The Effects of Input Enhancement Techniques on the Comprehension and Production of English Lexical Collocations

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Abstract

The present study aimed to investigate the effects of three common techniques of input enhancement, namely, visual input enhancement, semantic input enhancement, and input flooding on female Iranian EFL learners' comprehension and production of lexical collocations. The participants were 80 learners, aged between 16 and 40, studying English in two private institutes in Karaj. To begin with, the participants were given an ECCE test of general language proficiency to determine their proficiency level. After taking a pretest, comprising 110 collocations items, the participants (in three experimental groups and one comparison group) received 10 reading passages over 10 sessions in which lexical collocations were presented in the above-mentioned conditions. At the end of the experimental period, the participants took two posttests of comprehension and production of collocations. Two One-way ANOVA procedures were used to analyze the obtained data, and the results showed no significant differences among

the effects of the three input enhancement techniques on the comprehension and production of lexical collocations.

Key words: lexical collocations, visual input enhancement, semantic input enhancement, input flooding

1. Introduction

Since the concept of collocation was first introduced by the British linguist Firth in 1957, the study of English collocations has attracted increasing attention from language teaching researchers, especially in recent years. The importance of collocation studies in foreign language teaching and research is undeniable (Zarei & Koosha, 2003). It is generally believed that although collocations are indispensable, they are also problematic for language learners, and that they should be carefully included as an essential component in second language teaching, especially at intermediate levels and afterwards (Fan, 2009).

Accordingly, it is of utmost importance to come up with effective ways and techniques to teach collocations. One of these can be input enhancement (also known as 'consciousness-raising'), which has recently garnered a great deal of attention. Sharwood Smith (1991) coined the term 'input enhancement', which basically aims to make some forms of the target language more noticeable in order to draw the students' attention to them. It is a process that cannot be achieved without 'noticing' (Rashtchi & Gharanli, 2010).

There are different types of input enhancement; three of the main types are visual input enhancement, semantic input enhancement, and input flooding. Visual input enhancement (also known as textual or typographical input enhancement) is used to increase the saliency of a particular target form through using a different color, different font style, use of italics, boldface or underlining, etc. (Wong, 2003). Semantic input enhancement (also called semantic elaboration or lexical elaboration) involves adding the words' semantic features through paraphrasing, providing L1 or L2 glosses, or giving other sorts of prompts. (Rott, 2007). Input flooding involves providing ample opportunities for repeated exposure to the target language forms (Wong, 2003).

It seems that the main concern of input enhancement techniques in the history of research in second or foreign language acquisition has primarily been the acquisition of grammatical forms. There seems to be a gap with regard to lexical knowledge. Therefore, the present study aims to partially fill this gap. More specifically, this study is an attempt to provide answers for the following research questions:

1. Are there any significant differences among the effects of visual input enhancement, semantic input enhancement, and input flooding on female Iranian EFL learners' comprehension of lexical collocations?
2. Are there any significant differences among the effects of visual input enhancement, semantic input enhancement, and input flooding on female Iranian EFL learners' production of lexical collocations?

2. Literature Review

2.1. Collocations

There is little doubt that collocations are an integral and significant component of vocabulary development. It is commonly believed that knowing the meaning of a word is not sufficient for its use. There are other aspects of a word that are central to its correct use. One such aspect involves a word's potential to combine with other words (Shokouhi & Mirsalari, 2010). Hill (2000) believes that ready-made phrases and combinations constitute a considerable part of our speech, amounting to almost 70 percent of all our written and spoken utterances. Put simply, we owe a big part of our verbal communication to the existence of collocations (Martyńska, 2004).

Almost all researchers involved in the study of collocations are familiar with the famous sentence by the renowned British linguist Firth: "you shall know a word by the company it keeps" (1957, cited in Zarei & Baniesmaili, 2010, p. 147). However, it is worth noting that in fact the first person who attempted to define collocations was Firth's countryman, Palmer. To Palmer, collocations are words that should preferably be learnt as a whole or as an individual word, and not as two or more separate pieces (Palmer, 1933). After Palmer, Firth proposed that in determining the meaning of a word, its context is at least to some extent determinant (Fan, 2009; Gitsaki, 1996; Hamed Mahvelati & Mukundan, 2012; Martyńska, 2004; Zarei & Koosha 2003). Lewis (1997) describes collocations as a phenomenon involving the co-occurrence of

certain words in a natural text, with a regularity that is more common than to be considered random. He divides collocations into three categories: fully fixed, relatively fixed, and novel.

Apart from the definition of collocations, its categorization has also been somewhat varied. While some forms of categorization are common among many researchers, there are also differences originating from different viewpoints.

The most prevalent and dominant categorization is that of Benson et al. (1986). Over the past two decades or so, a large number of researchers have either based their works on this classification or acknowledged its importance (Baker, 1992; Farrokh, 2012; Moehkardi, 2002; Shooshtari & Karami, 2013; Zarei, 2002; Zarei & Baniesmaili, 2010).

In their book, 'The BBI combinatory dictionary of English', Benson, et al (1986) divide collocations into two types: lexical and grammatical. In lexical collocations, all the elements are content words (noun, verb, or adjective). There are no grammatical components like clauses, or infinitives. Seven major types of lexical collocations proposed in 'The BBI combinatory dictionary of English' are as follows:

1, 2 = 'verb + noun' (in 1, the verb is mostly transitive, implying creation or activation. In 2, the verb expresses eradication or nullification), 3= 'adjective + noun', or nouns used as an adjective, 4= 'noun + verb', 5= 'noun $_1$ + of + noun $_{2'}$, 6= 'adverb + adjective', and 7= 'verb + adverb'.

Grammatical collocations comprise a content or dominant word together with a function word or grammatical structure (a preposition, an infinitive, or a clause). According to Benson, et al. (1986), there are eight main types of grammatical collocations: 1= 'noun + preposition', 2= 'noun + to + bare infinitive', 3= 'noun + that-clause', 4= 'preposition + noun combinations', 5= 'adjective + preposition', 6= 'adjective + to + bare infinitive', 7= 'adjective + that-clause', and 8= 19 verb patterns in English.

2.2. Input Enhancement

Attracting learners' attention has always been a major concern of teachers, and they do everything in their power to get it. Employing input enhancement techniques, whether intentionally or unintentionally, is one way of doing so.

In Sharwood Smith's (1991) words, input enhancement is the process of making language input salient to learners. This simple and unambiguous definition has been the basis of a

considerable number of studies. Many researchers (AsadiAmirabadi et al., 2014; Barcroft, 2003; Fahim & Vaezi, 2011; Kim, 2006; Ertürk, 2013; Wong, 2003) have made use of this definition with only slight alterations in a few cases.

Sharwood Smith (1991) holds that input enhancement can either be the result of deliberately manipulating input as an external factor, or originate from the internal, automatic learning strategies adopted by learners. External manipulation is usually done by the teacher, who, in a variety of ways, attempts to draw learners' attention to a linguistic feature. Internally-induced input enhancement, on the other hand, is the outcome of learners' mental and cognitive learning mechanisms when they themselves decide something is worth paying attention to and that they are prepared to increase their knowledge (Ertürk, 2013; Sharwood Smith, 1991). Similarly, Rashtchi and Gharanli (2010) use this distinction to classify types of salience of input: externally- and internally- driven salience.

As to different techniques of input enhancement, one may refer to typographical manipulation, input flooding, explicit instruction, marginal glosses, translation or definition (semantic elaboration), providing corrective feedback, form-comparison and explicit teaching (Barcroft, 2003; Dastjerdi & Farshid, 2011; Lee & Lee, 2012). Three of the above-mentioned techniques, which are the focus of the present study, are described in further detail below.

Visual Input Enhancement (VIE) is also known as ‘textual, or typographical enhancement’, or in one case called 'external manipulation of input' by Rashtchi and Gharanli (2010). VIE, as the name suggests, visually accentuates input. The idea is to make certain aspects of input, which can otherwise be ignored, visually noticeable to learners. In other words, visual enhancement is implicitly employed to heighten certain forms in the text or written input (Fahim & Vaezi, 2011).

Leow, Egi, Nuevo and Tsai (2003), and Lee and Lee (2012) refer to different studies that have used typographical manipulation such as underlining, capitalizing, using different font types and sizes, color coding, bold-facing, italicizing, etc. in the input to increase perceptual salience.

Another implicitly achieved method of IE, which is of use to those learners who prefer discovery learning (Hamed Mahvelati & Mukundan, 2012), is input flooding. This form of input enhancement, which uses quantity as its inherent feature, is used frequently by ELT researchers.

Similar to visual input enhancement, in input flooding (IF), the assumption is that exposing learners to target items repeatedly enhances their saliency (Schmidt, 1990) and facilitates the

acquisition process (AsadiAmirabadi, et al., 2014). Horst, Cobb and Meara (1998) state that the use of repetition in a text or several texts gives learners a chance to process these recurring items, and is furthermore beneficial to incidental word acquisition.

Semantic Input Enhancement (SIE) involves the provision of the semantic features of target items (through paraphrasing, providing L1 equivalence, etc.) in order to add emphasis to those items and increase the chances of noticing and, therefore, longer retention. 'Meaning' is the central element in various definitions presented by researchers and linguists. For example, Barcroft states that semantic elaboration is "the increased evaluation of an item with regard to its meaning" (2002, p. 323). He also contends that this kind of elaboration, as opposed to structural elaboration, results in better retention and recognition of target forms.

2.3. Previous studies

The sheer bulk of data, particularly in the past decade, on various kinds of input enhancement techniques (whether implicit or explicit ones) attests to the significance of these techniques in the world of research.

Several researchers have shown that input enhancement techniques can positively affect learners' comprehension or production of a particular target form or structure. For instance, Rashtchi and Gharanli (2010) investigated the effect of noticing through input enhancement on Iranian EFL learners' acquisition of English conditional sentences. The same set of texts was given to two intact classes, each with 29 female students. One class received the text with some visual manipulations such as enlargement, underlining, bolding, and use of italics, while the other group's text had no such alterations. The results showed that input enhancement facilitated the learning of conditional sentences for the experimental group.

In a rather similar study on the retention of conditionals, AsadiAmisabadi, et al. (2014) examined the effect of input enhancement and input flooding on Iranian EFL learners' performance in the long term. 75 participants were divided into three experimental groups: input flooding, input enhancement, and a combination of both. The posttest administered after three weeks showed that the group who had received both IE and IF performed better than the other two groups.

Fahim and Vaezi (2011) conducted a study which has much in common with the present study. They decided to investigate the effects of visual enhancement on Iranian learners'

acquisition of 'noun + verb' collocations. During ten sessions, 96 intermediate EFL learners, in three groups, were given 10 reading texts. The collocations were in boldface and capital letters for the first group. The second group received conventional teaching, and the third group, the comparison group, was provided with no special treatment. Posttest results showed that textual enhancement and conventional teaching were equally effective on the learning of 'noun-verb' collocations.

One of the few studies that have considered three IE techniques was conducted by Lee and Lee (2012). Their work on immediate and delayed English vocabulary recall is similar to the present study, in that it investigated the effects of visual enhancement, semantic enhancement, and input flooding. They concluded that although these IE techniques had no effect on delayed meaning recognition, they did positively affect immediate meaning and form recognition to various degrees.

Goudarzi and Rauf Moini (2012) found that in retention of collocations, L1 glossed forms were more of use to learners than highlighted (bold) input and non-highlighted input. Also, learners who had benefited from highlighted input performed better than those in non-highlighted group.

Similar findings were reported in a recent study conducted by Birjandi, Alavi and Najafi Karimi (2015), who investigated the effects of three types of input on the acquisition of English phrasal verbs. 35 Iranian EFL learners at intermediate level of English language proficiency received six different texts in unenhanced, typographically enhanced, and lexically elaborated forms. Based on the participants' performance on the posttest, elaborated text was more effective than the other two input forms, and typographically enhanced form was more effective than unenhanced input form.

Nahavandi and Mukundan (2013) worked on textual input enhancement and explicit rule presentation and examined their effect on the intake of simple past tense. The participants were 93 Iranian foreign language university students who were divided into three groups. The groups were provided with three reading passages to answer some comprehension questions. The findings of the study revealed that the performance of the third group (textual enhancement + rule presentation group) was significantly better than the other two groups. Tajeddin and Pezeshki (2014) reported similar findings.

Through examining the writing samples of 70 female Iranian EFL learners (aged between 22 and 30), Rahbar and Mousavi (2014) attempted to examine the effects of lexical elaboration on students' English vocabulary use. Between the first and second writing tasks, the participants in the experimental group received lexically elaborated reading passages, while in the comparison group, passages were unelaborated. The results showed that lexical elaboration was effective and that the students' production of the target vocabulary increased by 60 %.

On the other side of the scale are studies and research findings that show, on some occasions, that IE techniques fail to make a difference in the process of learning certain linguistic items and structures. A number of such studies are as follows:

In a special case, the particular IE method, not only proved insignificant, but also actually worked as a hindrance to learners' progress. Barcroft (2002) attempted to investigate the effect of semantic and structural elaboration on lexical acquisition of Spanish. Low-proficiency English speaking participants, who were learning Spanish as their second language, were required to learn 24 new Spanish vocabulary items. The researcher concluded that "increased semantic processing can inhibit one's ability to encode the formal properties of new words" (Barcroft, 2002, p. 323).

Leow, et al. (2003) attempted to see how beneficial textual enhancement can be with regard to noticing in ESL or EFL learning. They chose 72 first year college students, and presented them with enhanced or unenhanced texts including English present perfect or, in some other cases, present subjunctive structures. The immediate recognition and comprehension posttests revealed that textual input enhancement had no significant benefit over the unenhanced input (Leow, et al., 2003).

In another study with 38 German native speakers, Rott (2007) investigated the effect of input flooding and assessed the combined effect of IF with either semantic or visual enhancement. Her findings confirmed that visual enhancement had no effect on word encoding.

Combs (2008) focused on topic familiarity and input enhancement. 36 learners participated in the study. Combs concluded that topic familiarity and textual input enhancement both failed to significantly affect form acquisition.

Boston's (2009) work on the effects of input flooding on learners' choice of grammar during a communicative task met with success to a certain degree. There were 55 participants divided into three groups, two of which received input flooding with either the modal verb 'can' or present

perfect. Evaluating their performance revealed that the group that was presented with present perfect forms in their input had the largest number of sentences in present perfect. For the modal verb 'can', on the other hand, things were not so straight forward. In fact, the other two groups produced more sentences with 'can'. Thus, Boston contends that even without the application of input flooding, success could, more or less, have been achieved.

Hamed Mahvelati and Mukundan (2012) compared the effect of an implicit input enhancement method (input flood) with an explicit one (consciousness-raising approach) on lexical and grammatical collocations learning. The participants, 95 high proficiency learners, were divided into two experimental and one comparison groups. The learners in one of the experimental groups received input flooding treatment, while the members of the other group were provided with explicit collocation instruction. The findings showed that although input flooding proved effective, the learners in consciousness-raising group significantly outperformed the ones in the input flooding group.

Ertürk (2013) examined the possible effects of pushed output, input processing, and visual enhancement on the promotion of EFL/ESL learning and retention. Results showed that visual input enhancement was not successful in drawing the learners' attention to the intended target forms.

Although a large number of studies have been done on the effects of input enhancement techniques on different components of language, few have focused on the comparison of these techniques or their effects on lexical collocations. Hence, the present study aims to investigate the effects of three input enhancement techniques on the learning of lexical collocation by female Iranian EFL learners.

3. Method

3.1. Participants

The participants were 110 intermediate-level female EFL learners, aged between 16 and 40, studying English in two foreign language institutes in Fardis, Safir Language Academy, and Pars Delta Language Institute. However, after administering the proficiency test and the subsequent tests, 80 participants were qualified to take part in the study.

3.2. Instruments

The following instruments were used for the purpose of data collection.

To homogenize the participants, the ECCE 2009 sample test, developed by Michigan University, was administered. The participants answered the grammar, vocabulary and reading sections comprising 100 multiple-choice items, containing 35 grammar items, 35 vocabulary items, and three reading passages followed by 30 comprehension questions.

A 110-item test, containing a variety of collocations, was administered at the beginning of the study to test the participants' degree of familiarity with the target forms. Each item was an English sentence in which one or two elements of a lexical collocation were removed, leaving only the first letter to rule out other possible collocations. The L1 equivalents of the collocations were also provided. Those items which were unfamiliar to the students were selected to be included in the posttest.

Ten reading passages, each including ten or so lexical collocations, were selected from 'English Collocations in Use' by Mccarthy and O'Del (2005). The visual enhancement group had the collocations enlarged, bolded and underlined. The semantic enhancement group received passages accompanied by the L1 equivalent of the collocations, parenthesized immediately after the items. The input flooding group's passages were longer than the other groups, as they contained more sentences with the target collocations in them. And finally, the members of the comparison group were given passages with no enhancement.

At the end of the experimental period, a comprehension posttest of collocations, containing 30 multiple choice items, was administered to measure the participants' comprehension of collocation. To assess the participants' productive knowledge of lexical collocations, another 30-item posttest was administered. The test was in fill-in-the-blanks format, in which the participants were required to provide one of the elements of the lexical collocations. The Persian equivalent of the collocations and the first letter of each blank were given to prevent the provision of other possible words which could be used in the context of the sentences.

3.3. Procedure

Initially, 110 participants were chosen through cluster sampling from among intermediate-level learners, 30 of whom were excluded from the study after homogenization because their proficiency level did not match the others. The remaining 80 participants had 45 minutes to

respond to the 110-item pretest. The pretest contained dictionary sentences, from which some words were removed. Based on the Persian equivalent and the first letter of each blank, the participants were required to produce the target collocation. They were given 45 minutes to respond to the test. Here is a sample item:

The athlete was banned from the competition because he had taken performance e….. drugs. (داروی بهبود عملکرد)

The answers were analyzed, and the items of which the participants had prior knowledge were excluded from the posttests.

Next, the treatment began, during which the participants were randomly assigned to one comparison (Group A) and three experimental groups (each containing 20 members) to receive treatment through different input enhancement techniques, i.e. visual input enhancement (Group B or VIE Group), semantic input enhancement (Group C or SIE Group), and input flooding (Group D or IF Group). Group A received the materials without any kind of input enhancement, but the other groups had their materials enhanced in some way. In Group B, collocations were enhanced using typographical devices like font colour and font size change, underlining or bold-facing. In Group C, collocations were enhanced with the provision of Persian meaning, and in Group D, with numerous repetitions of target items in their passages.

After the treatment period, which lasted for six weeks, a 30-item multiple-choice comprehension posttest and a 30-item fill-in-the-blanks production posttest were administered. The allotted time for the multiple-choice test was 20 minutes, and for the fill-in-the-blanks test 30 minutes. Two one-way ANOVA procedures were used to analyze the obtained data and answer the research questions.

4. Results and Discussion

4.1. Investigation of the first research question

The first research question investigated the possible differences among the effects of visual input enhancement, semantic input enhancement, and input flooding on female Iranian EFL learners' comprehension of lexical collocations. To this end, a one-way ANOVA procedure was used on the learners' comprehension posttest.

Table 1. Descriptive Statistics for the ANOVA on comprehension of collocations

	N	Mean	Std.	95% Confidence Interval for

			Deviation	Mean	
				Lower Bound	Upper Bound
Comparison	21	11.90	6.782	8.82	14.99
Input flooding	19	13.00	8.347	8.98	17.02
Semantic enhancement	19	14.32	7.235	10.83	17.80
Visual enhancement	21	13.24	8.123	9.54	16.94
Total	80	13.09	7.543	11.41	14.77

As is evident from the table, the highest mean belongs to the semantic input enhancement group, followed by the visual input enhancement and the input flooding groups. And the lowest mean belongs to the comparison group. In order to find out whether the observed differences among the groups were significant or not, the one-way ANOVA procedure was run.

Table 2. The results of the one-way ANOVA on collocation comprehension

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	58.663	3	19.554	.335	.800
Within Groups	4435.724	76	58.365		
Total	4494.388	79			

As the table shows, the F value is not statistically significant ($F_{(3,76)}$ =.33, p > .05). In other words, there are no significant differences among the effects of visual input enhancement, semantic input enhancement, and input flooding on the comprehension of lexical collocations.

4.2. Investigation of the second research question

The second research question sought to investigate the effects of visual input enhancement, semantic input enhancement, and input flooding on Iranian EFL learners' production of lexical collocations. To do so, another one-way ANOVA was used on the participants' production posttest.

Table 3. Descriptive Statistics for the ANOVA on production of collocations

	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound

Comparison	21	4.71	5.497	2.21	7.22
Input flooding	19	5.21	7.532	1.58	8.84
Semantic enhancement	19	8.84	8.846	4.58	13.11
Visual enhancement	21	7.05	7.145	3.80	10.30
Total	80	6.43	7.346	4.79	8.06

As with the comprehension posttest, the highest mean belongs to the semantic input enhancement group. The visual input enhancement group has the second highest mean. Input flooding group has the third rank, and the comparison group comes last. To see whether the observed differences among the means were significant or not, the ANOVA was used.

Table 4. The results of the one-way ANOVA on collocation production

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	208.628	3	69.543	1.303	.280
Within Groups	4054.922	76	53.354		
Total	4263.550	79			

The results ($F_{(3,76)} = 1.30$, $p > .05$) show no significant differences among the effects of visual input enhancement, semantic input enhancement and input flooding on the production of lexical collocations.

4.3. Discussion

As the findings of the present study showed, while the members of all three groups outperformed the comparison group (the group with unenhanced materials), these differences were not statistically significant, neither in the comprehension, nor in the production of lexical collocations.

The findings of this study mirror a number of studies which have focused on the effects of either one or more of these input enhancement techniques on different variables. For instance, Leow, et al. (2003) found that textually enhancing the input had no significant effect on the performance of learners on the comprehension and production of present perfect or present subjunctive forms.

Furthermore, the findings of the present study are in line with the findings of Wong (2003), whose study revealed that textual input enhancement had no effect on the learning of past participle agreement in relative clauses.

Another study with similar results is the one conducted by Combs (2008), which focused on textual enhancement together with topic familiarity. The result showed that neither technique could be effective on form acquisition.

Moreover, the findings of the present study are in accordance with those of Ertürk (2013) regarding the effects of pushed output, input processing, and visual input enhancement on participants' learning and retention. Visual input enhancement turned out to be ineffective in bringing the target items to learners' attention.

The findings of the present study also lend support to Boston's (2009) work. Boston holds that flooding the input, while beneficial to some extent, does not significantly affect learners' use of target items, and that learners' success cannot be entirely attributed to the technique.

The findings of the present study also corroborate those of Hamed Mahvelati and Mukundan (2012). Similar to Boston (2009), they found that although input flooding can be effective, raising learners' consciousness of the forms rendered better results than just increasing the exposure to target items.

One of the studies on semantic input enhancement, which had findings similar to the present study, is the one conducted by Ahmadi (2014), who compared semantic and structural elaboration. The results showed no significant differences between the two techniques.

In addition, the findings of the present study are partially in line with those of Kim (2006), who investigated the effects of typographical (visual) input enhancement, lexical elaboration (explicit and implicit), or combinations of these techniques on form and meaning recognition of vocabulary items. Typographical input enhancement affected neither meaning nor form recognition. A combination of typographical input enhancement and lexical elaboration was not helpful for form recognition either. And having the text lexically elaborated made no difference in the learners' performance compared to that of the unelaborated text group.

Furthermore, the findings of the present study support those of another comprehensive study making use of several input enhancement techniques. Considering the effects of frequency of input enhancement, Rott (2007) found that repeated visual input enhancement (bolding) was not effective in word encoding.

On the opposite side are studies the findings of which are contradicted, to varying degrees, by those of the present study. In these studies, different input enhancement techniques have proved beneficial to second or foreign language learning. Some of these studies are the ones by Kondo (2007), Rashtchi and Gharanli (2010), Negari and Rouhi (2012), Lee and Lee (2012), Goudarzi and Rauf Moini (2012), Jabbarpoor and Abdollahzadeh (2013), Nahavandi and Mukundan (2013), Sahebkheir and Davatgari Asl (2014), Rahbar and Mousavi (2014).

For instance, in their works, Rashtchi and Gharanli (2010), Fahim and Vaezi (2011), Jabbarpoor and Abdollahzadeh (2013), Nahavandi and Mukundan (2013) and Sahebkheir and Davatgari Asl (2014) all concluded that various forms of visual enhancement of the input (bolding, underlining, highlighting, enlarging, etc) will improve the participants' performance (in the use of conditional sentences, 'noun + verb' collocations, subjunctive mood and inversion structures, simple past tense, and conjunctions).

Based on the findings of Goudarzi and Rauf Moini (2012) and Birjandi, et al. (2015), semantic (or lexical) input enhancement and visual input enhancement both positively affect learners' performance. And, of the two types, semantic enhancement is more effective. Other researchers who have found semantic elaboration to be effective are Kondo (2007), Negari and Rouhi (2012), and Rahbar and Mousavi (2014).

Furthermore, Asadi Amisabadi, et al. (2014) met with success when they made use of both input enhancement and input flooding techniques, concluding that a combination of these techniques is more effective than either of them alone.

Other findings that are relevant to the present study are those of Lee and Lee (2012), who focused on all three techniques employed in the present study. Although there were no differences among the techniques in delayed vocabulary recall, immediate posttests showed positive results. The semantic input enhancement group did better in meaning recognition, while input flooding and visual input enhancement groups were better at form recognition.

The findings of the present study can be attributed to several factors. One such factor might be the conditions under which the study was conducted, such as the short duration of the study. It took approximately two months for each group to receive the treatment and complete the subsequent tests. Different results might be obtained in the long term. The timing of the study can have affected the results as well, especially for the younger participants, as the experimental period coincided with their school or university exams.

In addition, several of the above-mentioned studies were conducted in places where English was the second language. Hence, the context and educational culture of Iran could have affected the study since Iranian learners are EFL students, and the only exposure they get to the target language is in the class.

The findings could also be due to the characteristics of the participants. The participants of this study were all at intermediate to upper-intermediate level of proficiency. In their studies, Gitsaki (1999), Faghih and Sharafi (2006), and Jafarpour and Koosha (2006) have shown that proficiency level has a positive correlation with learners' learning of collocations.

Furthermore, the sample size for the study was small and only comprised female learners. For practicality reasons, this study was conducted with 80 female EFL learners; 80 female learners may hardly be representative of the whole population of EFL learners in Iran, especially as the participants of this study came from only one type of environment, private English institutes.

Another important and determining factor may be the tendency of Iranian learners to keep to conventional methods. The participants may have decided that the presentation of materials in each session did not suffice and turned to their own preferred way of learning the collocations, and this might have confused the effect of the techniques.

5. Conclusion

As the findings of the study showed, none of the techniques in this study turned out to be significantly superior to others in affecting the participants' performance regarding lexical collocations. In other words, under similar conditions, neither enhancing the input (visually or semantically) nor increasing the learners' exposure to the input can differentially affect their learning of the target items to a considerable extent. It can, therefore, be concluded that, while designing materials for ESL or EFL students, materials writers do not have to be overly concerned with the method of presentation of the materials (at least when it comes to lexical collocations), and focus on other criteria that take precedence.

Moreover, teachers can conveniently choose the technique they find more applicable and handy for their class, as other factors such as class time management, lack of an exact equivalent for the items, different proficiency levels, etc. might limit the teacher's choice. For example, input flooding can be time-consuming in the class, or semantic enhancement (L1 gloss) might not work for every lexical item. Based on the findings of this study, it may be concluded that teachers need to resist the temptation to insist on implementing one or more of the afore-mentioned techniques in their classroom presentations. They can give priority to practicality or manageability issues. It may also be concluded that since there are no significant differences in the degree to which the variables under investigation in this study affect the comprehension and production of collocations, a combination of these techniques may render better results. Given that learners are multi-dimensional and that each learner is a unique creature with a unique set of learning preferences, a combination of presentation techniques will almost certainly be more effective than any single technique used alone. This is simply because different presentation techniques can cater for a wider range of learning preferences.

Furthermore, given the fact that all the input enhancement techniques in the present study are of written type and implicit ones, the conclusion to be drawn is that students might need more explicit ways to learn collocations, and similar to what Farrokh (2012) and Hamed Mahvelati and Mukundan (2012) concluded, it might be necessary to explicitly teach these items in language classes. This means that using only implicit techniques in teaching collocations and hoping that learners will find a magic way of learning them may be leaving too much to chance. Nonetheless, for such a conclusion to be based on a stronger foundation, comparison has to be made between the effects of explicit and implicit presentation techniques on the learning of lexical collocations, something not addressed in this study for manageability reasons.

The present study can be of use to teachers and materials writers. Given that the effects of visual input enhancement, semantic input enhancement and input flooding do not differ much, teachers or materials writers can choose the ones which are more practical and easier to employ. Thus, they can avoid unnecessarily changing the original texts. Furthermore, once a particular technique is selected, there is no need to shift from one to the other. And it seems better to carry on consistently to see the results in the long term.

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