption that collaboration has a positive impact on writing quality [2].

Studies suggest that working collaboratively in smaller groups or pairs results in better writing than whole-class teaching [3–5]. This line of inquiry especially becomes more significant when all the written dimensions of accuracy, fluency, and complexity are taken into account. A balanced development of L2 writing, according to Skehan [6], lies in an equal attention given to its accuracy, fluency, and complexity. These concepts have been indicated as main research variables in second language acquisition research [7].

Moreover, a worthwhile endeavour would be to understand how scaffolding patterns affect the writing quality using advanced linguistic forms accurately, fluently, and appropriately. Regardless of the significance of collaborative writing practice in language classes, there are still some

features of collaboration that need more research attention. Furthermore, regarding the types of scaffolding divided into symmetrical versus asymmetrical patterns, there have been few research attempts so far. It is, therefore, not surprising that no hypothesis is proposed about the role of scaffolded writing with different patterns in the dimensions of writing performance (e.g., complexity, accuracy, and fluency) that can provide potential insight into L2 writing development. Therefore, this study was an attempt to assess the asymmetrical and symmetrical patterns of scaffolding (as grouped by levels of proficiency) in terms of their effect on intermediate EFL learners' writing accuracy, fluency, and complexity.

2. Review of the Literature

2.1. Sociocultural Theory. Students' ability to learn and write does not occur only through their own personal and individual cognitive activities. It is also being influenced and contributed both consciously and unconsciously by individuals' social and cultural context that surround them in the same way [8]. Most theories of and research studies investigating second language acquisition and learning are based on cognitive processes, usually in experimental conditions, and do not take the broader social context into account. By contrast, a sociocultural perspective, based on the pioneering work of Vygotsky [8], places the social context at the heart of the learning and communication process. Vygotsky posited that human learning cannot be understood independently from the social and cultural forces that influence individuals and that sociocultural interactions are critical to learning.

For Vygotsky [8], the context has the central role in the development of higher mental activities such as voluntary attention, intentional memory, logical thought, planning, and problem solving. In sociocultural theory, learning is viewed as a social event happening as a result of interaction between the learner and the context [9]. It needs to be noted that this framework formed the theoretical support of the present study as we focused on how different patterns of interaction defined by levels of proficiency could affect the writing quality of the learners.

2.2. Scaffolding. Scaffolding is a process by which teachers or proficient learners provide less proficient students with a temporary framework for learning [10]. Students can develop creativity and motivation if scaffolding is provided correctly [10]. When students increase their skills and knowledge, scaffolding is diminished completely and they no longer need it [10]. Sociocultural theory highlights the advantages of intervention in the process of learning. Intervention or mediation is a kind of the dynamic method of instruction which is built on the interaction among learners and the teacher to learn the language. Mediation can be interventionist, when the assistance is given using some predetermined clues for the students usually provided by a computer and/or software, or it can be interactionist [9]. Scaffolding is based on the interactionist mode of instruction

or assessment. One of the most well-known theories of interaction is Vygotsky's Zone of Proximal Development (ZPD) which refers to the distance between the student's actual developmental level and proximal level [9].

2.3. Symmetrical and Asymmetrical Scaffolding. Scaffolding is a general concept with widespread divisions. For instance, there are two types of scaffolding including the symmetrical and asymmetrical forms. As a matter of fact, symmetrical scaffolding is based on the assumption that learners uncover new knowledge by means of getting involved in cooperation and interaction. Baleghizadeh et al. [11] attempted to clarify the symmetrical scaffolding by providing an example: "Student A is good at using a strategy for reading comprehension, while student B is good at vocabulary. Therefore, they can help each other in the course of reading" (p. 105). The resemblance between symmetrical scaffolding and group work and cooperation is so significant that some researchers refer to them interchangeably or are more likely to use cooperation more generally. However, in the present study, a distinction has been made between them. Accordingly, in symmetrical scaffolding, learners are engaged in cooperative work with other members who are identified to be at the same levels of ZPD, while in collaboration, the possible levels of the learners are not taken into account.

In contrast to the symmetrical scaffolding, in the asymmetrical scaffolding type, the learners with different ZPDs are involved in different groups to collaborate with each other. The concepts of scaffolding and ZPD principally encompass the provision of asymmetrical scaffolding in teaching and learning. Asymmetrical scaffolding is supported by Vygotsky [8] stating that, in a joint activity, an expert needs to provide support to a novice to carry out a task that is beyond his/her level of ability.

There has been evidence from some previous studies to show the positive effect of asymmetrical scaffolding on L2 learning [12] in general and L2 writing [13] in particular. In contrast to Vygotsky's asymmetrical scaffolding, Piaget [14] lent support to symmetrical scaffolding postulating that cognitive development is ensured when there is limited conceptual and social gap between peers [15]. Accordingly, Van Lier [16] verified that the ZPD needs to be enlarged to comprise both an expert-novice relationship and an equal peer relationship which can be in the form of a less able peer.

The role of symmetrical and asymmetrical scaffolding, particularly in L2 writing, has been subjected to some studies. For instance in the context of Iran, Hanjani and Li [17] investigated how Iranian learners' peer revisions of their argumentative texts according to the feedback provided by the teacher improved their written productions. The results revealed the beneficial nature of peer revisions and that the asymmetrical collaboration led to written enhancement in all learners regardless of their proficiency.

2.4. Collaborative Writing. Collaborative learning has roots in Vygotsky's perspective regarding social interaction and constructivism which focuses on student-centered learning. It emphasizes the active role of students in the class and their

accountability for their own learning, especially when they contribute to collaborative language output activities [18, 19]. Accordingly, collaborative writing (CW) includes two or more people who interact mutually, work together, and share responsibilities, resources, and decision-making power in order to produce one document in the writing process [20]. According to Fung [20], CW is dialogic in which the emphasis is on the context of the writing and the relationship among the students.

McDonough et al. [21] assert that students' responsibility on every step of the collaborative writing process leads to a higher quality of writing. Storch [22] and Storch and Wiglesworth [4] also claim that writing collaboratively leads learners to achieve higher scores than writing individually. The interaction among learners indicates each individual's competence, as well as his/her contribution to the success of the group [20, 22–24]. Therefore, researchers have been interested to investigate some variables such as language proficiency grouping or scaffolding patterns that moderate peer/group interaction for learning [4, 25, 26].

2.5. Related Empirical Studies. There have been a number of studies that have looked into the effect of different pedagogical conditions on the development of language skills through collaborative writing (CW). Within the realm of collaborative tasks, Wiggleworth and Storch [27] investigated the advantages of CW in second language acquisition (SLA) contexts including 48 pairs. Results indicated that collaboration had a positive effect on accuracy, but not on fluency or complexity. Moreover, Elola and Oskoz [28] analyzed learners' individual and CW by investigating how L2 learners approached the writing task in the wikis, examining learners' interactions in constructing content, structure, and other aspects of the writing task, and describing learners' attitudes toward CW. The findings indicated that there were no significant differences in terms of writing accuracy, fluency, and complexity between individual and collaborative assignments; however, learners' interactions with the text differed when working individually or collaboratively.

Pathinathan and Mei Fung [29] investigated the types of conflicts happening during CW among a group of English as a Second/Foreign Language (ESL/EFL) students. They used audio and video recordings of collaborative sessions, semistructured interviews, and students' journal for the data collection process. The results of the study revealed two important types of conflicts happening during the collaboration, namely, substantive conflict and affective conflict. Substantive conflict was useful for the group to voice disagreements and consider alternative ideas. However, affective conflict happened when group members had misunderstandings and differences due to personal views.

Chen and Yu [30] explored students' perceptions of CW in a teacher-centered class. The analysis of data sources (i.e., video recordings, in-depth, semistructured interviews, stimulated recall interview, and four response papers) from the participants revealed that CW was reported as beneficial for improving writing, providing the opportunity to pool ideas, and having positive emotional and social effects. However, the participants perceived that it limited their learning and thinking, increased the difficulty of dealing with different views, and brought negative emotions (e.g., loss of self-confidence) and social effects (e.g., feeling isolated).

In the Iranian context, Biria and Jafari [31] examined the impact of applying peer writing on the Iranian EFL learners' fluency. The findings revealed that practicing in pairs did improve the overall quality of the learners' writing productions even though the fluency of written texts did not change significantly.

Soleimani et al. [32] investigated the effect of two writing conditions, namely, peer-mediated/collaborative vs. individual writing on female EFL learners' writing fluency, accuracy, and complexity. A two-way analysis of variance statistics revealed that, across both proficiency levels, collaborative groups outperformed the individual groups in terms of fluency and accuracy, but not in complexity.

Mozaffari [33] compared the nature of student-selected and teacher-assigned pairs while they were required to write a composition collaboratively in the classroom. The data were analyzed for language-related episodes. Mozaffari found that the teacher-assigned pairs outperformed the student-selected pairs in fluency and accuracy and produced significantly better texts in terms of organization, grammar, and vocabulary.

Jalili and Shahrokhi [34] explored the effects of individual and collaborative teaching on the writing anxiety of Iranian EFL learners. In addition, the participants' attitudes towards CW were investigated. The participants divided in two groups were asked to compose a story individually and in pairs. The Second Language Writing Anxiety Inventory (SLWAI) and the CW Questionnaire (CWQ) administered after the treatment revealed that collaboration led to the reduction of learners' writing anxiety rates. Furthermore, the participants had a positive attitude towards CW.

Khodabakhshzadeh and Samadi [35] examined the effect of CW on task achievement of Iranian EFL learners. The findings revealed that the collaborative group outperformed the individual group. The participants in the collaborative group were interviewed, and their perception toward CW was investigated. A semistructured interview through thematic analysis revealed that participants found CW effective in terms of motivation, peer feedback, comprehensive view over the topic, changing ineffective writing habits, and vocabulary learning.

Notwithstanding the studies conducted in the literature of CW, the effects of symmetrical and asymmetrical scaffolding patterns as defined by the students' level of proficiency have not been investigated yet, especially in the context of Iran. Moreover, no investigation has focused on the elements of writing fluency, accuracy, and complexity for the Iranian EFL learners yet. Reviewing the research on learners' perceptions of CW, several studies have reported students' evaluations of CW as favourable such as [28, 30, 34, 35]. However, the number of studies exploring learners' attitudes toward grouping and collaboration with different patterns of scaffolding is scant.

The purpose of this study was, therefore, to find out the effects of different scaffolding patterns on EFL intermediate students' writing fluency, complexity, and accuracy. In addition, students' attitudes towards the collaborative writing in scaffolding patterns were scrutinized. For these scaffolding patterns, three groups were employed: one asymmetrical group with High-Low level students (H-L), one symmetrical group with High-High level students (H-H), and one symmetrical group with Low-Low level students (L-L). Accordingly, the following research questions were formulated:

(1) Is there any significant difference among the three scaffolding groups (H-L, H-H, and L-L) in their writing accuracy?

(2) Is there any significant difference among the three scaffolding groups (H-L, H-H, and L-L) in their writing fluency?

(3) Is there any significant difference among the three scaffolding groups (H-L, H-H, and L-L) in their writing complexity?

(4) What are learners' attitudes towards the collaborative writing activities with different scaffolding patterns?

3. Method

3.1. Participants. Initially, a pool of 117 intermediate female EFL learners from seven intact classes at a language institute in Gonbad Kavous, Iran, took part in this study. In the EFL context of Iran, male and female learners learn English in segregated institutes, and since the researchers are female, collecting data from female learners were more comfortable for them. That is why the researchers recruited female learners as participants of the study. Based on the results of the Preliminary English Test (PET), 90 out of 117 students whose scores fell one standard deviation below (low proficiency) and above (high proficiency) the mean were considered as the participants of the study. In other words, 45 students with high level of language proficiency and 45 students with low language proficiency were selected for the purpose of this study. Then, they were randomly assigned into three groups (30 in each group), namely, an asymmetrical group with 15 high- and 15 low-level students, symmetrical group with 30 high-level students, and symmetrical group with 30 low-level students.

They were within the age range of 18–22 and had been studying English at the institute for, at least, two years. They had never been to an English-speaking country at the time of the experiment and had started learning English as a compulsory subject since grade seven at schools. They were all native speakers of Persian and had no formal, systematic previous exposure to any writing courses or collaborative writing activities.

3.2. Instruments and Materials

3.2.1. Preliminary English Test (PET). To ensure the homogeneity of participants, the Preliminary English Test (PET) (University of Cambridge ESOL Examinations, 2012, Version A) was administered. This exam shows that you can communicate in English in practical, everyday situations. It will give you a good foundation if you want to study for a professional English qualification. It tests the test takers' writing, reading, listening, and speaking skills and could be paper-based or computer-based. The reading and writing sections are taken together in 90 minutes. The listening part lasts for 30 minutes, and the interview stage is conducted in 10 minutes. The maximum score on this test is 170.

3.2.2. Pretest. Before the treatment, a descriptive writing topic related to the one in students' book "American File" [36] was given to all the three classes to write about to check their initial writing performance. This test was given to see if the students were homogeneous in terms of the writing ability. This book is written for B1-B2-level learners (compatible with the intermediate level) and, therefore, was within the linguistic level of the participants of the present study. Furthermore, since this book has a communicative and learner-friendly structure and was taught at the language institute at the time of data collection, it was confirmed to be the source for the writing tasks. The topic, after ensuring through oral questions that all students had an experience of staying at a hotel, was "describe the problems of a hotel that you last stayed in," and learners were given 30 minutes to write about it.

3.2.3. Post-Test. In order to see the effect of treatments on the learners' writing fluency, complexity, and accuracy improvement, learners in the three groups were given a post-test of writing on the topic "write an e-mail to a friend explaining that you have not been well and describe what you have been doing recently," the genre of which was also descriptive as they wrote in the pretest. Similar to the pretest, the post-test was completed in 30 minutes.

3.2.4. Measures of Accuracy, Fluency, and Complexity. The measurement of accuracy, fluency, and complexity in the present study followed the guidelines proposed by Storch [37]. The accuracy of the learners' writing was measured by calculating the number of error-free t-units to the total number of t-units [37]. Complexity was calculated by dividing the total number of words by the total number of

clauses. For the measurement of fluency, the average number of words per minute [37, 38] was calculated. The total number of words produced by each learner in the writing task was divided by the total number of minutes spent for writing by each participant on the same writing task.

3.2.5. Semistructured Interview. In order to identify the learners' attitudes towards the different experimental conditions, a semistructured interview was conducted with five learners from each class. The interview was in Persian (the learners' native language) for the ease of comprehension. It took up about 15 minutes of time. The whole interview included nine questions adapted from the work of Brown [39] for the purpose of this study. Participants' answers were transcribed and analysed thematically using NVIVO software. This software is used for qualitative and mixed-methods research for the analysis of unstructured text, audio, video, and image data, and interviews. It allows users to classify, sort, and arrange information. The results obtained from the interview helped to provide an in-depth insight into the success or failure of each intervention condition in bringing about cultivated L2 writing.

3.3. Procedure. Prior to any treatment in the study, in order to ensure the comparability of the groups, the researchers statistically ensured that all the participant groups were not significantly different from each other through a PET test. Then, they were randomly assigned into the three groups of the study with 30 participants in each group: 15 from high scorers and 15 from low scorers were randomly assigned into the asymmetrical group (High-Low); while 30 from high scorers and 30 from low scorers were assigned into the two symmetrical groups (High-High and Low-Low) of the study. After assigning the participants into the H-L, H-H, and L-L groups, they were pretested on a descriptive writing topic followed by the start of the treatment. At the first session, the participants in each class were assigned into five small groups of six members in order to collaborate during the treatment. In the H-L asymmetrical scaffolding group, there were three high-level students and three low-level students in each small group, while in the symmetrical scaffolding groups, all six members of small groups were at the same level (i.e., H-H or L-L).

At the first session in all groups, the instructor who was the same for all groups also explained the rules for collaboration; for example, taking complementary roles, planning, generating, and providing alternative ideas, and listening to each other. In each session, the participants were asked to write a maximum of 200–250-word one-paragraph essays in groups for ten sessions. Then, the teacher collected the writings and commented on their content and underlined the grammatical, lexical, and morphological errors for the learners to correct collaboratively by the next session. In other words, after the papers were checked for errors and the students received the teacher's comments, they were asked to write on the next topic.

In each session, 30 minutes were devoted to the collaborative writing process. During this time, based on the type of the experiment, the learners were asked to collaborate with each other to complete the assigned writing tasks. The teacher gave the topic to them and asked them to write a descriptive composition on it by discussing with each other. The role of each member in each group varied according to the types of scaffolding, symmetrical or asymmetrical. In the asymmetrical class, for instance, learners from different levels formed small groups and worked together to achieve the purpose of the group work, whereas in the symmetrical classes, either low-level learners or high-level learners worked together.

Finally, the interviews were transcribed, and their content was analysed through content analysis to find the attitude of the students towards collaborative writing activities in each scaffolding group. Then, their attitudes were compared in three groups to find which scaffolding type was more favoured by the participants.

3.4. Design and Data Analysis. The mixed-methods design of the present study included patterns of scaffolding as the independent variable and students' writing fluency, accuracy, and complexity as the dependent variables. This study employed both quantitative and qualitative analyses to find the effects of scaffolding on L2 writing. The quantitative data were entered into the SPSS version 20, and then, the data were checked for the assumption of normality. The results of the Shapiro–Wilk test of normality indicated that the data of PET and writing pretest were not distributed normally ($p = 0.00 < 0.05$); therefore, the nonparametric test of Kruskal–Wallis H was used to determine the homogeneity of the groups regarding their general proficiency and writing performance in terms of accuracy, fluency, and complexity at the beginning of the study. In addition, the distributions of data for the writing post-test were not normal in the accuracy and fluency of writing ($p = 0.00 < 0.05$); in contrast, it was normal in the case of complexity of writing ($p = 0.09 > 0.05$). In this regard, again, a nonparametric test of Kruskal–Wallis H was carried out to compare writing accuracy and fluency of three groups of the study, and a one-way between-group ANOVA was run to compare the groups in terms of writing complexity.

Moreover, the data obtained from the interviews were recorded, transcribed, and translated from Persian into English as qualitative data. Content analysis was, then, applied to code and analyse the data thematically in order to identify the utterances expressing students' attitudes towards the use of scaffolding as a method for writing development.

4. Results

4.1. Descriptive Statistics. The results of descriptive statistics are indicated in Table 1 which show that, generally, the test takers obtained a higher score on the post-test than the pretest.

According to Table 1 in particular, the H-H group had a better performance on some of the tests and their components. The results of descriptive statistics showed that the

TABLE 1: Descriptive statistics for the PET, pretest, and post-test ($n = 30$).

Test	Components	Groups	Range	Mean	SD
PET	—	H-H	34	158.43	12.87
	—	L-L	34	157.03	13.19
	—	H-L	34	156.13	13.13
Pretest	Accuracy	H-H	0.20	0.25	0.06
		L-L	0.20	0.27	0.06
		H-L	0.25	0.27	0.07
	Complexity	H-H	5.20	4.17	0.95
		L-L	5.70	4.43	1.05
		H-L	1.90	4.45	0.63
	Fluency	H-H	3.50	8.18	1.16
		L-L	4.50	7.89	1.45
		H-L	4.80	8.60	1.39
Post-test	Accuracy	H-H	0.25	0.31	0.08
		L-L	0.25	0.26	0.07
		H-L	0.25	0.29	0.07
	Complexity	H-H	3.80	6.17	0.80
		L-L	2.86	5.11	1.14
		H-L	2.34	5.62	1.16
	Fluency	H-H	5.44	8.98	1.26
		L-L	1.81	8.58	1.39
		H-L	4.73	8.54	1.27

TABLE 2: Results of the Kruskal–Wallis H test for the PET and pretest among the three groups.

Test	Component	Total N	Statistic	df	Sig.
PET	—	90	0.208	2	0.901
	Accuracy	90	1.86	2	0.39
Pretest	Complexity	90	2.15	2	0.34
	Fluency	90	3.98	2	0.14

* $p < 0.05$.

Table 4 indicates that there were significant differences among the groups in their writing accuracy (chi-square = 7.405, = .02, df = 2, and ES = .08). However, the differences among the H-H, L-L, and H-L groups were not significantly different (chi-square = 1.917, $p = .38$, df = 2) in fluency. According to the interpretation of effect size values common in the published literature for the Kruskal–Wallis test (0.06– < 0.14 = medium; [40]), the effect size of .08 for writing accuracy is considered moderate.

To better understand the paired differences between the groups for the writing accuracy, a nonparametric post hoc test applying the Dunn–Bonferroni correction was run (see Table 4).

The results, as indicated in Table 5, show that the significant difference was only for the accuracy component between the H-H and L-L groups ($p = .007$). The other pairs, however, did not reveal any statistically significant differences.

mean in the H-H group was the highest on the PET test (158.43) and the H-L group had the lowest mean (156.13).

The nonparametric Kruskal–Wallis H test was run on the PET and pretest scores to check the homogeneity of the groups in terms of their general proficiency and writing accuracy, complexity, and fluency. The results are shown in Table 2.

As Table 2 indicates, the p values are more than the alpha level (.05), and therefore, we can conclude that the students in the three groups did not differ in their overall language proficiency, as well as their writing ability at the outset of the study.

4.2. Inter-Rater Reliability.
Prior to the conduction of statistical procedures for the research questions, the inter-rater reliability of the raters' evaluation of the writing pretest and post-test was computed using the Intraclass Correlation Coefficient (ICC). The resulting correlations of above .84 for all measures indicate that both raters provided similar ratings of participants' responses. Results are presented in Table 3.

4.3. Differences among the Three Scaffolding Groups in Their Writing Accuracy, and Fluency (Research Questions 1 and 2).
The first and second research questions examined the effects of scaffolding on the writing accuracy and fluency of the three groups (i.e., the H-H, L-L, and H-L groups). Since the data of the post-test were not normal for accuracy and fluency, as found by the normality test reported earlier, the nonparametric Kruskal–Wallis H test was run to check if there were any significant differences among the three groups in the writing components (see Table 4).

4.4. Differences among the Three Scaffolding Groups in Their Writing Complexity (Research Question 3).
The third research question checked the differences between the three groups with regards to the effects of scaffolding on the EFL students' writing complexity. Since the data for this component were normal, a parametric one-way ANOVA was run to find the differences (see Table 6).

Table 6 shows that the difference among the three groups was significant, F (2, 87) = 7.72, $p = 0.001 < 0.05$. The effect size (ES = 0.15) compared to Cohen's (1988) criteria (0.01 = small, 0.06 = medium, and 0.14 = large) was considered large.

The results of the post hoc test, applying the Bonferroni correction, are also indicated in Table 7 for further two-by-two comparisons among the three groups.

Based on the results in Table 7, the main and significant mean difference was observed between the H-H and L-L groups ($P = 0.000 < 0.05$).

4.5. Learners' Attitudes towards Collaborative Writing (Research Question 4).
The fourth research question investigated the attitudes of the learners towards the use of collaborative writing activities with different scaffolding patterns. For this purpose, interviews were conducted, and then, they were transcribed and analyzed thematically using NVIVO software. The identified themes are shown in Table 8.

These themes are mentioned below with example excerpts from the participants' responses.

TABLE 3: Inter-rater reliability results.

Variable	Test	Rater	Mean	SD	ICC	95% confidence interval		F test			
						Lower bound	Upper bound	Value	df1	df2	Sig.
Accuracy	Pre	1	0.26	0.07	0.84	0.77	0.89	11.65	89	89	0.00
		2	0.26	0.07							
	Post	1	0.29	0.08	0.88	0.83	0.92	15.94	89	89	0.00
		2	0.29	0.08							
Complexity	Post	1	4.37	.92	0.93	0.90	0.96	28.94	89	89	0.00
		2	4.33	.90							
	Post	1	5.67	1.14	0.96	0.93	0.97	47.71	89	89	0.00
		2	5.60	1.12							
Fluency	Pre	1	8.21	1.37	0.98	0.97	0.99	88.59	89	89	0.00
		2	8.23	1.35							
	Post	1	8.69	1.32	.99	.98	.99	135.16	89	89	.00
		2	8.72	1.30							

TABLE 4: Result of the Kruskal–Wallis H test for writing accuracy and fluency in post-test.

	Groups	Mean rank	Chi-square	df	Sig.	Effect size
Accuracy	H-H	53.98				
	L-L	35.98	7.405	2	0.025	0.083
	H-L	46.53				
Fluency	H-H	50.87				
	L-L	43.22	1.917	2	0.384	0.021
	H-L	42.42				

* $p < 0.05$.

TABLE 5: Results of the post hoc test for writing accuracy.

Groups	Test statistic	Std. error	Std. test statistics	Sig.	Adj. sig.
LL-HL	−9.333	6.621	−1.500	0.134	0.401
HL-HH	10.283	6.621	1.553	0.120	0.361
LL-HH	20.217	6.621	3.053	0.002	0.007

* $p < 0.05$.

4.5.1. Enjoying the Cooperative Writing Method. Almost all the students expressed a positive attitude towards the use of collaborative writing activities in small scaffolded groups. One of the students from the H-H group stated that "I liked working with my friends, and this was a new experience because we haven't done writing with friends...I think it helped me better say my ideas."

Another participant from the H-L group believed that group work helped her "learn new things about English and writing." Another student from the L-L group asserted that she had problems in writing and appreciated being given the opportunity to share ideas with classmates.

4.5.2. Gaining Academic and Social Benefits. Except for the L-L learners, other learners believed that they benefitted from the treatment. For instance, an H-H participant declared that "I learned from my friends, especially about organizing ideas and putting things together...I could also help them, and we were not stressed about our problems."

This statement highlights the effect of collaborative work in reducing learners' anxiety. Another H-L learner appreciated the "knowledge received from friends," "their help," and "understanding" that she gained from group work. On the other hand, although L-L learners claimed that they enjoyed CW, they assumed collaborative work to be better if there were more help from the teacher," "more able team members," "easier writing tasks," and "an opportunity to get help from the Internet."

All these points underscore the potential of collaboration in facilitating the writing process with more capable learners (i.e., the H-L pattern). The nature of collaboration, however, needed support from other resources as well, as stated by the students from the L-L group.

Irrespective of the group types, more extrovert learners were eager to do the same kind of activities more, while the introvert learners were found to be reluctant. One L-L learner said that "If I have my friends in the class in my group, I like it more...but I didn't know my teammates, so we couldn't do it properly."

An H-L learner, however, could make friends while doing the collaborative tasks contending that "We worked well with each other, and I became more intimate with some friends."

4.5.3. Appreciating the Facilitative Role of the Teacher. Although H-H and H-L learners appreciated the facilitative role of the teacher in carrying out the activity, some L-L learners were concerned about the quality of their work and wished they could have more support from the teacher. This illuminates the dependence of Iranian EFL learners upon a source of knowledge, and while this reliance was compensated for in the H-H and H-L groups by the presence of more capable peers, this was not the case for the L-L group. One H-H member noted that she worked smoothly with no problems with her peers and could complete the writing on time. Another H-H learner said that "My friends and I were very quick and could do it fast, especially my friend, Sarah, who could help us about the writing on the topic."

Table 6: Results of one-way ANOVA for writing complexity.

	Sum of squares	df	Mean square	F	Sig.	Effect size
Between groups	16.863	2	8.432			
Within groups	94.970	87	1.092	7.724	0.001	0.151
Total	111.833	89	—			

* $p < 0.05$.

Table 7: Results of the post hoc test for writing complexity.

Groups	Groups	Mean difference	Std. error	Sig.
H-H	L-L	1.09*	0.27	0.000
	H-L	0.57	0.27	0.100
L-L	H-H	−1.09*	0.27	0.000
	H-L	−0.52	0.27	0.145
H-L	H-H	−0.57	0.27	0.100
	L-L	0.52	0.27	0.145

* $p < 0.05$.

Table 8: Main themes in learners' attitudes towards collaborative writing.

Enjoying the cooperative writing method
Gaining academic and social benefits
Appreciating the facilitative role of the teacher
A relaxing and encouraging atmosphere

This statement is important since it underlines knowledgeable peers could ease the process of writing. One L-L learner assumed that "I did not like working with my friends only. . .we sometimes did not know what to write about, and the teacher's help was not enough."

Another L-L learner said that "I liked this type of activity a lot, but it would be much better if we could have some previous knowledge about it."

4.5.4. A Relaxing and Encouraging Atmosphere. Most respondents agreed with the relaxing atmosphere created by group work. One H-H learner stated that she did not want to be corrected by the teacher, and she liked the fact that she could notice her errors through notifications from peers. Another H-H learner referred to the "calm," "fun," and "helping" nature of the group work and wanted to continue doing so in the future classes. One learner from the H-L group said "I felt satisfied when I saw that I could be of much help to my peers. . .I think we could do it well."

Lastly, L-L learners also found the environment relaxing, but due to their level, they faced some challenges in organizing their ideas and working together: "I asked her to write a longer conclusion, but she said that it was enough."

5. Discussion

The present study aimed at investigating the differences between three patterns of scaffolding in their effects on EFL writing fluency, complexity, and accuracy. Three groups of H-H, L-L, and H-L were included for this purpose to see the differences between asymmetrical and symmetrical patterns in writing. Quantitative and qualitative data were collected and analysed for the purpose of this study.

The results showed that there were significant differences between the three scaffolding patterns in their writing

accuracy and complexity of the EFL students, but not their writing fluency. The main difference was observed between the two symmetrical, H-H and L-L, groups. So it can be inferred that asymmetrical scaffolding can be practiced in writing instruction when the students are grouped according to their level of language proficiency. Accordingly, symmetrical groups of low ability learners can be changed to the asymmetrical pattern by the inclusion of high ability learners or by teachers' role as a facilitator.

The results of this study support Vygotsky's concept of scaffolding and ZPD which assert the social aspect of learning in a joint collaboration between more knowledgeable and less knowledgeable individuals. Accordingly, it is suggested that grouping students in asymmetrical patterns creates a high supportive context. Moreover the results supported Piagetian's view of symmetrical scaffolding that stated the cognitive development happens when there is a limited conceptual and social gap between peers. This was evident in the results of post hoc which showed a significant difference between the H-H and L-L groups as high proficient members could manage to outperform the low proficient members in the post-test. This is also in line with Van Lier [16] who stated that the concept of ZPD needs to be enlarged to comprise both an expert-novice relationship and an equal peer relationship.

The results are in line with Wiggleworth and Storch [27] that investigated the advantages of collaborative writing where they found that collaboration had a positive effect on accuracy. The results also confirm the results by Soleimani et al. [32] who investigated the effect peer-mediated/collaborative and individual writing on female EFL learners' writing fluency, accuracy, and complexity and found that collaborative groups outperformed the individual groups in fluency and accuracy, but not in complexity.

The findings of interviews further showed that the students had positive attitudes towards the use of the collaborative writing method in the asymmetrical and symmetrical H-H patterns as they found it enjoyable and beneficial. But, in the symmetrical L-L pattern, learners

confirmed the absence of a high-ability teammate or the facilitative role of the teacher. The collaborative writing can contribute to the development of learner autonomy [1] as learners in the interview expressed they had the opportunity to consider their own learning process and share resources.

6. Conclusion

The findings of the present study provided evidence for the beneficial role of scaffolding in Iranian EFL learners' writing quality in terms of accuracy and complexity. This is in line with the theoretical view of sociocultural theory (SCT) and the zone of proximal development (ZPD) that focus on the effects of interaction on the learning process and the positive role that assistance from a higher proficient learner could have in improving the ability of the students. Receiving feedback from peers could enhance the writing quality of the students when they interacted with other group members who were more proficient. Moreover, the outperformance of the H-H group supported Piaget's view of symmetrical scaffolding adhering the cognitive development when the conceptual and social gap between peers is limited.

The results of the interviews showed that using alternative methods for writing instruction that engage the students while they interact in small groups could be both interesting and effective for the students as they expressed this in their ideas about scaffolding for writing instruction. The use of such methods can decrease the stress and anxiety of the learners and facilitate the process of language learning and make students more engaged and motivated. In a learning situation where anxiety is low, the chance to learn more will increase. The positive attitudes of the learners showed that paying attention to the interests of the students as a key part of the learning process can improve the teaching methodology.

The results of this study could have implications for the stakeholders of the field. The teachers are advised to use collaborative writing with different scaffolding patterns more often in their writing instruction due to its positive effects on L2 writing as perceived by the students. The scaffolding patterns, as found in this study, could affect the writing accuracy and complexity. This should, thus, be taken into account by teachers in arranging the students into different small groups for collaborative writing. However, the asymmetrical and symmetrical patterns may not differ a lot.

The differences between these two scaffolding patterns need more investigation in future studies as this study mostly focused on the scaffolding patterns as determined by the general proficiency level. Further studies could examine how grouping students with high and low knowledge in grammar and vocabulary, for instance, can change the effect of scaffolding in collaborative writing. This study only used female students, and a similar study can be conducted with male students in order to compare results from both studies. In this study, some students in the L-L group stated that the teacher did not provide proper help, and the future study can consider teacher scaffolding as another factor to facilitate groups' collaborative writing and analyse the role of the teacher in this regard.

Data Availability

The authors will provide the data used for this study if it is required by the journal.

Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Acknowledgments

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