

Original Article

The Contributions of Input Enhancement of Collocations to the Reading Comprehension of Iranian Field-Dependent and Field-Independent Learners

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Abstract

The present study aimed at examining the possible impact of input enhancement of collocations on the reading comprehension among Iranian Field-Dependent (FD) and Field-Independent (FI) students. Firstly, 120 intermediate female EFL learners took a Nelson proficiency test and the results were used to select 90 students who were given Group Embedded Figures Test (GEFT) to distinguish the FD learners from the FI ones. Ultimately, 28 FD and 28 FI learners were left. These learners were classified into four groups, two of which consisted of 14 FD, and the other two comprised 14 FI learners. One FD and one FI group served as the experimental groups while the other two were control groups. A reading pretest was given to all groups and the researchers incorporated techniques of input enhancement of collocations in the texts covered in the experimental groups. In control groups, the same materials with no enhancement were administered. Having finished the eight treatment sessions, the researchers gave all four groups the reading comprehension posttest whose results were used to examine the research questions. Since the two independent variables of the current study were categorical, and the dependent variable and covariate were continuous, ANCOVA was employed to do the data analysis. Based on the statistical analysis outcome, input enhancement of collocations had a significant impact on the reading comprehension performance of Iranian field-dependent learners. Yet, it had no significant effect on the Iranian FI learners' reading comprehension performance. Finally, the findings showed that input enhancement of collocations had a significant effect on the reading comprehension performance of Iranian FD and FI EFL learners differently; that is, FD learners outperformed the FI ones. The findings of the study imply that teacher training courses should include some training on input enhancement techniques and cognitive styles so that teachers' awareness regarding input enhancement and their cognitive styles were raised.

Keywords: Collocations, Field Dependence/Independence, Input Enhancement, Reading Comprehension

1. Introduction

Reading is regarded as one of the main skills in English as a Foreign Language (EFL) because reading is one of the main sources of input (Torabian & Tajadini, 2017). Since reading is an important skill in EFL contexts, this skill has been explored by many researchers (e.g., Afflerbach et al., 2017; Brevik, 2019; Hwang & Duke, 2020; Pearson & Cervetti, 2017). As Snow (2002) notes, reading comprehension is a process whereby the reader extracts and constructs meaning simultaneously by interacting with the written language. Reading is defined as the process of receiving and interpreting information, by the individual, which is encoded by the written language (Urquhart & Weir, 1998). Many researchers (e.g., Cho et al., 2010; Conrad & Donaldson, 2004; Dreyer & Nel, 2003; Torabian & Tajadini, 2017) consider reading comprehension as one of the essential aspects involved in the process of language learning. The study conducted by Dreyer and Nel (2003) showed that unskilled readers read about one-tenth of the total number of words that are read by their more achieving counterparts. Consequently, texts and reading can serve as one of the main sources of input; therefore, teachers and educators need to pay more attention to this important skill. This implies that if reading is viewed as one of the main sources of input, L2 educators need to incorporate such a skill in language classes effectively and strategically. This would help teachers pave the way for L2 learners to achieve their academic goals.

One of the issues dealt with in the present study is the learners' lack of the required level of vocabulary and collocations to figure out the texts. In the same vein, multiple studies (e.g., Pei, 2008; Prodromou, 2003) have concluded that knowledge of collocation constitutes one of the important parts of our language knowledge. Furthermore, multiple models of mental lexicon have incorporated collocations as one of the essential elements of vocabulary knowledge (Nation, 2001). Collocations can be regarded as one group of vocabulary which is typical in the lexical arrangements of languages. When words with a syntactic capacity as the main components of a sentence are joined together, collocations, which are considered as a sort of vocabulary, are made (Howarth, 1998). As Lewis (2000) stated, collocations are those words that often co-happen. Since collocations are prefabricated, they present difficulties for EFL learners which, in turn, make teachers embrace proper strategies so that students can pay more attention to them. Noticing via

input enhancement is a way by which not only consideration of the learners is centered on collocations, but also their cognizance is enhanced.

Schmidt (2001) is one of the researchers who stated that cognizance of the learners is added by conscious consideration which is vital for the learning process. Also, some Second Language Acquisition (SLA) specialists like Tomlin and Villa (1994) brought up that consideration without awareness is pointless in the process of language learning. Although the recognized data might be enlisted in memory, no learning takes place without noticing. Furthermore, due to the existence of many associated elements, the cycle of second language acquisition is an intricate one (Ellis, 2008). As a result, when teachers understand the learning process with intellectual styles, they can give a premise to powerful learning in both classes and computer labs (Jamieson, 1992).

The concept of cognitive style is characterized as the connection between personality and cognition. In general, the way we learn is affected by our cognitive style and the method we adopt to manage issues. There are a lot of cognitive styles in theory; However, only a couple of cognitive styles such as field-dependence/independence and reflexivity/impulsivity have received attention from L2 specialists recently (e.g., Altun & Cakan, 2006; Ghonsooly & Eghtesadee, 2006; Jamieson, 1992; Sadeghi et al., 2013). Field independence/dependence (FI/D), for example, is one of the fascinating cognitive styles for L2 researchers. According to Brown (2000), field dependence (FD) is defined as a psychological style where a person looks at the entirety of a learning task with diverse items. A FD person can only contemplate a specific item when it happens in a field of different items. The field might be either perceptual or conceptual like thoughts or feelings. On the other hand, field independence (FI) alludes to a psychological process where a person's concentration can be on specific things and is not distracted by things in the setting.

A variety of investigations (e.g., Chapelle & Roberts, 2006; Kheirzadeh & Kassaian, 2011) have been carried out on the differences between FD and field-independent learners, as well as, how they perceive and interact with the learning environment. As mentioned by Chapelle and Roberts (2006), FD students are more likely to be influenced by the learning setting, and they more easily adopt the structure or idea of instruction compared to FI students. Accordingly, they obtained evidence for the relationship between FI style and L2 success. A look at the previous investigations (e.g., Hansen & Stansfield, 1981; Stansfield

& Hansen, 1983) shows that the cognitive styles associated with the FD and DI students have been the focus of many investigations. However, no investigation has examined the impact of input enhancement of collocations on the reading comprehension of Iranian FD and FI learners.

2. Literature Review

Many studies have been conducted to investigate the influence of input enhancement and FD/FI cognitive styles on second language acquisition in general, and collocation and skills learning in particular. These studies have revealed some interesting points regarding FI/FD learners and their differences in acquiring language skills and components. A few of these studies are reported below.

2.1. Input Enhancement and Lexical Learning

Numerous empirical studies have been conducted on the effect of input enhancement on the acquisition of lexical items in an EFL setting; a few of which are provided in the following section in chronological order.

The influence of enhancement collocations input in the process of reading on the collocation learning and preservation of EFL learners was investigated by Goudarzi and Moini (2012). In their study, collocations were introduced to three groups: highlighted (bold), non-highlighted, and L1 glossed forms. The outcomes demonstrated that the learners in the L1 glossed group outperformed the learners in other groups and the members of the highlighted group performed better than members of the non-highlighted group.

Szudarski and Carter (2016) carried out a study to examine L2 learners' acquisition of verb-noun and adjective-noun collocations. The subjects participated in two modes of instruction including input flood only and input flood plus input enhancement in the form of underlining. Findings revealed that input flood plus input enhancement leads to the acquisition of collocations only at the level of form recall and form recognition.

Jones and Waller (2017) conducted a quasi-experimental study investigating the effectiveness of implicit and explicit teaching approaches combined with textual and aural input enhancement on the acquisition of lexical items in a higher education context. The results of the study offered some evidence that textual and aural input enhancement can have a positive impact on vocabulary learning and use across both receptive and

productive skills.

Mohamadian and Sabbagh Shabestari (2017) examined the effect of implicit input enhancement on learning grammatical collocations. Two groups of Iranian intermediate EFL high school students participated in this study. Some of them were assigned to the control groups and the others to experimental groups who received treatment sessions. The findings showed that enhancing the collocational input is not significantly beneficial for EFL learners.

Fazlali and Shahini (2019) also conducted a study to examine the effect of input enhancement as an implicit and consciousness-raising as an explicit method of instruction on improving grammatical and lexical collocation knowledge of Iranian EFL learners. The results of their study showed that input enhancement had no significant effect on expanding the grammatical collocation knowledge of Iranian EFL learners, while it had a significant effect on the advancement of lexical collocation knowledge. It was also concluded that consciousness-raising instruction had a significant effect on increasing both lexical and grammatical collocation knowledge of Iranian EFL learners.

2.1. Field-Dependence/Field-Independence and Language/Component Acquisition

A great number of researchers have maintained that learners' cognitive style of field-dependence/independence is a determining factor affecting the way a language or its components are acquired. In what follows, some of the studies are briefly reviewed.

Jamieson (1992) examined the features of successful and unsuccessful L2 learners regarding their cognitive style. The findings indicated that there was a positive relationship between FI and proficiency in ESL. Similarly, Littlemore (2001) investigated the communication strategies used by L2 learners. The findings showed that FD learners make more extensive use of communication strategies compared to FI learners. However, FI learners used strategies that are concerned with a concentration on individual features of the target item.

In their study, Rickards et al. (1997) had undergraduate students who take and did not take notes while listening to two passages with or without structural cues. The results of their study indicated that notetaking on signaled texts could maximize the recall, while on non-signaled texts, the recall was considerably diminished. The results also indicated that notetaking in the presence of signals enhanced recall of FD but not FI learners. This

issue was further examined in a reading context. For FI learners, the ability to recall was highly increased across passages of the same structure in the non-notetaking conditions, while for the FD learners only in the notetaking conditions recall was enhanced. Finally, it was concluded that individuals with FI and FD styles adopted different strategies while doing listening and reading comprehension activities.

In their paper, Boutin and Chinien (2005) reported the findings of a quasi-experimental longitudinal study carried out to determine the relationship between cognitive style field-dependent/FI and the performance of adult learners on ICT mediated testing of listening comprehension and speaking ability in the second language. Their findings revealed that there is no interactive effect of learners' cognitive style (field-dependent/ field-independent) and ICT-mediated testing of listening comprehension and speaking ability.

Vahabi (2006) discussed the relationship between EFL students' FD/FI cognitive style, competence, and communication strategies in writing. The outcomes of the study demonstrated that Iranian English language learners' FD/FI cognitive styles and the number and type of their conceptual strategies in writing are not connected. Furthermore, in Altun and Cakan's (2006) study, it is acknowledged that there is no significant relationship between students' academic achievement and their cognitive process styles.

The role of the cognitive style of FD/FI in the utilization of cognitive and metacognitive reading strategies for experienced and beginner readers was investigated by Ghonsooly and Eghtesadee (2006). The outcomes of the study demonstrated that the difference between the cognitive strategies utilized by novice FD and novice FI readers as well as the frequency of metacognitive strategies considered insignificant.

In their research, Niroomand and Rostampour (2004) examined the effect of field dependence/independence cognitive styles and gender differences on EFL learners' lexical knowledge. The findings of their study revealed that cognitive styles of FD/FI affect lexical knowledge. It was finally concluded that understanding the effective role of students' cognitive aspects will enable teachers and researchers to design appropriate materials and activities to help students improve their lexical competence.

In a study, Nozari and Siamian (2015) investigated how FD/FI is related to English text comprehension and academic success of Iranian high school learners. The results of the study showed that FD cognitive style significantly explains variation in the reading comprehension scores.

In their study, Kharaghani and Ghonsooly (2015) examined how teaching vocabulary using reciprocal instruction and cooperative learning impacts Iranian undergraduate university student's reading comprehension and reading motivation. They used an experimental design in which groups of learners took reading pretest and posttest. The results of their study pointed out the relationship between vocabulary knowledge and the level of motivation in reading comprehension skills of Iranian learners.

Khodadady et al. (2016) explored the relationship between FI/FD cognitive styles and achievement in English as a foreign language. The analysis of the collected data revealed a significant relationship between cognitive styles and EFL achievement. It was reported that neither the FD, nor the FI genus of cognitive styles related to the achievement. However, the results of the independent samples *t*-test indicated that the FI students' EFL achievement was significantly higher than their FD counterparts.

In their study, Fani and Hashamdar (2017) investigated the comparative effect of visual and auditory input enhancement on the use of cohesive devices in the writing of Iranian EFL field-dependent and independent learners. The findings of their study revealed that visual input enhancement was significantly more effective than auditory input enhancement in terms of their effects on the use of cohesive devices in both FD and FI language learners. Hashemian and Farhang-Ju (2018) investigated the possible effects of metalinguistic feedback on FI/FD intermediate L2 learners' writing accuracy. The results of their study revealed that both the FI and FD learners benefited from metalinguistic feedback, but the FD participants outperformed the FI ones.

Naseri and Khodabandeh (2019) compared the impact of audiovisual input enhancement on collocation learning in traditional and mobile learning contexts. The results of the study indicated that audio-visual input enhancement positively affected EFL learners' collocation learning and enhanced their accuracy concerning collocation use in narrative writing. Moreover, in comparison to the traditional learning context, audiovisual input enhancement teaching techniques were significantly effective in the mobile learning context in terms of collocation learning. Furthermore, the efficiency of audiovisual techniques of input enhancement employed in teaching was not significantly different between the experimental groups in two learning contexts in terms of enhancing EFL learners' accuracy concerning collocation use. FI learners performed better through deductive lessons, while FD learners did better with the inductive styles of teaching.

To the best of the researchers' knowledge, since no investigation has ever been conducted to examine the impact of input enhancement of collocations on the reading comprehension of Iranian field-dependent and FI learners, this study is an attempt to fill this research niche by addressing the following research questions:

RQ1: Does input enhancement of collocations have a significant effect on the reading comprehension performance of Iranian field-dependent learners?

RQ2: Does input enhancement of collocations have a significant effect on the reading comprehension performance of Iranian field-independent learners?

RQ3: Is there any significant difference between the effects of input enhancement of collocations on the reading comprehension performance of Iranian field-dependent and field-independent learners?

3. Methodology

3.1. Design and Context of the Study

This study adopted a quasi-experimental design since the researchers were not able to have pure randomization in the selection process and assignment of the participants to the two experimental and control groups. As the researchers are limited to live in Sanandaj, the context of the study was the English institutes located in this city.

3.2. Participants

The study was carried out on female learners studying at language institutes in Sanandaj, Kurdistan province. At the outset, 120 adult EFL intermediate female learners studying at the language institutes in Sanandaj were selected. The initial 120 learners were selected through convenience sampling from among 15 classes. They were within the age range of 20 to 30. To choose a homogeneous sample of the participants in terms of language proficiency, they were given Nelson English Language Tests (series 200 B) the results of which were used to select 90 learners. Ninety students participated in this study, with their scores falling within the range of one standard deviation below and above the mean score. Then, the students took a Group Embedded Figures Test (GEFT) the results of which were used to divide the subjects into the following categories: two FD and two FI groups. Table 1 represents the demographic information of the participants:

Table 1.

Demographic Information of the Participants

Cognitive Style	Field-dependent	Field-Independent	Mixed-Tendency
Number	31	32	27
Mean Age	25.5	24.7	26.5
Gender	Female	Female	Female

3.3. Instruments and Materials**3.3.1. Group Embedded Figures Test**

Group Embedded Figures Test (GEFT) was administered to distinguish field-dependent learners from independent learners. The GEFT instrument devised by Witkin et al. (1971) is made up of three sections containing 25 complex figures within which simple geometric figures are embedded. The simple forms are present in the complex figures in the same size, the same proportions, and in the same direction as when they appear alone. The students were asked to identify eight simple forms (labeled A to H). The first section consists of seven complex figures (practice items timed at two minutes) and the second section is made up of nine-item tests timed at five minutes, with each set consisting of nine complex figures each. The respondents, in the current study, were asked to find the simple forms (A to H) in the complex figures and to trace them in pencil directly over the lines of the complex figures. Therefore, the total number of figures is 18 since the seven beginning figures are for practice and familiarizing students with the test. The maximum possible raw score would be 18 which is obtained by adding the correct number of responses on the second and third parts of the test. A high score (11-18) means that the candidate could separate the simple figure from the complex figure and has tendencies considered to be FI. The converse is true for those who have low scores (0-7) on the test, and they are considered to be FD. Candidates with mid-level scores (8-10) are considered to have mixed tendencies. According to Witkin et al. (1971), the test has a Spearman-Brown reliability coefficient of 0.8 to 0.9 and an acceptable validity.

3.3.2. Nelson Test

Nelson English Language Test, series 200 B, by Fowler and Coe (1976) was utilized for homogenization of the participants concerning the proficiency of general language knowledge. This test was opted for due to its accessibility, and because it is reported to be

appropriate to check the level of the intermediate EFL learners. The test includes 50 multiple choice questions and the first 14 questions are concerned with choosing words and phrases to complete a text. It is a multi-choice cloze test. The rest are sentence completions that must be completed by selecting one of the options which have been given. Here, options are words and phrases once again. As long as reliability depends on the sample, in the beginning, the pilot test was performed on 30 participants with similar qualities to the main study participants, and Cronbach's Alpha was run on the scores. The index of reliability was 0.87 which is in an acceptable range. After that, the test was given to 120 primary apprentices, and the results of the test were used for selecting those participants whose scores were between one standard deviation above and lower than the average. Following the obtained results, 90 of the 120 primary apprentices were selected.

3.3.3. English Collocations in Use

Collocations in use by McCarthy and O'Dell (2006) was used as the material for the current study. The book contains sixty units covering different topics through which a lot of collocations are presented. The book was used both as supplementary course material, and as a source for selecting the collocations chosen for treatment in this study.

3.3.4. The Reading Pretest and Posttest

The scores of the reading section of the Preliminary English Test (PET) were used as the reading pretest and posttest (The reading sections of two versions of PET were used). Preliminary English Test is a test of intermediate language proficiency which contains 35 reading comprehension items, 25 listening comprehension items, and two writing tasks as well as a speaking section (Quintana, 2015). In the present study, only the reading comprehension sections were used.

3.4. Data Collection Procedure

Initially, 120 female EFL learners at language institutes in Sanandaj were chosen through convenience sampling from among different classes. To ensure that all the participants were at the same level of proficiency, a Nelson proficiency test (Test 200 B) was administered to the 120 participants out of whom 90 were chosen. The 90 participants were selected and given GEFT to identify the field-dependent and independent individuals.

The results of GEFT indicated that there were 31 FD 32 FI learners, and 27 learners who had mixed tendencies. The learners who had mixed tendencies were excluded from the study. Moreover, three FD learners and four FI learners left during the study which led to the ultimate number of 28 FD and 28 FI learners. These participants were categorized into four groups. Overall, 14 FD learners were identified and divided into two groups. Also, 14 FI learners were identified and divided into two groups. Therefore, four groups were formed, each consisting of 14 members. Two groups consisting of one 14-member FD individuals and 14 FI ones, respectively served as the control groups and the other two groups as the experimental groups of the study. Then, a reading pretest extracted from PET was given to the participants in all four groups. After ensuring the homogeneity of all groups in terms of overall language proficiency, the researcher administered a reading pretest to the four groups. Then, the participants in the experimental groups were exposed to input enhancement of collocations following Schmidt's (1995) noticing hypothesis. The enhancement techniques were as follows: underlining, boldfacing, italicization, capitalization, and other strategies such as color-coding or using different font sizes or types. Therefore, in the case of experimental groups, the collocations were incorporated in the texts by using one or different techniques mentioned above. To this end, the selected materials were retyped and the required modifications were made to them. In the case of control groups, the same procedure was conducted, but the input enhancement techniques of underlining, boldfacing, italicization, capitalization, etc. were not introduced. The treatment lasted for 10 sessions, and in each session, which lasted one and a half hours, 8 collocations were worked on in the groups. Upon finishing the treatment, the researcher gave the participants in the four groups (control and experimental groups) the reading comprehension posttest the results of which were used to examine the research questions.

3.5. Data Analysis Procedure

IBM SPSS program (version 25) was used for quantitative data analysis. This study used both descriptive and inferential statistics. Descriptive Statistics were used to check the normality of the tests, their assumptions, and features of the test such as mean, maximum, minimum, standard deviation, skewness, kurtosis, and other features. The data collected in the study were inferentially analyzed using ANCOVA for answering each of the first two questions. According to Tabachnick and Fidell (2013), this statistical technique assumes a

lack of univariate and multivariate outliers, normality of subgroups' distributions, homogeneity of variances, reliable measurement of the covariate prior to the treatments, and linearity and homogeneity of regression slopes. Preliminary checks showed that all these requirements were met and no meddlesome violations were observed.

4. Results

4.1. Results of the Proficiency Test

Initially, 120 language learners at an intermediate level were selected based on their availability. Intermediate learners took the Nelson test so that their scores could be used as a criterion to single out those participants who had the closest scores to the mean. In other words, the attempt aimed at selecting only participants with homogenized English language proficiency. Table 2 shows the descriptive statistics of the 120 intermediate language learners.

Table 2.

Descriptive Statistics for the Proficiency Test

	N	Minimum	Maximum	Mean	Std. Deviation
Nelson Test	120	21.00	48.00	40.1556	5.71596
Valid N (listwise)	120				

To choose those students with homogenized language proficiency, students whose scores fell within the range of mean score ± 1 SD were extracted from the pool of 120 language learners. To this end, 90 participants were selected. These participants were then given the GEFT and based on the results four groups each consisting of 14 participants took part in the present study.

4.2. Results of the Reading Pretest and Posttest

To address the research questions, an ANCOVA was run. To perform ANCOVA, some assumptions need to be checked such as the interval data, the normality of the data, the equality of error variances, and the equality of slope of regression lines between groups. Table 3 represents the results of the descriptive statistics for reading in all the groups.

Table 3.

Descriptive Statistics of Skewness and Kurtosis for Reading in the Two Experimental and the Two Control Groups

Group		N	Minimum	Maximum	Mean	Std.		Skewness	Kurtosis	
						Deviation	Statistic		Error	Statistic
Field-dependent Experimental	Pretest	14	8.00	19.00	13.7143	2.81284	-.216	.597	.484	1.154
	Posttest	14	23.00	31.00	26.9286	2.70226	.143	.597	-1.240	1.154
Field-independent Experimental	Pretest	14	12.00	17.00	14.1429	1.61041	.118	.597	-.953	1.154
	Posttest	14	8.00	19.00	15.1429	2.87849	-1.092	.597	1.693	1.154
Field-dependent Control	Pretest	14	10.00	19.00	15.1429	2.98347	-.506	.597	-.679	1.154
	Posttest	14	10.00	19.00	14.9286	2.49505	-.322	.597	-.233	1.154
Field-independent Control	Pretest	14	12.00	18.00	14.3571	2.02322	.405	.597	-.885	1.154
	Posttest	14	8.00	19.00	15.1429	2.87849	-1.092	.597	1.693	1.154

As it can be observed, the data were distributed normally. Descriptive statistics for the normality of data indicated normality. To gain more certainty about the normality of the data obtained, it was decided to subject the data to inferential checks of normality of Kolmogorov-Smirnov and Shapiro-Wilk's tests. Table 4 below shows the statistics.

Table 4.

Kolmogorov- Smirnov and Shapiro-Wilk's Tests of Normality for Reading in the Two Experimental and the Two Control Groups

	Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Pretest	Field-dependent Experimental	.183	14	.200*	.971	14	.893
	Field-independent Experimental	.131	14	.200*	.936	14	.368
	Field-dependent Control	.162	14	.200*	.924	14	.255
	Field-independent Control	.213	14	.085	.890	14	.082
Posttest	Field-dependent Experimental	.146	14	.200*	.934	14	.350
	Field-independent Experimental	.131	14	.200*	.929	14	.299
	Field-dependent Control	.141	14	.200*	.974	14	.929
	Field-independent Control	.131	14	.200*	.929	14	.299

Kolmogorov-Smirnov and Shapiro-Wilk’s tests of normality indicated that the data were distributed normally. As shown in Table 4, the value of p in the two experimental and the two control groups pretest were respectively, .893, .368, .255, and .082. The value of P the two experimental and the two in the control groups post-test were respectively, .350, .299, .929, and .299. Therefore, the normality of data in the two experimental and two control groups was observed. The boxplots and normal curve histograms of normality are presented in Appendices (B and C). The third assumption to perform ANCOVA is Levene’s test of equality of error variances which is presented in Table 5 below.

Table 5.

Levene’s Test of Equality of Error Variances for Reading in the Two Experimental and the Two Control Groups

Dependent Variable: Posttest			
<i>F</i>	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
.580	3	52	.631

In Table 5, the evidence showed the value of $p = .631$. As the assumption of the equality of error variances was observed, the equality of slope of regression lines between groups was checked (Table 6).

Table 6.

The Equality of Slope of Regression Lines between Groups for Reading in the Two Experimental and the Two Control Groups

Dependent Variable: Posttest					
Source	Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>Sig.</i>
Corrected Model	1506.898 ^a	7	215.271	28.621	.000
Intercept	281.319	1	281.319	37.402	.000
Group	78.373	3	26.124	3.473	.023
Pretest	6.274	1	6.274	.834	.366
Group * Pretest	12.400	3	4.133	.550	.651
Error	361.030	48	7.521		
Total	20084.000	56			
Corrected Total	1867.929	55			

As it can be seen, the value of p in the fifth line was more than .05, ($P > .000$) $p = .651$. Therefore, the equality of slope of regression lines between groups has been observed. As the data were distributed normally and all the assumptions were checked, ANCOVA was run to show the difference between the four groups (Tables 7, 8, and 9).

Table 7.

Analysis of Co-Variance for Reading in the Two Experimental and the Two Control Groups

Dependent Variable: Posttest					
Source	Type III Squares	Sum of <i>df</i>	Mean Square	<i>F</i>	<i>Sig.</i>
Corrected Model	1494.498 ^a	4	373.625	51.027	.000
Intercept	307.219	1	307.219	41.957	.000
Pretest	17.856	1	17.856	2.439	.125
Group	1491.368	3	497.123	67.893	.000
Error	373.430	51	7.322		
Total	20084.000	56			
Corrected Total	1867.929	55			

a. R Squared = .800 (Adjusted R Squared = .784)

Table 7 shows that there is a significant difference between groups ($F = 67.893$, $df = 3$, $P = .000$ ($P < .000$)). It means that the learners in the experimental group performed better than the control group.

Table 8.

Estimated Marginal Means for Reading in the Two Experimental and the Two Control Groups

Estimates				
Dependent Variable: Posttest				
Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Field-dependent Experimental	27.080 ^a	.730	25.615	28.544
Field-independent Experimental	15.190 ^a	.724	13.737	16.644
Field-dependent Control	14.734 ^a	.734	13.261	16.208
Field-independent Control	15.139 ^a	.723	13.687	16.590

As indicated in Table 8, the value of mean in the two experimental and the two control groups was respectively 27.080, 15.190, 14.734, and 15.139.

Table 9.

The Mean Difference for Reading in the Two Experimental and the Two Control Groups

Pairwise Comparisons						
Dependent Variable: Posttest						
(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
Field-dependent Experimental	Field-independent Experimental	11.889*	1.025	.000	9.832	13.947
	Field-dependent Control	12.345*	1.046	.000	10.245	14.446
	Field-independent Control	11.941*	1.028	.000	9.878	14.004
Field-independent Experimental	Field-dependent Experimental	-11.889*	1.025	.000	-13.947	-9.832
	Field-dependent Control	.456	1.034	.661	-1.621	2.533
	Field-independent Control	.052	1.023	.960	-2.003	2.106
Field-dependent Control	Field-dependent Experimental	-12.345*	1.046	.000	-14.446	-10.245
	Field-independent Experimental	-.456	1.034	.661	-2.533	1.621
	Field-independent Control	-.404	1.030	.696	-2.472	1.663
Field-independent Control	Field-dependent Experimental	-11.941*	1.028	.000	-14.004	-9.878
	Field-independent Experimental	-.052	1.023	.960	-2.106	2.003
	Field-dependent Control	.404	1.030	.696	-1.663	2.472

As shown in Table 9, the mean difference for the FD group ($MD = 12.345$, $P = .000$ ($P < .05$)) indicated that the performance of the experimental group was better than the control group. The mean difference for the FI group ($MD = 0.52$, $p = .960$) indicated that the control group's performance was better than that of the experimental group. The mean difference of the two experimental groups ($MD = 1.025$, $P = .000$ ($p < .05$)) indicated that the performance of FD experimental group was better than that of FI experimental group.

5. Discussion

The current study aimed at investigating the possible effect of input enhancement of collocations on the reading comprehension performance of Iranian field-dependent and independent learners. The results of the analyses demonstrated that input enhancement of collocations had a significant effect on the reading comprehension performance of both FD and FI learners. However, this effect was different for the two groups with FD learners outperforming the FI ones. Based on the statistical analysis of the data which was done for the comparison between FD and FI learners in the current study, it was concluded that FD participants showed more improvement in their reading comprehension compared with FI ones, in other words, FD learners outperformed FI learners in their post-test of reading.

The findings of this study are in line with Boutin and Chinien (2005). In a quasi-experimental longitudinal study about field-dependence/independence and Information and Communication Technologies (ICT) in L2, as they found that FD learners were better language learners when it came to overall language learning. The findings of the current study are also in line with the findings of Chapelle and Roberts (2006), and Hwang's (1997) study of FD and English reading comprehension of Taiwanese students in which they found a significant positive relationship between reading comprehension and FD. The findings of the current study in this regard can be explained based on Chapelle's (1988) idea that FD individuals rely on external cues. The findings of the present study are, however, in contrast with the results of Salamian (2002). Salamian (2002) in a study of the relationship between FD/FI and performance found no relationship between FD/FI and the students' performance in language learning.

In line with the findings of the current study, in studies conducted by Brown (2000) and Salmani Nodoushan (2005), they concluded that there was a positive correlation between the cognitive style of field-dependence and success in reading. However, the

cognitive style of field independence may not be necessarily a weakness as the learners with FI style have a better performance in social contexts (Salmani Nodoushan, 2007). In their paper, Rickards et al. (1997) concluded that individuals with field independence and field dependence styles used different strategies while engaging in listening and reading comprehension activities. Similarly, Yamini and Ahmadi (2003) examined the impact of FD/ FI on the application of listening comprehension strategies, with the results showing that FD and FI learners used different strategies.

The findings of the present study can be justified because those learners with FD style possess larger memory capacity compared to FI ones (Messick, 1984). This may impact their performance in particular on reading tests. As FD learners experience no problem in disassembling parts from the whole or in segregating information (Witkin et al., 1971), FI individuals' lack of this ability may be another reason for their weak reading performance. So, it appears that individuals with FI styles need to receive more training in analysis and differentiation between relevant and irrelevant cues in reading materials.

6. Conclusion

It is generally concluded in the literature that enhancing the input can positively contribute to the learners' performance in the second or foreign language. However, as learners with dissimilar cognitive styles might produce different performance outcomes in language learning, differentiating between them with reference to their cognitive styles would lead to more effective language teaching and learning strategies. In this regard, the findings of this research could be interpreted as being supportive of the idea that input enhancement of lexical items could have a significant impact on the reading comprehension performance of the learners. Nonetheless, this effect was more significant for FD learners than the FI ones.

Based on the findings of the present study, teachers' awareness regarding input enhancement and cognitive styles should be raised. Moreover, teacher training programs can include training on cognitive styles and their relationship with reading comprehension to prepare teachers for acknowledging learners' differences in language classrooms. Similarly, teacher trainers should include training for both in-service and pre-service teachers for giving them information on how to deal with students with FD and/or FI styles.

The findings of the present research cannot be generalized to other input enhancement settings since, to the best of the present researchers' knowledge, no researcher has so far examined the contribution of input enhancement of collocations to the reading comprehension performance of EFL learners concerning their FD/FI cognitive styles. Hence, the only conclusion that can be drawn from the results of the current research is that input enhancement of collocations is not equally beneficial for learners with different FD/FI tendencies. Generalization of the findings of the current research should be made with extreme caution since much more research with a larger sample size is needed. This study was limited to only one level of proficiency, i.e., intermediate, and one gender, i.e., females. Future research, with larger groups, can include L2 learners of higher or lower levels of language proficiency, and other gender or mixed genders to examine how input enhancement can significantly affect FD and FI learners' target language performance.

Based on the findings of the current study, some research proposals can be suggested for future researchers. In the first place, it is suggested that similar studies focusing on FD and FI learners be conducted to reach more conclusive results. There are still many variables affecting reading comprehension in need of further research. For instance, cognitive and socio-affective strategy training may have the potentials to be positively used for reading comprehension enhancement. In addition, it is suggested that future research control for many other intervening variables like personality, motivation level, socio-cultural background, etc. when examining the effect of collocational awareness on reading comprehension. It should be further investigated how input enhancement of collocations may affect other language skills like listening, speaking, and writing. Finally, it is advised that some qualitative research be used to further explore the objectives of the current study. For instance, classroom observation can provide valuable information about the students' reactions to input enhancement of collocations, their attitudes, motivation, and engagement.

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