EFL Learners' Writing Progress through Collocation Awareness-raising Approach: An analytic assessment

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Abstract
There is insufficient rigorous research examining which features of EFL/ESL learners' writing can be improved through their awareness/knowledge of collocation. This study, therefore, addressed this issue and examined the effect of this awareness on Iranian EFL learners' writing performance with respect to the specific features of each writing sub-component (i.e., content, organization, vocabulary and language use) in the short and long term. The study was a quasi-experimental using a within- and between-group approach utilizing a pre-test/post-test design with a control group supplemented with the qualitative information obtained from the interviews with the writing raters. The results showed that developing knowledge/awareness of collocations effectively improved the participants' quality of writing in terms of 'vocabulary', 'organization' and 'language use'. A deeper analysis of the results revealed that the observed improvements in these sub-components were in terms of some particular features: the range of sophistication, lexical choice and usage; succinctness, fluency and clarity of the expressed ideas; and the accuracy of agreement, tense and prepositions. In addition, the sub-findings emerging from the results accentuated the significance of instructional intervention, in general, and first language-second language contrastive analysis, in particular, in helping L2 learners notice, note and incorporate collocations in their output.

Keywords: Collocation, collocation awareness, writing proficiency, writing sub-components, first language-second language (L1-L2) contrastive analysis

Introduction

Upper-intermediate L2 learners, in general, and Iranian EFL learners, in particular, have been found to experience serious difficulties in using even the most common or already known words in their written production (Namvar, Nor, Ibrahim, & Mustafa, 2012). Indeed, it is a serious problem in the majority of writing classes in Iran giving rise to various research studies. The findings of these studies (e.g. Darvishi, 2011; Dastjerdi & Samian, 2011) have indicated that lack of sufficient knowledge of collocational fields of words is one of the main reasons for such a deficiency. This is rooted in the fact that multi-word units including fixed expressions and collocations are not taught sufficiently in language classrooms in Iran (Bahardoust, 2013; Ghonsooli, Pishghadam, & Mahjoobi, 2008). Therefore, most written English of Iranian language learners, even at upper-intermediate to advanced levels, falls short of expectations and contains unacceptable word combinations (Zarei & Koosha, 2003). Hence, it has been strongly suggested that a major part of writing instruction be devoted to developing learners' knowledge of collocation (Bahardoust, 2013; Hsu, 2007).

This idea that very few utterances in a language are completely novel creations and language mostly consists of pre-fabricated meaningful word combinations is reflected in Lewis's (1993) 'Lexical Approach'. More precisely, the lexical approach advocates argue that language learners can identify patterns in a language by the help of collocations which are the habitual co-

occurrences of words together at the syntagmatic level (Lewis, 2000; Martyńska, 2004, Nation, 2001). Hence, the lexical approach, which is at the center of the current communicative teaching approach, has introduced new approaches to syllabus design with a focus on the importance of learning phrases or chunking language as a unit rather than as individual words (Lewis, 1997). Indeed, this approach has emphasized the need for making the neglect of collocations, as a subset of multi-word units or prefabricated chunks; in English as a foreign/second language (EFL/ESL) classrooms a big concern for language teachers (ibid).

Notwithstanding all these emphases, empirical research studies that specifically and deeply enough investigate which features of writing, as one of the main goals of language learning in the EFL/ESL contexts, can actually be improved through collocation instruction are scarce. Moreover, the few available studies show little consistency in their findings. This study, therefore, aimed to fill this gap and empirically examined the impact of improving learners' knowledge of collocation on their writing performance in terms of each writing sub-construct (i.e., content, organization, vocabulary and language use) in the short and long term. It is worth noting that in comparison to the other studies in this body of research, the present study addressed this issue more deeply by employing the qualitative method of in-depth interviews with the writing raters.

Furthermore, the form of instruction employed in the previous studies in the related literature was limited to the traditional teaching of the collocational fields of some words. However, the collocation teaching method used in this study was more comprehensive. In fact, it was presented through an awareness-raising approach, mainly based on Ying and Hendricks' (2003) proposed model of 'Collocation Awareness-Raising (CAR) Process'. More precisely, in this type of instruction, students were made aware of the idea of collocation and taught how to incorporate these word combinations in their written production through the four steps proposed by Ying and Hendricks (2003) as well as first language-second language (L1-L2) contrastive analysis.

Literature Review

Collocations and Writing Competence

L2 writing has always posed severe difficulties for English as Second/Foreign Language (EFL/ESL) learners. Hence, exploring the possible ways to enhance language learners' writing proficiency has always been a topic of concern to L2 writing specialists (Ismail, 2011). This has inspired various researchers to conduct studies in this regard and their findings have suggested teaching collocations as one of the most viable ways (e.g. Ashouri & Mashhadi Heidar, 2015; Mounya, 2010; Sadoughvanini, 2012). Nevertheless, it is important to note that there are few studies, such as Avci (2006) and Liu (2000), which have not reported the same positive results regarding the effectiveness of collocation instruction. Avci (2006) and Liu (2000), however, believed that their findings might be due to the interference of some other factors, such as the subjects' level of language proficiency and the length of the study. Hence, they suggested further research in this area.

It is also important to note that most of the conducted studies in this area merely focused on learners' overall writing proficiency and only few of them (e.g. Eidian, Gorjian, & Aghvami, 2013; Ghonsooli et al., 2008) specifically examined what sub-components of writing could be improved by teaching of collocations. Additionally, these few available studies show little consistency in their findings. Ghonsooli et al. (2008), for example, in their study on a group of Iranian upper-intermediate learners found that teaching collocation could only improve the 'fluency' and 'vocabulary' sub-components. However, Ashouri & Mashhadi Heidar (2015)

reported the positive effect of collocation instruction on the 'vocabulary' and 'mechanics' sub-scales. Thus, further research on this issue is still needed.

In brief, as the review of this body of research reveals, knowledge of collocation can significantly facilitate L2 writing development. As a result, L2 researchers and scholars stress the need for integrating collocations in language syllabus. This has led into the emergence of various pedagogical suggestions. One of these suggestions is the instructional method of awareness-raising approach which will be dealt with in the following section.

The Awareness-raising Approach

Teaching collocations explicitly through an awareness/consciousness-raising approach has been strongly suggested by Lewis (1993, 2000) and some other researchers, such as Hill (2000) and Woolard (2000). This is because it is not feasible to teach all that language learners need due to the fact that lexical elements are infinite and the time of the class is limited. More particularly, Lewis (1993, 2000) recommends that language teachers should raise their students' awareness of collocations and also help them to develop efficient skills for learning these chunks. Following Lewis, some other researchers and specialists, such as Stoitchkov (2008) and Boonyasaquan (2009), stress the significance of developing a set of skills as well as enhancing awareness.

Researchers, therefore, have tried to propose different pedagogical methods and activities to enhance L2 learners' knowledge of new collocations, reinforce the learnt ones and give the learners the opportunity to practice the required skills. One of the proposed methods belongs to Ying and Hendricks (2003). They put forward a teaching model called the 'collocation awareness-raising (CAR) process' and identified four steps in teaching collocations within their proposed approach. It is noteworthy that the awareness-raising approach which was applied as the treatment of the present study was mainly based on this model.

As Ying and Hendricks (2003) put it, the first step in teaching collocations is to become sure that students know what is meant by collocation. Using some examples from the target and first language can be helpful. Secondly, it is suggested, in order to raise learners' collocation awareness, to begin with those collocations which are relevant to in-class activities. In order to raise learners' awareness of the target collocations, some reference materials for the target collocations, such as collocation instructional books and dictionaries, articles and concordances should be introduced and the learners should be taught how to work with them.

Thirdly, Ying and Hendricks (2003) suggest teaching learners the steps of noticing and noting collocations and the correct ways of incorporating them in their own L2 production. Finally, the last step is to check students' work and provide useful feedback. On this basis, it can be concluded that, as Ying and Hendricks (2003) contend, their proposed method is a 'threefold process' which 'bridges students from *noticing* to *noting* to *incorporating* desired target forms' (p. 58). Indeed, they believe that learners should be helped to notice the target features and also the gaps in their own linguistic knowledge. This is based on what Ellis (1995) and Schmidt and Frota (1986) suggest as the necessary conditions for acquisition to take place.

Additionally, with regard to cross-language exploration, James (1994) notes that raising learners' awareness of their own native language can be considered important in helping them understand the target language by comparing and contrasting the two languages and 'facilitating [a] bridge between them' (p.212). In his view, contrasting L1 with L2 can help learners to find the differences between the two languages which can lead to recognizing new patterns in the target language and expanding learners' knowledge of the language. The findings of a study by

Laufer and Girsai (2008) also lend empirical support to the positive outcomes of this pedagogical suggestion for L2 learners' collocation development.

Research questions

Q1. Does collocation awareness-raising approach significantly affect the learners' writing performance in terms of the 'content' sub-component in short and long terms?
Q2. Does collocation awareness-raising approach significantly affect the learners' writing performance in terms of the 'organization' sub-component in short and long terms?
Q3. Does collocation awareness-raising approach significantly affect the learners' writing performance in terms of the 'vocabulary' sub-component in short and long terms?
Q4. Does collocation awareness-raising approach significantly affect the learners' writing performance in terms of the 'language use' sub-component in short and long terms?

Methodology

Design

In this study, a quantitative approach design (i.e. a quasi-experimental, using a within- and between-group approach utilizing a pretest/posttest design with a control group) was primarily employed supplemented with the qualitative information obtained from the interviews with the writing raters in order to clarify and follow up on the quantitative findings.

Participants

Intact classes comprising sixty-three upper-intermediate EFL learners (including 37 female and 26 male) were selected to serve as the participants of this study. All were Iranian adult learners who had enrolled in regular English courses in Safir Language Academy in Mashhad, Iran. These classes were randomly assigned to the two groups of control and experimental. The number of the participants in these two groups was 32 and 31 respectively.

For the qualitative part of the study, the two raters who scored the subjects' essays at both pre and posttest stage were also interviewed. The raters were female English teachers who had a minimum experience of ten years in teaching IELTS, TOEFL and general English courses in various language centers and also a minimum teaching experience of three years as EFL lecturers in some universities and higher education institutes in Iran. Both raters were native speakers of Persian. One of them had master's degree in Teaching English as a Foreign Language (TEFL) and the other one was a PhD candidate in Teaching English as a Second Language (TESL).

Instruments

Proficiency test

The participants had been classified as upper-intermediate learners by the placement test of the academy. However, a TOEFL Paper-Based Test was administered in order to determine their level of proficiency again and also ensure the homogeneity of the participants prior to the experiment. The test was taken from Gallagher's (2000) TOEFL test practices. The reliability of the test was assessed using the Cronbach's alpha as (α =.90).

Test of collocation

In order to determine the homogeneity of the learners in terms of their knowledge of collocation, the learners took a test of collocation prior to the treatment. This researcher-made

test was composed of two parts measuring the learners' both receptive and productive knowledge of the same target collocations which would be taught in the experimental class during the treatment period.. The first part of the test assessed the subjects' productive knowledge of the target collocations through gap-filling items, then the answers were collected. The second part of the test, measured the participants' receptive knowledge of the same target collocations through multiple-choice items. Thus, the total score for the test was the average of the scores of these two parts. The test was piloted and its reliability was assessed using the Cronbach's alpha as (α = 0.79).

In the current study, the validity of the employed instruments, as suggested by creswell (2008), was determined by a panel of experts. The panel of experts was asked to ascertain the content and face validity of the collocation test, interview questions and the proficiency test. In addition, they were consulted about the selected target collocations, the reading texts, the writing rating scale and the writing prompts. These experts were L2 specialists holding a PhD. Any modifications to the instruments were made after consultation with these experts.

Target collocations

The decision regarding selecting the target collocations was made after consulting the panel of experts. Based on the feedback from the panel of experts, it was decided to make a list of the most common collocational errors made by the Iranian upper-intermediate learners in their L2 writing. Part of the data regarding these collocational errors was collected from the researcher's own classes and the rest was gathered from her colleagues' classes in different language centers. Due to time constraints, it was decided to teach three or four target collocations each session. Therefore, on the whole, 50 of the most common collocational errors found in the sample essays were selected as the target items for the present research. The panel of experts, the educational supervisors of the language academy as well as the teacher of the classes, was all consulted in this regard.

It is important to note that the target collocations in this study included both the lexical and grammatical types, viz.: noun+noun, noun+verb, verb+noun, adjective+noun, adverb+adjective, verb+adverb, noun+preposition, preposition+noun, adjective+preposition and delexicalized verbs (become/get/turn/go).

The reading texts

The target collocations were placed into the reading texts used as one of the treatment materials for the experimental group. Each of these reading texts, which were given to the students every session, included three or four of the target collocations.

The students were given these texts and taught the three steps of noticing-noting and incorporating the target collocations. More precisely, the instructor started reading the texts and when she encountered the target collocations, she paused and drew the learners' attention explicitly to these word combinations and asked them to underline or highlight them. Then she explained to them that they should not only focus on the ideas but also the linguistic features of a text, particularly the co-occurrence of words together.

Collocation dictionaries and concordance

Oxford Dictionary of Collocation, *Longman Dictionary of Contemporary English* as well as two free web-based concordancing tools with the databases selected from the *Corpus of Contemporary American Engli*sh (http://corpus.byu.edu/coca/) and *British National Corpus* (http://corpus.byu.edu/bnc/) were employed as the sources for teaching collocations in the

experimental group. The learners were, first, taught how to use these collocation resource materials. Then they were given some homework assignments which required regular use of them.

Writing tests

Each writing test, that is, pre-test, immediate- and delayed post-test, consisted of two argumentative writing tasks. The learners were asked to write at least 250 words for each essay within 40 minutes. For the purpose of this study, the ESL Composition Profile (Jacobs, Zingraf, Wormuth, Hartfiel, & Hughey, 1981) was the rating scale employed to score the writing samples of the present study. The scale comprises five ESL sub-components of writing– which help raters evaluate learners' writing with respect to their:

Content: development of thesis and relevance to the assigned topic,

Organization: fluent expression; clearly stated/supported, succinct, well-organized, logically sequencing and cohesive presentation of ideas,

Vocabulary: sophisticated range, effective word/idiom choice and usage, word form mastery, appropriate register,

Language use: effective complex constructions, few errors of agreement, tense, number, word, order/function, articles, pronouns and prepositions, and

Mechanics: mastery of conventions, few errors of spelling, punctuation, capitalization and paragraphing

It is important to note that the researcher would not report the findings regarding the effect of teaching collocation on the use of mechanics in writing in the current research since such an effect does not sound justifiable and cannot be expected.

Interview

For the purpose of this study, an interview protocol was prepared for the one-to-one semi-structured in-depth interviews with the raters of the learners' writing tests. The protocol was piloted to ensure the clarity of the questions and to see if these questions could serve their purpose. This enabled the researcher to edit the interview protocol in terms of deleting the questions that did not provide useful information and adding others. Its validity was determined by making the necessary revisions to the questions based on the feedback from the panel of the experts.

The protocol consisted of questions regarding the writing performance of both groups, in general, and in terms of the sub-scales of writing (content, organization, vocabulary, language use), in particular. The raters were asked to elaborate more on the scores they had given for the writing tests and comment on changes, if any, in the learners' post-treatment essays in comparison to their pre-treatment essays. They were also asked to compare the post-treatment writing qualities of the control and experimental groups, and elaborate on their similarities and differences.

Procedures

Data collection was carried out in the regular English courses which were held for adult upper-intermediate learners within a period of two months and a half in Safir language academy. The treatment period was composed of seventeen treatment sessions which were held three times a week. The procedures for collecting the quantitative and qualitative data were carried out in three stages, that is, the pre-treatment stage, the treatment stage and the post-treatment stage, which will be dealt with one by one in the subsequent sections.

The pre-treatment stage

First, a test of proficiency was given to all the participants in order to ensure that they were all truly upper-intermediate learners. In the second pre-treatment session, two writing tasks were given to the participants to measure their writing proficiency and to ensure the homogeneity of the participants both within and between groups. They also served as the pre-writing test for the study. Finally, in the third pre-treatment session, a collocation test was administered in order to check the homogeneity of the participants in terms of their knowledge of collocation within and between the groups.

The treatment stage

The participants were randomly assigned into one experimental and one control group. Both groups were taught by the same instructor within the same time span. Since the course which was used for this study was a general proficiency course offering practice in the four skills, both groups received instruction on all of these skills. The instructor exposed both groups to the same language input (audio, video and textual) and used the same course materials except for the materials (for example, the reading texts in which the target collocations were embedded and concordances) which were specifically used to teach the target collocations in the experimental groups. Therefore, the only variable that these two groups differed on was related to the teaching of collocation.

In the case of writing, both groups received instruction on this skill in the normal run of the class regarding paragraph development, writing topic sentences, the overall organization of the essay, content and mechanics. Every other session, the students in both groups were assigned a new topic and their essays were carefully corrected and were returned to them before assigning another topic. Both groups were assigned to write exactly the same number of essays (eight writing assignments) on exactly the same topics during this experiment. The students in the experimental group were provided with explicit and direct feedback on their collocational errors. However, this was not the case in the control group.

In the experimental group, the learners' awareness of the concept of collocation, in general, and their knowledge about the target collocations, in particular, were developed explicitly through the four steps suggested by Ying and Hendricks' (2003) proposed method called 'Collocation Awareness-Raising (CAR) Process'. In addition to these four steps, first language-second language (L1-L2) contrastive analysis was also adopted as another step. In particular, More precisely, the students were made aware of the idea of collocation, provided with both positive and negative evidence of word combinations through L1-L2 contrastive analysis, familiarized with some available resources, such as web-based concordances and self-study materials, asked to use the target collocations in their language production, thus helping them to notice the gap in their linguistic system, and finally given some useful feedback on their language production, especially on their written output. As mentioned earlier, some reading texts including the target collocations and some collocation resources (e.g. *Oxford Dictionary of Collocation* and *British National Corpus*) were the treatment materials used for developing learners' knowledge of collocations.

However, the learners in the control group did not receive any treatment for collocations. They were also given some reading texts similar to the ones given to the experimental group which only differed in terms of linguistic features regarding the target collocations. To put it more simply, for the purpose of the current research, the target collocations were excluded from these texts since it was attempted to have a control class in which neither explicit nor implicit collocation instruction happened. Therefore, even mere exposure to the collocations in the

reading texts was avoided since according to some researchers including Krashen (1989), it is an implicit form of teaching.

The post-treatment stage

The first post-test of writing was administered in a session following the last treatment session for both groups. Then the raters were interviewed. The interview with each of them took one hour and a half. Two weeks after the immediate post-tests, the delayed post-test of writing were administered. As mentioned before, the writing tests were rated by two raters. To ensure that a high degree of agreement existed between the two raters in this regard, inter-rater reliability was measured. The Pearson Product Moment Correlation was employed and the raters' rating scores were found to enjoy a very high degree of agreement for all the three tests ($r > 0.8$). The average values of the two raters' scores were used for data analysis.

To ensure the validity of the qualitative data obtained from the interviews, peer debriefing technique was employed (Ary, Jacobs, Razavieh, & Sorensen, 2010), and for the purpose of insuring the reliability issue, the inter-rater method was employed (McMillan & Schumacher, 2010). In fact, the researcher's coding of the data was compared with that of a peer who had been asked to code the data, and the inter-rater reliability was found to be .92.

Data analysis

The Statistical Package for Social Science (SPSS) was employed to analyze the quantitative data in this study. To ensure that the data were normally distributed, the tests of normality (i.e. Shapiro-Wilks, Kurtosis and Skewness) were run for all the data prior to any statistical analysis. The results indicated that the data used in the present study had normal distribution. Hence, repeated measures ANOVA and independent samples *t*-test were employed for analyzing the quantitative results of the study.

In the case of the qualitative data, the five steps, viz. familiarization, a thematic framework identification, indexing, charting, mapping and interpretation, suggested by Krueger (1994) in his 'framework analysis' were followed.

Results and discussion

Firstly, four separate independent samples *t*-tests were employed to compare the pre-test scores of the control group and the experimental group in terms of each writing sub-component. The results revealed that the differences between the groups with respect to each sub-component [Content $t(61) = .328$, $p > .05$, Organization $t(61) = 1.89$, $p > .05$, Vocabulary $t(61) = 1.90$, $p > .05$ and Language use $t(61) = .461$, $p > .05$] were not statistically significant prior to conducting the experiment.

Then to answer the research questions of the study regarding the within-group effects of the collocation awareness-raising approach on the learners' writing performance with respect to each writing sub-component, five separate one-way repeated measures ANOVAs were performed. The results are presented in the following tables.

Table 1. *Mauchly's Test of Sphericity[b] for each sub-scale of writing*

Within Subjects Effect		Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[a]		
						Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Content	time	0.797	6.59	2	0.037	0.831	0.874	0.5

Organization	time	0.864	4.245	2	0.120	0.880	0.931	0.5
Vocabulary	time	0.742	8.648	2	0.013	0.795	0.832	0.5
Language use	time	0.699	10.386	2	0.006	0.769	0.802	0.5

Table 2. *Tests of within-subjects effects/Multivariate tests for each sub-scale of writing*

	Source		**df**	**F**	**Sig.**	**Partial Eta Squared**
Content	Time	Sphericity Assumed	2	164.779	0.000	0.546
	Time	Greenhouse-Geisser	1.663	164.779	0.000	
	Error(time)	Sphericity Assumed	60			
	Error(time)	Greenhouse-Geisser	49.888			
Organization	Time	Sphericity Assumed	2	485.928	0.000	0.642
	Error(time)	Sphericity Assumed	60			
Vocabulary	Time	Sphericity Assumed	2	444.704	0.000	0.637
	Error(time)	Greenhouse-Geisser	1.590	444.704		
		Sphericity Assumed	60			
		Greenhouse-Geisser	47.700			
Language use	Time	Sphericity Assumed	2	290.197	0.000	0.606
	Time	Greenhouse-Geisser	1.537	290.197		
	Error(time)	Sphericity Assumed	60			
	Error(time)	Greenhouse-Geisser	46.117			

As Table 1 demonstrates, the results of Mauchly's test indicated that the assumption of Sphericity was violated for all the sub-components ($p < .05$) except the 'organization' sub-component ($\chi^2 = 4.24$, $p > .05$). Therefore, the multivariate tests (i.e. sphericity assumed) were interpreted for the 'organization' sub-component and the test of Greenhouse-Geisser for the other four sub-constructs. As can be seen in Table 2, the results of the tests revealed that the writing performance of the learners in the experimental group differed significantly over time in terms of content ($F_{(1.66,49.88)} = 164.77$, $p < .05$, $\eta^2 = 0.54$), organization ($F_{(2,60)} = 485.92$, $p < .05$, $\eta^2 = 0.64$), vocabulary ($F_{(1.59,47.70)} = 444.70$, $p < .05$, $\eta^2 = 0.63$) and language use ($F_{(1.53,46.11)} = 290.19$, $p < .05$, $\eta^2 = 0.60$) . Thus, the pairwise comparisons were conducted in order to see which specific means differed significantly.

Table 3. *Pairwise Comparisons for each sub-scale of writing*

			Mean Difference	Sig
Content	Time	Pre – immediate post-test	-.1.09*	0.000
		Pre- delayed post-test	-.806*	0.000
		Immediate – delayed post-test	0.290*	0.000

Organization	Time	Pre – immediate post-test	-2.435*	0.000
		Pre- delayed post-test	-1.968*	0.000
		Immediate – delayed post-test	0.468*	0.000
Vocabulary	Time	Pre – immediate post-test	-2.613*	0.000
		Pre- delayed post-test	-2.363*	0.000
		Immediate – delayed post-test	0.250*	0.006
Language use	Time	Pre – immediate post-test	-2.758*	0.000
		Pre- delayed post-test	-2.500*	0.000
		Immediate – delayed post-test	0.258*	0.033

According to Table 3, the immediate post-treatment mean scores of the learners were significantly higher than their pre-treatment mean scores for each sub-component ($p < .05$). In addition, it was found that although the writing scores of the learners significantly deteriorated from the immediate post-test to the delayed post-test ($p <.05$), the differences between their pre-test and delayed post-test scores were still statistically significant for all the five sub-components ($p <.05$). This suggests that the treatment had durable effect on the leaners' writing proficiencyc Furthermore, the Partial Eta Squared values show a large effect size for all the writing sub-scales.

Based on the results reported so far, the learners in the experimental group showed significant improvement in their writing performance in terms of all the five sub-components. In order to see if this significant progress was the result of the employed collocation teaching method or the teacher's writing instruction in the normal run of the class, their post-treatment writing mean scores were compared with those of the learners in the control group for each sub-component. For this reason, independent samples *t*-tests were performed.

Table 4. *T-test for the independent samples of the control vs. experimental group's immediate and delayed writing post-tests in terms of each writing sub-scale*

		Groups	**N**	**M**	**SD**	**T**	**df**	**P**
Content	Immediate post-test	Control	32	23.39	0.50	-1.15	61	0.254
		Experimental	31	23.52	0.41			
	Delayed post-test	Control	32	23.14	0.43	-.786	61	0.435
		Experimental	31	23.23	0.42			
Organization	Immediate post-test	Control	32	15.17	0.38	-13.13	61	0.000
		Experimental	31	16.85	0.60			
	Delayed post-test	Control	32	14.96	0.42	-11.93	61	0.000
		Experimental	31	16.38	0.51			
Vocabulary	Immediate post-test	Control	32	14.64	0.51	-17.22	61	0.000
		Experimental	31	16.87	0.51			
	Delayed post-test	Control	32	14.49	0.50	-16.282	61	0.000
		Experimental	31	16.62	0.53			
Language use	Immediate post-test	Control	32	20.14	0.66	-7.947	61	0.000
		Experimental	31	21.81	0.98			
	Delayed post-test	Control	32	20.00	0.74	-7.435	61	0.000
		Experimental	31	21.55	0.91			

Table 4 demonstrates that the immediate and delayed post-treatment mean scores of the experimental group were markedly higher than those of the control group only in the case of 'organization', 'vocabulary' and 'language use' ($p<.05$). This means that the learners' writing qualities in the experimental group did not differ significantly from those of the learners in the control group in terms of 'content' ($p>.05$). To throw more light on this issue, the writing raters were interviewed.

The findings from the conducted interviews confirmed and elaborated the quantitative results regarding the significant impact of the collocation awareness-raising approach on the learners' writing abilities in terms of these three sub-constructs which will be dealt with one by one below. However, it is noteworthy that both raters emphasized that the observed improvements in the writing performance of the experimental group was noticeable in comparison to their pre-test writing quality and the writing performance of the control group. Therefore, their positive comments regarding these learners' writing progress did not mean that they changed into proficient writers after the treatment or their writing quality was dramatically enhanced. It simply meant that their writing skills were improved through the employed treatment, but they still needed more practice to achieve the desired high standards of writing.

Vocabulary

Based on Jacob's rating scale, the raters in the current study scored the 'vocabulary' sub-component based on the following features: the range of sophistication, lexical choice, usage, form and appropriateness of register. Both raters (Rater A and Rater B) reported that although the essays in both groups were enhanced in terms of vocabulary, the experimental group's improvement in this aspect was found to be superior to the control groups. They contended that this superiority was in terms of the range of sophistication, lexical choice and *usage*. More particularly, the raters reported improvement in the lexical choice and usage since more correct collocations and fewer unacceptable word combinations were observed in the learners' writing at the post-test stage.

The raters, in fact, highlighted this point that they observed fewer L1-based errors (i.e. Persian negative transfer) in the writing of the experimental group after the treatment. Such finding suggests that contrasting Persian (L1) with English (L2) gave these learners the required opportunity to find out the differences between the two languages and this led into recognizing new collocational patterns in English and expanding their knowledge about both acceptable and unacceptable English word combinations. These findings, therefore, empirically espoused James' (1994) and Stoitchkov's (2008) claims regarding the significant role of L1-L2 contrastive analysis in helping language learners understand the target language better. Moreover, these findings match those of Laufer and Girsai (2008) who found out that the contrastive analysis of L1 and L2 had a significant effect on L2 collocation knowledge enhancement.

Furthermore, the raters observed an increase in the learners' lexical sophistication level as a result of using more collocations, such as granted the custody to, a child from a deprived home, which consequently made their writing sound more sophisticated.

Organization

Following Jacob's rating scale, the raters scored the 'organization' sub-component based on the following features: fluency, the clarity of the expressed ideas, supporting the expressed ideas, succinctness, cohesion, arrangement and sequencing of the ideas. Both raters believed that although the organizations of the essays in both groups were enhanced, the improvement in the experimental group was found to be superior in terms of fluency, the clarity of the expressed

ideas and succinctness. That is, the raters found that the ideas in the post-treatment essays of the experimental group were expressed and also supported more clearly and in fewer words. They also emphasized that this group produced more fluent and natural-sounding texts after the treatment. Indeed, the enhancement of their knowledge about some appropriate collocations helped these learners to produce fewer unnecessary long sentences to express their ideas. As a result, the reader could gain a better and clearer understanding of the expressed ideas. One of the raters, for example, stated that

In line with such finding is Sadoughvanini's (2012) study that indicated making the learners aware of collocations and teaching them how to use them effectively can help them "to convey what they have in mind as well as possible" in their L2 written utterances (p. 36).

Language use

The raters scored the 'language use' sub-scale based on the following features: the degree of sentence construction complexity, the accuracy of agreement, tense, number, word order, articles, pronouns and prepositions. The raters believed that the experimental group could get higher scores for this sub-component because they made fewer errors of agreement, tense and prepositions. In particular, the raters stated that, in comparison to the control group, the learners in the experimental group used more collocations. This, in turn, helped them produce shorter or fewer unnecessary sentences to express their ideas. As a result, they made fewer errors in terms of agreement and tense. One of the raters' remarks is as follows:

These findings empirically support Lewis' (2000) claim that without sufficient knowledge of collocations as short cuts to clearly convey what they mean, L2 learners often produce longer sentences in order to express their views precisely. This, therefore, increases the chance of committing more errors and deviating from native speaker norms.

Furthermore, the raters referred to the learners' improvement in using more correct prepositions and less L1 negative transfer which could be due to the fact that one of the concerns of teaching collocation in the present study was developing the learners' knowledge of grammatical collocations, including 'noun + preposition', 'adjective + preposition', 'preposition + noun' and 'verb + preposition'. In Jacobs' rating scale, the use of correct prepositions is considered to be part of grammatical competence. Hence, in the current study, fewer prepositional errors in the learners' written works were regarded as improvement in their grammatical aspect of writing.

In all, in addition to Ying and Hendricks' (2003) own study, the findings of the present research can be regarded as further empirical proof of the effectiveness of their proposed collocation teaching model. Moreover, consistent with the findings of the present study, Ying and Hendricks' study proved the significant role of collocation instruction in helping learners make fewer grammatical and usage errors and reach a higher level of language sophistication.

Moreover, these findings are, to a certain extent, in agreement with the results of the research carried out by Ghonsooli et al. (2008) on a group of Iranian EFL writers. The students in Ghonsooli et al.'s (2008) study showed progress only on the 'vocabulary' and 'organization' (which was called fluency in their study) sub-components. They, indeed, found no significant improvement in the grammar of the learners. The researchers attributed the learners' lack of progress in the grammatical aspect of their writing to the short period of the treatment.

Notwithstanding the similarity between the finding of Ashouri & Mashhadi Heidar's (2015) and Eidian et al.'s (2013) conducted studies on Iranian EFL learners and that of the present research regarding the positive effect of collocation instruction on the 'vocabulary' sub-scale, these findings differ with respect to the other sub-constructs of writing. In fact, contrary to

the findings of the present research, the findings of these two studies showed that while the effect on the learners' 'grammar' and 'fluency' failed to be of great significance, it was significant for the 'mechanics' sub-component. Their justifications for their findings regarding the sub-scales of 'grammar' and 'fluency' were the short period of the treatment and lack of emphasis on grammatical collocations during the experiment. However, in the case of 'mechanics', they did not elaborate on the reasons for the reported improvement. In fact, such a relationship between knowledge of collocation and 'mechanics' sub-scale (i.e. spelling, punctuation and capitalization) does not sound justifiable.

Moreover, the findings of this study regarding the significant role of learners' knowledge of collocations in their writing development accord with those of Bahardoust (2013) and Tang (2012). Similarly, Mounya (2010) stressed the significance of this role and suggested "a *Communicative-Collocational Approach* to teaching writing (or speaking) in which the aim is to teach writing following a communicative approach by concentrating on attracting students' attention mainly to collocations" (p. 134). The findings of Namvar et al.'s (2012) study also accentuated the importance of teaching collocations to L2 writers by noting that the sufficient knowledge of these pre-fabricated chunks could save learners' time and energy. In addition, their stress about their limited knowledge of grammar and lexis, as an affective filter, which led into poor writing performance, could be significantly reduced.

Inconsistent with the findings of this study in terms of the effectiveness of collocation instruction on enhancing L2 writing quality are the results of the research studies conducted by Avci (2006) and Liu (2000). The results of these studies indicated that although the employed treatments for teaching collocation could help the learners to produce more correct collocations, they did not effect any significant changes in the learners' writing performance at the post-test stage. However, these researchers attributed lack of improvement in their subjects' post-treatment writing to the interference of other factors such as the subjects' level of language proficiency, the likelihood of their inability to organize ideas in compositions as well as the length of the study. The researchers, therefore, admitted that their findings should be generalized with caution. Moreover, it can be also claimed that part of their failure was due to their employed collocation teaching method which was limited to mere awareness of collocation. Such treatment cannot bring about the desired learning results in the learners' L2 output since the learners need enough practice and corrective feedback in order to not only notice and note the collocations but also learn how to incorporate them efficiently in their L2 production.

Conclusion

Both quantitative and qualitative findings indicated that the learners' quality of writing was significantly improved through collocation awareness-raising approach. The long-term writing performance of the learners indicated that the employed treatment had durable effect. A deeper analysis on separate aspects of the learners' written production revealed that this improvement was with respect to 'vocabulary' (in terms of the range of sophistication, lexical choice and usage), 'organization' (in terms of fluency, the clarity of the expressed ideas and succinctness) and 'language use' (in terms of the accuracy of agreement, tense and prepositions). That is, the employed collocation teaching method did not affect the 'content' sub-component. It sounds quite justifiable that developing knowledge of collocation cannot bring any significant changes in this writing sub-component.

In all, these findings accentuate the crucial role of collocation awareness and use in enhancing L2 writing competence and therefore strongly suggest teaching collocations through Ying and Hendricks' (2003) proposed CAR model in writing classes. To put it more simply,

comparing the post-treatment essays of the experimental group with those of the control group revealed the necessity of instructional intervention to help L2 learners notice, note and incorporate collocations in their written output. In fact, the findings of this research show that heightening the learners' awareness of collocations and teaching them how to incorporate them in their writing can lead into producing written works which include fewer unacceptable word combinations and grammatical errors and enjoy a higher level of sophistication. Furthermore, the clarity, succinctness and fluency of the expressed ideas increase.

The qualitative findings of this study also revealed that bringing some examples from the learners' L1 in the form of L1-L2 contrastive analysis helped the learners produce more correct and natural-sounding word combinations. This, in turn, improved the fluency and accuracy of their written production appreciably. Such findings suggest that using L1-L2 contrastive analysis in writing classes can be one of the effective techniques in enhancing L2 learners' knowledge of collocations which consequently affects the quality of their writing positively.

On the whole, this study made a contribution to the series of empirical research studies investigating the relationship between collocational competence and writing proficiency. The present study, in fact, proved that such relationship exists. The findings of the current research, therefore, can be of great benefit to language educators, including teachers, instructional designers, L2 specialists and material developers, as well as language learners. The main pedagogical implication of this study is that teachers should make learners aware of these word combinations and teach them how to use them in their language production. Indeed, if learners know that their writing competence is closely related to their collocational knowledge, they will make more effort to increase their bank of collocations and they will become more willing to use them.

Collocations do not receive the attention they deserve in the current textbooks and instructional methodologies. The findings of this study show that they deserve more attention and emphases. In fact, these findings suggest material developers produce writing textbooks which mainly focus on the significance of collocations. They also suggest instructional designers devise teaching methods in which collocations play the central role.

This study was limited to only one level of proficiency, that is, upper-intermediate. Future research, with larger groups, can include L2 learners of higher or lower levels of language proficiency. Furthermore, future experiments can be conducted in a longer period of time and examine the long-term effect of the treatment within a longer interval between the immediate and delayed post-tests or through more than one delayed post-test to determine its efficacy over time.

Moreover, this study focused on writing as one of the L2 productive skills. Future researchers can examine the efficacy of the employed treatment on speaking. In addition, the qualitative data collection technique employed in this study was semi-structured interviews with the writing raters. Future researchers can collect the required qualitative data through some other techniques, such as classroom observation, journal writing, etc. to gain more insight into the issue.

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