PROFESSIONAL EDUCATION & TRAINING | RESEARCH ARTICLE

Iranian pre-university student’s retention of collocations: Implicit exposure or explicit instruction

Nouzar Gheisari1* and Nouroldin Yousofi2

Abstract: The effectiveness of different teaching methods of collocational expressions in ESL/EFL contexts of education has been a point of debate for more than two decades, with some believing in explicit and the others in implicit instruction of collocations. In this regard, the present study aimed at finding about which kind of instruction is more rewarding for Iranian pre-university students in Iran. To this end, 90 pre-university students were randomly distributed into three groups, explicit instruction, implicit exposure, and control group with each containing 15 female and 15 male students. All the groups participated in preparatory classes which lasted for 8 weeks, 16 sessions for each class. The participants were then given three sets of multiple choice questions as pretest, posttest, and delayed posttest. The results of data analysis indicated that both implicit and explicit method of teaching collocations were effective with regard to their efficiency in development of collocational knowledge in both posttest and delayed posttest. However, the explicit group outperformed the implicit group in both posttest and delayed posttest. The findings of the study can be illuminating for all those who are teaching English in both formal and informal context of education in Iran.

Subjects: English; General Language Reference; Language Teaching & Learning

Keywords: collocations; implicit exposure; explicit instruction; pre-university students; EFL context of education

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PUBLIC INTEREST STATEMENT

Teaching collocations in an explicit way can be very helpful in EFL contexts of education where exposure to L2 texts and materials is either non-existent or rare outside the classroom context. In the present study, the researchers found that teaching collocations both by awareness raising and explicit instruction can be fruitful for pre-university students. However, the results of explicit teaching of collocations (by grouping them on the whiteboard, repeating them frequently in bold in sample texts which are teacher made while they are restated at the end of the text, and giving the students tests in which collocational strings are the target at the beginning of each class by leaving a word of collocational strings to be filled in by the learners) could be very beneficial for the learners.
1. Introduction

There has, for several decades, been a lot of interest both on part of language researchers and teachers in finding out more about the role that formulaic sequences of language and linguistic chunks can play in fluent and idiomatic language use (Biber, Conrad, & Cortes, 2004; Hoey, 2005; Lewis, 2000; Nattinger & DeCarrico, 1992; Wray, 2002; among others). It is also increasingly becoming clear and urgent—due to the sensitivity to and awareness of the type of input, mode of processing and comprehending, and resulting output—for the theoretical models of language acquisition to provide a much richer descriptions of how formulaic sequences best fit into the learning process. In a similar way, Ellis (2001) highlights the importance of such sequences as not only vital in providing a necessary control of idioms and other routine formulaic sequences, but also in their being central in the overall process of language learning. Despite constant growth of professional concern over the probable importance of such sequences in the overall development of learner language, however, there is not, by far, rich empirical evidence for supporting the recently-put-forward claims over the most suitable and efficient ways to teach collocations.

Following Firth (1957) corpus linguistic orientation toward teaching linguistic chunks, collocations—as one form of language sequences—gradually gained importance in research tradition on language acquisition. Subsequent researchers to Firth (1957), however, have ascribed a psychological interpretation to the issue, seeing the frequent co-occurrence of words as evidencing the existence of semi-reconstructed phrases that constitute single choices for those who either produce or comprehend language (Sinclair, 1991, p. 320), linguistic chunking (Ellis, 2003), and psychological association between words (Hoey, 2005).

In line with such attitudes, Wray (2002) defines formulaic sequences as sequences continuous or discontinuous of words or other elements having the potential of being stored or retrieved at the time of use, rather than being subject to generalization or analysis by means of linguistic structures. Also, Goldberg (2006) talk about constructions as units of meaning. He defines constructions as those linguistic items that are independently represented in the language system, either because they are not predictable on the basis of other knowledge or because they are sufficiently frequent for their independence storage in long-term memory to be cognitively effective.

1.1. Collocation chunks and acquisition

Ellis (2001), conceptualizing collocations as the product of a psychological mechanism known as “chunking”, describes one model of collocation learning in First Language (L1). The term “chunking”, taken from Miller (1956), is conceived of as the amount of information which could be held in short-term memory in each time. Similar to phonemes and words which are thought of as units of meaningful chunks, Ellis believes that collocational units can be held as more-or-less seven constant items in each time in memory. He claims that such chunking follows the principle of associative learning which he himself calls the law of contiguity. Ellis, based on James (1890, cited in Ellis, 2001), believes that when objects are experienced together, they tend to become associated in the imagination, so that when any of them is thought of, the others are likely to be activated, too. Regarding this, when language units attended to in the input are attended to as lager chunks, collocation chunks in this study, they are presented and held in short-term memory as whole units and then stored in long-term memory as they are presented in short-term memory. As a consequence, when retrieved, needless of any further analysis which might urge for more energy and memory overload, are activated as a whole.

The point to be noticed, however, is that the study conducted by Ellis describes collocation learning in first language acquisition. Therefore, whether such processes of collocation acquisition that Ellis describes also apply to adults learning a second language (L2) remains an open question. Drawing on major differences between child L1 and adult L2 learners and lack of empirical research on the subject, Ellis (2003) suggests that similar mechanisms may be at work, however.
In contrast, Wray (2002), reviewing research in the L2 regarding the issue, has claimed that both L1 and L2 learners approach collocations in different ways. According to Wray, adult second language learners, when exposed to language input, primarily remember and notice individual words rather than meaningful chunks or language constructions. When it comes to EFL contexts, the question still needs to be dealt with much more carefully since research results in this tradition have by far proved that learning in the ESL contexts cannot be compared to that of EFL contexts where the amount of input presented to the learners and the way it is presented may be different.

To this end, the present research is aimed at finding out whether, in the EFL context of Iran and in formal context of education in schools, the collocation retention among pre-university students is best retrieved through implicit exposure to the collocation chunks (input flood) or through explicit bringing of the collocations to the awareness of the students through consciousness-raising, or both. So, the following questions were raised:

(1) Does consciousness-raising method as an explicit method of teaching facilitate the enhancement of collocational knowledge of Iranian pre-university students in the short and long term?

(2) Does input-flood treatment as an implicit method of teaching facilitate the enhancement of collocational knowledge of Iranian pre-university students in the short and long term?

(3) Is there any significant difference between the input flood treatment as an implicit teaching method and consciousness-raising approach as an explicit teaching method in improving the collocational knowledge of Iranian pre-university students in the short and long term?

2. Literature review

2.1. A background to collocations

Despite varying definitions and heterogeneous views regarding collocations, there is a unique agreement over what they include in general: “the frequent co-occurrence of the sequence of words” (Bahns, 1993; Hsu, 2007; Nation, 2001). The prime coiner of the notion of collocation was, in fact, Palmer (1933) who insisted on teaching the phrases such as tomorrow morning, in the afternoon, make difference, as a single linguistic item (Howatt, 1984). Palmer (1933), in his monograph “Second Interim Report on English Collocations”, argues that the convenient point for the learners is to learn collocation as a whole or independent entity, rather than by the process of piecing together their component parts (Palmer, 1933).

Some researchers and scholars such as Benson, Benson, and Ilson (1997), Lewis (2001), and Ellis, (2006a), categorize collocations into two main groups: Lexical and Grammatical. Grammatical collocations are those strings of words which are composed of a verb, a noun, or an adjective plus a preposition or a grammatical structure. For instance, similar to, in retrospect, confide in, to my surprise, to succeed, glad to meet you, I am out of breath, have the car fixed (Barro & Lee, 2010). Lexical collocations, on the other hand, are that frequent co-occurrence of words which are comprised of frequent coming-together of nouns, adjectives, verbs, and adverbs. These collocations do not consist of any grammatical elements. Some examples are: fire department, global warming, child labor, global issue, instant coffee, make difference, hold a belief, an act of terror, commit suicide, awfully sorry, terribly devastated, and extremely important (Kim, 2009).

Several studies conducted in the field by far have come to controversial results as to the type of collocation error in L2 learners’ oral and written production. Shokouhi and Mirsalari (2010) found that learners made more grammatical collocational errors than lexical ones in their interactions with the language and with the participants. In contrast, some other researchers, such as Dechart and Lennons (1989) proved the opposite, claiming that learners commit more lexical errors. Despite the two mentioned groups, it is of value to mention that the third group of researchers in the field has come to the conclusion that both lexical and grammatical collocations are equally problematic for L2 learners.
To sum up, such contradictory results reveal that both grammatical and lexical collocations can be the source of difficulty for language learners and there is a need for teaching both types in learning settings. To this end, the present study aimed at finding about the impact of the implicit (input flood) vs. explicit (consciousness-raising) method of instruction on learning both lexical and grammatical collocations which are included in the book designed for Iranian pre-university students, *English for Pre-University Students*.

### 2.2. Implicit vs. explicit teaching and language learning

The effectiveness of explicit and implicit methods of language teaching has been a subject of controversy for about two decades. Some researchers, as the supporters of explicit teaching methods, believe that directing the learner's attention to the target learning materials in highly structured settings is of high value to the L2 learners Ellis & Bogart, 2007; Schmitt & Zimmerman, 2002; Taylor, Marz, Nichos, Rickelman, & Wood, 2009, among others).

In contrast, the implicit teaching method supporters such as Celce-Marcia (2001), Ellis (1997), Gass (1999), Krashen (1994), and Nagy and Herman (1987) assert that there is no need for explicit instruction since sufficient exposure to the target language input and sequences can result in learning those items. More importantly, there are a group of moderate proponents of implicit exposure who challenge the major claim of Krashen (1981) with regard to mere exposure as the key factor in language development. Such scholars believe that some exposure by itself is necessary but not sufficient for learning the target language features included in any specific kind of input. In accordance with such scholars, the proficient application of some input enhancement techniques, such as input flood and text enhancement, can play a major part in drawing learners' attention to the target items and thus enhancing the process of learning (Schmidt, 1990; Smith, 1993).

Other than the two above-mentioned groups, there are some other researchers who hold the belief that the combination of both implicit and explicit techniques to language learning can have a facilitative effect on learners' acquisition (Hunt & Beglar, 2005; Öztina, 2009).

### 2.3. Learning collocations through input flooding vs. consciousness-raising approach

The idea of collocation has been widely studied from the viewpoint of many scholars especially in the last two decades. Moreover, the necessity to include a high frequency of collocations in the language syllable has been regarded as a taken-for-granted fact in various studies (Durrant, 2008; Fan, 2009; Hill, 2000; Motallebzadeh, Beh-Afarin, & Rad, 2011). According to Lewis (2000), teaching collocations explicitly through consciousness-raising activities can make learners explicitly aware of collocational sequences and lexical chunks, and provide them with the type of classroom activities that improve their independent-learning strategies. Lewis strongly holds the belief that “the more aware learners are of the chunks of which any text is made, the more likely that the input they notice will contribute to intake” (p. 163).

The proponents of implicit teaching methods, on the contrary, strongly believe the fact that input enhancement techniques can play an important part in assisting learners notice and acquire the target items in the input. One of these input enhancement techniques is input flooding which involves mere high-frequency exposure to the target language and is believed to be beneficial for language learners to work out the target learning objectives for themselves (Anderson, Wilson, & Fielding, 1988; Hulstijn, Hollander, & Greidanus, 1996; Nagy & Herman, 1987; Öztina, 2009; Wong, 2005, among others).

Nevertheless, the important question, which deals with the best and most effective type of collocation instruction, remains unanswered since only a few studies have directly compared different approaches in teaching collocations particularly in the EFL contexts where learners suffer from being exposed to enough target-language input. To this end, the two instructional methods of consciousness-raising approach (explicit instruction) and input flood (implicit exposure) are the focus of the
present study to be investigated with regard to their effectiveness in vocabulary retention of the learners in the EFL context of pre-university centers in Iran.

3. Methodology

3.1. Participants
This study was conducted in Kermanshah, Iran, in which 90 pre-university students (45 female and 45 male) who expressed willingness to take part in free preparatory classes which were held in 2014 from early in August to early in October. The participants were randomly assigned to one group of control and two groups of experimental with each group including 15 female and 15 male participants.

3.2. Instruments
First, the participants were given a 20-item multiple-choice vocabulary test of collocations to make sure of the homogeneity in proficiency level of the students regarding their collocational knowledge. Samples of pretest, posttest, and delayed posttest questions are given in Appendix A.

The collocational strings included in the book for Iranian pre-university students included the following strings of collocations: (1) Noun + noun, (2) Noun + verb, (3) Verb + noun, (4) Adjective + noun, (5) Adverb + adjective, (6) Verb + adverb, (7) Noun + preposition, (8) Preposition + noun, (9) Adjective + preposition, (10) Linking verb collocations (become/get/turn/go collocations) and were mainly focused on both in instructional classes and in the pretest, posttest, and delayed posttest questions.

In parallel with the course book, some other researcher-made texts which included the collocational samples of the pre-university book were designed, and worked on in both the implicit exposure (input flooding) and explicit instruction (consciousness-raising) groups.

Finally, two researcher-made collocation tests each containing 30 multiple-choice vocabulary questions were designed and used for posttest and delayed posttest. All the three tests assessed the same target lexical and grammatical collocations which were taught during the treatment period. It is worthy to know that, to avoid the possible practice effect, the sets of collocational tests prepared for the pretest, posttest, and delayed posttest were quite different from each other. Also, the collocation-based tests prepared were applied in significantly new texts, which had not been practiced during the sessions. So, none of the test items had been seen by the participants in advance.

Before administering the multiple choice questions, two experts reviewed all the items and assured of the validity of the tests.

Furthermore, the Cronbach’s α formula was used to measure the reliability of the tests and the R-values for the pre, post, and delayed posttests were 0.81, 0.82, and 0.79, respectively, which can be claimed to be indicator of preferable variability.

3.3. Procedure
First, an announcement was made among Dalahoo pre-university centers which required those who wanted to participate in free preparatory classes for National University Entrance Exam register for a free preparatory class conducted by the researcher. Except from 15 students who were, in fact, not interested in continuing their studies academically, the remaining 90 students expressed willingness to participate in the classes. All the participants took a pretest containing 20 multiple-choice questions to make sure of their homogeneity. Then, the subjects were randomly classified into two experimental groups and one control group, implicit, explicit, and control group, each consisting of 15 male and 15 female students.
In one of the experimental groups, collocations were taught implicitly through input flood treat-
ment which involved multiple exposures to the target collocations through the book and the re-
searcher-made texts which included frequent samples of the required collocational samples. In
other words, in the input-flood group, the learners were provided with plenty of exemplars of the
target collocations in different texts. However, in the second experimental group, explicit method of
consciousness-raising approach was used. More precisely, the teacher tried to draw learners’ atten-
tions to word combinations, chunks and specifically to collocations through consciousness-raising
activities through meta-language strategies such as explaining different kinds of collocations in
Persian. The participants in the control group, on the other hand, attended their regular English les-
sons throughout the study and did not receive any implicit or explicit collocation instruction. They
were taught the selected texts without raising their awareness on collocational chunks or explaining
the collocational strings explicitly to them.

The control and two treatment groups received instruction for 8 weeks. The type of instruction the
groups received was extra-curricular as the participants were pre-university students from different
schools who expressed willingness to participate in the instructional sessions to improve their vo-
cabulary knowledge of the reading materials of the main book so that they get more prepared for
the National Entrance Exam which was going to be held in summer. Each class was held two ses-
sions a week and each session lasted for two hours, 16 two-hour sessions per each group. Since the
pre-university book contains eight lessons, each lesson was covered in every two sessions. During
each session, half of a lesson plus some researcher-made texts were covered.

Four days after the last treatment, the participants in all three groups were tested by means of the
posttest to check for the short-term effect of the treatment and explore possible differences be-
tween the groups. To check for the long-term effect of the treatment, the delayed posttest was ad-
ministered to the participants one month after the posttest.

3.4. Data analysis
To analyze the data of the present study, SPSS version 18 was used. The statistical paired samples
t-test and one-way ANOVA were the two statistical techniques used to answer the posed questions
of the present research.

4. Results
In order to examine any possible differences between the groups, the first step taken was carrying
out one-way analysis of variance on the pretests. Table 1 shows the descriptive statistics for the
pretests.

In line with Table 2, there were no significant differences between the groups before the adminis-
tration of the treatments ($F(2, 89) = .227, p > .05$).

To answer the first and second question of the research which relates to the short-term and long-
term impact of explicit instruction (consciousness-raising) and implicit exposure (input flood) on
enhancement of collocational knowledge of Iranian pre-university students, respectively, paired
samples t-test was used for the data related to each of the teaching methods. The comparison
within the groups from pretest to posttest manifested that the differences between pretest and the
immediate and delayed posttest scores were statistically significant in both consciousness-raising
and input flood methods ($p = 0.000 < .05$). As a consequence, the short-term and long-term effects

| Table 1. Descriptive statistics for pretest scores |
|-----------------|---------|---------|---------|
| Groups          | N       | Mean    | SD      |
| Control         | 30      | 19.70   | 1.57    |
| Explicit group  | 30      | 19.65   | 1.51    |
| Implicit group  | 30      | 19.53   | 1.75    |
of explicit instruction and implicit exposure on collocational knowledge of development of the participants were considerably significant (Table 3).

Also, the analysis of the collected data manifested that there was a noticeable decrease in the students’ scores from the posttest to the delayed posttest in both explicit and implicit groups ($p = 0.000 < .05$).

The third question of the present study, which attempts to see whether there is a significant difference between implicit exposure (input flood) and explicit instruction (consciousness-raising) on collocational development of Iranian pre-university students, is in fact the main focus of the study, which is going to be dealt with in this section.

To answer the third question of the study, one-way ANOVA was used the results of which for immediate and delayed posttest is represented in Table 4.

As Table 4 indicates, there is a significant difference between the immediate posttest scores of the groups ($F(2, 89) = 97.98 p < .05$). Then the Tukey’s HSD post hoc was performed and the results showed that the participant’s scores in both experimental groups were significantly higher than the scores of the subjects in the control group.

In addition, a difference of significance was observed between the explicit and implicit groups. In other words, the statistical analysis of the data revealed the superiority of explicit teaching method over the implicit exposure in enhancing the knowledge of collocations of Iranian pre-university students in the short term.

The result of one-way ANOVA for the delayed posttest of the groups is represented in Table 5.

### Table 2. One-way ANOVA for pretest scores

|                  | Sum of squares | df | Mean square | $F$   | Sig  |
|------------------|----------------|----|-------------|-------|------|
| Between group    | 1.30           | 2  | .667        | .227  | .798 |
| Within group     | 272.40         | 89 | 2.93        |       |      |
| Total            | 273.70         | 91 |             |       |      |

### Table 3. Descriptive statistics for the immediate and delayed posttest

| Groups          | Immediate posttest | Delayed posttest |
|-----------------|--------------------|------------------|
|                 | $N$    | Mean | SD | $N$    | Mean | SD |
| Control group   | 30     | 19.89 | 1.62 | 30     | 19.83 | 1.59 |
| Explicit group  | 30     | 29.78 | 1.71 | 30     | 26.45 | 1.72 |
| Implicit group  | 30     | 25.45 | 1.23 | 30     | 22.70 | 1.58 |

### Table 4. One-way ANOVA for immediate posttest scores

|                  | Sum of squares | df | Mean square | $F$   | Sig  |
|------------------|----------------|----|-------------|-------|------|
| Between group    | 1,533.48       | 2  | 765.74      | 97.98 | .000 |
| Within group     | 712.38         | 89 | 5.71        |       |      |
| Total            | 2,245.86       | 91 |             |       |      |
The results of statistical analysis of the data on the delayed posttest showed a statistically significant difference between the performance of the study groups ($F(2, 89) = 63.5, p < .05$). Similarly, the Tukey’s HSD post hoc multiple comparisons showed the same results as that observed for the immediate posttest.

In a nutshell, the between-group comparison of the achieved data manifested that despite outperforming of both experimental groups in comparison to the control group in both short and long term, the results of the performance of the experimental groups on the immediate and delayed posttests was significantly different. To be precise, the achieved results showed that the explicit method of consciousness-raising in EFL context of Iranian pre-university classes enhanced the students’ collocation knowledge more effectively than the implicit exposure of the input-flood treatment in both short and long term.

5. Discussion

The study focused on assessing the effect of implicit and explicit teaching collocations (see samples in Appendix A) on vocabulary performance of Iranian pre-university students. The analysis of the collected data brought about some interesting findings. First, regarding the first and second research questions of the study, which relate to the short-term and long-term impact of explicit instruction (consciousness-raising) and implicit exposure (input flood) on enhancement of collocational knowledge of Iranian pre-university students, respectively, the results of paired sample t-test showed that both explicit instruction and implicit exposure had a significant short-term and long-term effect on collocational knowledge of pre-university students. The findings of this part are in line with the findings of several researchers including (Adolphs & Durow, 2004; Siyanova & Schmitt, 2008; Zaferanieh & Behrooznia, 2011) who all claim that both implicit and explicit teaching methods can have enduring effect on vocabulary retention of language learners in both ESL and EFL contexts. Besides, the research is consistent with the results achieved by (Zhang, 2012), (Wong, 2005), and Ellis (1999) who assert that both explicit teaching and input flood can successfully transform input into intake, and facilitate pushed output (Swain, 2000).

As for the third research question of the study, which attempts to see whether there is a significant difference between implicit exposure and explicit instruction on collocational learning of Iranian pre-university students, the results of ANOVA test showed a difference of significance between the explicit and implicit groups. The findings of this part of the study are in line with the findings of those who have found that language learners can benefit more from the explicit instruction of collocations (Laufer, 2006; Zaferanieh & Behrooznia, 2011), and that explicit instruction of the collocations has a remarkable role in promoting learners’ collocational knowledge (Ghonsooli, Pishghadam, & Mahjoobi, 2008; Lin, 2002; Sun & Wang, 2003). To be detailed, the research findings show that, despite the effectiveness of implicit exposure treatments in improving the collocational knowledge of Iranian pre-university students, explicit instruction of collocational strings is a more efficient teaching approach which language teachers in pre-university centers invest on more. The results also lend support to Schmidt (2001) who points out that understanding virtually every aspect of second language acquisition requires paying enough attention to language components.

In sum, in line with the results of the above-mentioned studies, better performance of the participants in the consciousness-raising group is the prime indicator of the importance of attention and noticing in the learning of collocations. More specifically, the learners in the explicit group
outperformed the ones in the implicit group since they were explicitly asked to pay attention to the collocational fields of the words. In other words, one can argue that the not-better performance of the implicit group was partially because of lack of enough awareness and therefore their failure to notice the target collocations. That is in classes where the extended exposure to L2 materials is not feasible, the tradeoff can be made by raising the learners’ awareness of strings of words which are adjacent to each other to a great extent.

6. Conclusion, implications, and suggestions for further research

The present study aimed at investigating the effectiveness of explicit instruction (consciousness-raising approach) and implicit exposure (input flood treatment) on the performance of Iranian pre-university students’ collocational knowledge. The results of the study showed that, without explicit awareness of the pre-university students, learning collocational strings is not rewarding. That is when students were explained the collocational strings out of text by grouping them on the whiteboard, repeating them frequently in bold in sample texts which were teacher made while they were restated at the end of the text, and giving the students tests in which collocational strings were the target at the beginning of each class by leaving a word of collocational strings to be filled in by the learners (explicit instruction), the performance of the learners seemed to be much better than instances in which the collocational strings were just made bold, or highlighted without explicit reference to the relationship between collocational strings (implicit exposure). Regarding findings of the study groups, the superiority of the pre-university students’ performance in both experimental groups over the control group proved the necessity of intentional teaching of collocations in class.

Also, comparing the statistically significant difference between the performances of the two experimental groups, one is on the safe side to claim that more explicit and focused instruction of the collocations where the teacher explicitly draw learners’ attention to the target collocations is more favorable than the implicit method of input-flood of the collocations.

The findings of the present study seem to have some important educational implications for pre-university language teachers. Since the role of collocations in the performance of EFL learners on National University Entrance Exam is indisputable, and also, the time allotted to language teaching in pre-university classes (three hours per week) doesn’t seem to be sufficient, raising pre-university students’ awareness of collocations mentioned in their school book is of considerable importance. Furthermore, as the amount of exposure to language materials in the formal context of education is limited, and many students don’t find the opportunity to participate in extracurricular classes in Foreign Language Institutes, material developers and syllabus designers are highly recommended to design materials rich in collocational chunks to make up for the insufficiency of input.

Since the present study was conducted in the formal context of education in Iran with pre-university students, one might not be hasty to generalize the results of the present research to any specific group of language learners. Regarding the context of education, ESL vs. EFL, one must be careful with generalizing the results. In the ESL contexts of education, due to enough exposure both in the educational setting and in the outside-of-institution interactional means through the target language, the effectiveness of the two treatment methods might be different from that of the EFL contexts which necessitate conducting more research. Furthermore, age factor must be catered for in this regard. Since the cognitive ability of pre-university students is different from other age groups, both higher and lower, running more research on other age groups seems necessary. Also, during conducting the study, the main focus was on teaching collocational strings in controlled conditions, disregarding other linguistic components and classroom-related factors which might have a tradeoff effect. Therefore, conducting more comprehensive studies is required to see whether there is a tradeoff in learning collocational strings in controlled classroom conditions compared to other contexts.
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Appendix A

Sample pretest questions

1. A common marketing technique is to hand out free ______ of new products at international fairs.

   (1) issues  (2) devices  (3) versions  (4) samples

2. There are many species of plants and animals in danger of ______.

   (1) pollution  (2) vehicle  (3) extinction  (4) climate

3. A: “Did you know that Maria’s getting married?”

   B: “No, I didn’t. How ______!”

   (1) reasonable  (2) serious  (3) wonderful  (4) probable

4. The fact that I am as old as you does not ______ any difference.

   (1) have  (2) take  (3) hold  (4) make

5. They say that they should spend as much money as needed to improve the country’s telephone ______.

   (1) device  (2) region  (3) procedure  (4) network
Sample tests for posttest
(1) He goes to the gym regularly to be able to ______ his health conditions.
   (1) prepare  (2) survive  (3) enhance  (4) increase

(2) In most instances, the drugs have no side ______.  
   (1) influences  (2) impacts  (3) effects  (4) attacks

(3) I would like to have a (n) ______ reply to my question.
   (1) reflected  (2) relaxed  (3) immediate  (4) prepared

(4) We need to plan family emergency ______ before the earthquake. 
   (1) process  (2) production  (3) program  (4) procedure

(5) She is very good at ______ her duties.
   (1) forwarding  (2) following  (3) handling  (4) carrying

Sample tests for delayed posttest
(1) Old people cannot bend and ______ their bodies easily. 
   (1) move  (2) express  (3) stretch  (4) react

(2) Tapping a pen, leaning against a wall, and ______ the arms are distractive to audience.
   (1) including  (2) crossing  (3) turning  (4) touching

(3) It is going to be a hard competition, but I’m physically and ______ prepared for it.
   (1) silently  (2) mentally  (3) smoothly  (4) similarly

(4) Jane can get the job done. I have full ______ in her abilities.
   (1) expectation  (2) confidence  (3) training  (4) endeavor

(5) My ______ family is very small, just me and my parents.
   (1) nucleus  (2) instant  (3) immediate  (4) productive