

WHICH TYPE OF INSTRUCTION FOSTERS CHUNK LEARNING? PRELIMINARY CONCLUSIONS

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Abstract: Formulaic language learning has been shown to be problematic and slow in adult L2 learners. In this study, we test some of the recommendations of a lexical approach. We compare the results of the implementation of chunk attention-directing techniques and explicit exercises of previously selected chunks in 52 Spanish as a second language learners over a period of seven weeks. In light of the results obtained, we can conclude that (1) exposure to lexical chunks, chunk noticing in the input and explicit exercises contribute to the development of abilities in the active recognition of chunks, and (2) learning gains obtained through explicit exercises are significantly greater than those obtained through attention-directing techniques.

Keywords: Lexical chunks, collocations, formulaic language, attention-drawing techniques, exercises on collocations, explicit learning, Spanish as a Second Language.

1. INTRODUCTION

Lexical chunks (e.g., *take a walk*, *tell a story*) have gained considerable attention as the subject of investigation in research fields such as second language acquisition SLA; (e.g., Schmitt, 2004; Meunier and Granger, 2008) and second language (L2) pedagogy (e.g., Lewis, 1993, 1997, 2000; Boers and Lindstromberg, 2009; Lindstromberg and Boers, 2008).

The acquisition of this lexical unit has been shown to be problematic for (adult) L2 learners (Nesselhauf, 2005) and slow, according to several studies (Durrant and Schmitt, 2009; Nekrasova, 2009; Li and Schmitt, 2010; Yamashita and Jiang, 2010; Laufer and Waldman, 2011). Collocations, for example, are acquired more slowly than single words by foreign language learners for several reasons: the word-by-word non-congruence with the learner's L1 (Nesselhauf, 2003); their frequent idiomatic character, which makes them more difficult to learn (Laufer, 1997); the fact that they might appear discontinuously in the input (Laufer, 1997); the apparent arbitrariness of some of the word choices; and the fact that they are made up of known or at least half-known words, which makes them less salient in the input and hinders noticing¹. All these circumstances lead to learners' lack of attention to collocations and chunks and eventually to productions that sound odd to native speakers, such as **preguntar una pregunta*, **tomar un paseo*, and **tener una dieta*.

Although some studies have shown that chunk knowledge can be learned incidentally from reading (Webb *et al.*, 2013; Pellicer-Sánchez, 2015), this type of learning condition appears to be problematic because mainly in non-immersion contexts the chances of multiple encounters with one collocation are slim (Boers and Lindstromberg, 2009: 42-43), and learners are not capable of identifying collocations in the input (Eyckmans, *et al.*, 2007).

To overcome this difficulty, pedagogues and researchers have recommended different types of instruction to foster chunk learning. There seems to be a consensus in the field that awareness raising is not enough and should be supplemented by form-focused instruction including manipulating the input to direct learners' attention to unknown collocations and other multiword units in the input (Lewis, 1993; Boers and Lindstromberg, 2009; Boers *et al.*, 2016) and facilitating more explicit activities to promote intentional learning (Stengers *et al.*, 2010; Boers *et al.*, 2014; Stengers and Boers, 2015). Research on the effectiveness of such pedagogical practices yields mixed results (see Boers and Lindstromberg, 2012 for a review). Interestingly, the comparison between

¹ Several authors have pointed out that noticing is a crucial aspect in language learning (Robinson, 1995, 2003; Schmidt, 2001).

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both form- focused learning conditions (attention directing and explicit activities) in a longitudinal study –over several weeks in an instructed language learning context– has not yet been thoroughly investigated. Our study aims at contributing to fill this gap by including both techniques in a syllabus design, implementing them and comparing their benefits by measuring the learning gains at a recognition level in intermediate Spanish L2 learners. Such investigation would help decide which approach to collocation intake is more effective. Moreover, while interest in acquisition, teaching and learning of formulaic language in L2 Spanish is growing (Higueras, 2006, 2011; Stengers, 2011; Sánchez Rufat, 2011, 2015; Alba Quiñones, 2014; Stengers and Boers, 2015; Pérez Serrano, 2015, 2017), most aforementioned studies have been conducted on English as an L2. Empirical research on other languages than English, including Spanish, is necessary and pertinent (Siyanova-Chanturia, 2017; Stengers and Boers, 2015), since, against the common belief that English is a particularly idiomatic language, both languages are highly populated with formulaic language, as demonstrated in Stengers *et al.* (2011).

2. BACKGROUND

It is widely agreed that chunk knowledge is beneficial for learners because it helps develop fluency in L2 learners, as emphasized by Schmitt (2010), and because collocations and chunks are processed faster than free combinations in reading activities (Siyanova-Chanturia *et al.*, 2011). Furthermore, as shown by Boers *et al.* (2006) and Stengers *et al.* (2011), L2 learners' use of formulaic sequences positively contributes to oral proficiency. In this light, it is a welcome trend to gauge the effects of formal instruction techniques aimed at developing phraseological competence (Boers *et al.*, 2014, Stengers and Boers, 2015; Boers *et al.*, 2016).

2.1. Previous research on attention-drawing techniques in chunk learning

Some applied linguists claim that target items need to be noticed in order to be acquired, in what is called the *Noticing Hypothesis* (Schmidt, 2001). Thus, if a learner of Spanish as a foreign language (SFL) encounters the collocation *tomar el sol*, because both components are easily understood, the word choice will likely not be noticed in a meaning-oriented activity, even though the collocation is not congruent with the L1. (In English, you do not *take the sun; rather, you sunbathe; Stengers and Boers, 2015). This is the reason why some pedagogues have thus recommended chunk noticing as a byproduct of communication-focused activities as the center of pedagogical practice (Lewis, 1993, 1997, 2000). According to this author, it is worth exploring these attention-drawing techniques on collocation learning because they would serve the purpose of raising learners' awareness of the importance of phraseology, and they would incline them to notice phrases they encounter outside the classroom independently (Lewis, 1993). Moreover, the time investment is not as high as the explicit teaching of individual chunks.

Manipulating the texts to which learners are exposed in order to make chunks more salient has been done in different ways:

- Input flood, which consists of enriching a text with target collocations. The effectiveness of this technique is investigated by Webb, Newton and Chang (2013), who conclude that the number of encounters has a positive effect on collocation learning.
- Typographic enhancement, such as underlining or bolding the target forms. Peters (2012) and Boers *et al.* (2016) test this technique and collect evidence to state that textual enhancement has a positive effect on formulaic sequence learning. However, according to these studies, textual enhancement does not have an awareness-raising effect beyond the enhanced formulaic sequences. Szudarski and Carter (2014) found that the enhancement alone of target collocations only resulted in significant gains in form recognition and form recall tests but not in meaning recall tasks.
- The use of translating glosses into formulaic sequences. Motivated by the fact that a considerable number of mistakes that learners make on collocations are with incongruent ones as shown in Nesselhauf (2005), Laufer and Girsai (2008) performed a study in which they compared this technique with meaning-focused instruction and non-contrastive form-focused instruction. They found that the contrastive analysis and translation techniques yielded higher learning gains than the two other groups.

The aforementioned studies suggest mixed results regarding the durable retention of formulaic sequences. With attested discouraging learning gains, according to Stengers and Boers (2015:154), "it would appear a welcome trend for course books and other materials designed for L2 learning to include exercises which target selected lexical phrases more directly and overtly". For this reason, it is worth gauging the effects of discrete point activities on pre-selected chunks –which we will review in the following section–, and compare the gains obtained with both practices.

2.2. Intentional teaching and learning of collocations through explicit activities

Unfortunately, there is not much empirical evidence regarding the effectiveness of explicit activities for chunk intake. Some exceptions are studies by Boers *et al.* (2014) and Stengers and Boers (2015). The first one (Boers *et al.*, 2014) compares the effects on collocation learning of the two types of activities most commonly found in course books: activities in which the learner is required to establish matches between the verb and the noun in order to assemble correct collocations –which carry the risk of cross-associations– and activities in which collocations are presented as a whole. No differences in learning gains were found between the two conditions or between the two types of exercises, but the erroneous associations were found more frequently in the matching-exercises group.

In a more recent study, Stengers and Boers (2015) observe that exercises found in textbooks frequently do not provide learners with examples of the correct target collocations in the context that students are supposed to assemble in exercises, relying on a procedure of trial and error. In a small-scale experimental study, these authors compare trial-and-error exercises on collocations with exemplar-guided procedures, in which learners can rely on prior consultations of exemplars. They found no difference in the effectiveness of the two procedures, but they report that when students under trial-and-error conditions provided an erroneous answer, corrective feedback had no remedial effect.

Interestingly, gains attested by means of discrete point exercises were poorer than expected in both studies, which raises the question of whether this type of intentional teaching through activities is worth classroom time or not. According to Boers *et al.* (2014), this situation calls for future studies in which the gains obtained from such exercises are compared to those obtained by other means, such as textual enhancement (e.g. Peters, 2012), and translation (e.g. Laufer and Girsai, 2008).

To our knowledge, despite the growing body of research on the effects of noticing and discrete point activities towards chunk intake, little empirical evidence is available comparing both methodologies within the frame of a syllabus in a longitudinal study to help decide which one is more appropriate and beneficial.

3. AIMS AND RESEARCH QUESTIONS

In the present study, we aim to test the effectiveness of attention-directing techniques in a controlled experiment and to compare our results with the learning gains obtained through a more explicit treatment of previously selected chunks in exercises. Essentially, recommendations made by Lewis (1993, 1997, 2000) in his well-known Lexical Approach were implemented within the syllabus and compared to help decide whether chunk noticing in the *input* leads to chunk acquisition or more explicit exercises are needed in order to learn them. This study, therefore, gauges the effects of implementing different versions of a lexical approach by measuring the intake of a particular set of lexical chunks. It will help decide which method is more effective and beneficial for learners at the level of recognition from a quantitative perspective.

Thus, the research questions we will address in this study are as follows:

- In chunk learning, to what extent does pedagogical treatment contribute to the development of active recognition?
- Which type of instruction –explicit exercises or chunk noticing in the input– contributes more to the development of abilities for chunk active recognition?

We hypothesize that both noticing the chunks in the input and completing explicit exercises on chunk lead to learning gains towards the active recognition of the target forms. We also predict that the mere exposure to the chunks will not lead to development of skills for active recognition, since it is generally accepted that learning of collocations is rather slow (Laufer, 2010) and that there is a need to supplement it with classroom instruction (Szudarski, 2012).

When comparing the three learning conditions in the second research question, our prediction is that the explicit exercises will lead to higher learning gains than merely being exposed to chunks and noticing them in the input. We also hypothesize that the group in which chunk-noticing practice is introduced will show more learning gains than the group in which no attention is given to chunks. Assuming that doing exercises implies more involvement (Hulstijn and Laufer, 2001) or engagement (Schmitt, 2008) than noticing the chunks within the frame of a communicative task such as reading or listening, and that noticing them implies more engagement than just reading them, this hypothesis is in line with the notion that the more learners engage with a new word, the more likely they are to learn it (Schmitt, 2008).

4. METHOD

4.1. Participants

Our participants consisted of 52 students from Columbia University/Barnard College whose L1 was English. All the participants were adults between 18 and 25 years old and 69% of them were women. The vast majority were undergraduate students (96%) majoring in a variety of fields, e.g., English, Economics and Engineering.

All participants were taking Intermediate Spanish I, corresponding with level B1 of the *Common European Framework of Reference* (CEFR). To take this course, students must meet one of these requirements: (1) have previously taken the course Spanish Elementary II in the same institution or (2) have taken a placement test and scored in the Intermediate I band.

Furthermore, participants' experiences with the Spanish language were similar, i.e., academic contact, whether at the college level or secondary school level. Their motivation was also similar: The majority took this course as part of the so-called *language requirement*, which obliges students to take four semesters of any foreign language in order to graduate. We must admit, though, that apart from the aforementioned language requirement, students' motivation and their self-demanding level were considerably high. The level of voluntary participation was high, with questions and spontaneous interventions, and assignment submission was normally timely and complete.

At the beginning of the semester, the three classes –taught by the same teacher, who was also the researcher– were randomly assigned to the experimental or the control conditions. All participants had to sign an informed consent form to participate in the research, but the purpose of the study was only vaguely explained. The course used for experimental variable 1 (chunk noticing) comprised 16 students; 20 students were part of the group used for experimental variable 2 (explicit attention to chunks via exercises); and 16 students constituted the group used for the control variable.

Some students in the classes were not considered for the study if they missed more than two classes, if they did not hand in the chunk exercises before the posttest, or if they were not in class the day we went over these exercises.

4.2. Materials and procedures

To achieve our research goals, we designed and conducted an experimental study with three groups, two under experimental conditions and one under control conditions. Group membership was randomly assigned. All the experimental and control groups were taught by the same instructor, who was also the researcher, and received the same amount of class instruction (30 hours).

The three groups were exposed to the same input and used the same textbook and additional texts. Both the midterm and final exams were common to all level sections. Therefore, although the instructor had some freedom to implement his/her own teaching style, it was always within the frame of a task-based approach with explicit attention to grammar. The controlled variable was the pedagogical treatment of the vocabulary in the input. In the control group, vocabulary was treated at a paradigmatic level and was single-word oriented; in both experimental groups, the instructor raised awareness of the formulaic nature of language through either chunk attention-drawing techniques or explicit chunk exercises.

4.3. Treatment of the target form in the input

Lexical chunks were considered in this study as “sequences of words which native speakers feel is the natural and preferred way of expressing a particular idea or purpose” (Lindstromberg and Boers, 2008:7). The adequateness of the target chunks was tested in a pilot test administered among native speakers of Spanish. The input to which all participants were exposed contained the target chunks, which were mostly verb-noun collocations (*tomar el sol, seguir consejos, dar un paseo*) but also other types of chunks (*pasarlo bien, actor de reparto*). In the control group, the instructor did not draw any attention to the target forms. In the noticing group, students' attention was systematically drawn to the target chunks. In the explicit treatment group, exercises were assigned to address target forms.

4.3.1. The control group

This group was not introduced to the concept of *chunk*, and vocabulary pedagogic treatment was single-word oriented. When students read or listened to a text in class, the aim was to exemplify grammar patterns or to draw attention to new words. Classroom instructions included *Underline the words in the text that you don't know*, and questions included *Is there any word you do not know?* Furthermore, the vocabulary exercises assigned in this class addressed vocabulary single words and consisted primarily of traditional exercises, such as connecting

words and their definitions, classifying words in semantic fields, deciding whether two words are synonyms or antonyms, filling in the gaps with given words, and crossing the odd word out.

4.3.2. The experimental noticing group

In one of the experimental groups, learners' attention was drawn to the target chunks in the input. Several techniques to achieve this goal were implemented. In some cases, the instructor systematically drew learners' attention to the target forms and noted them on the board; in other cases, chunks were typographically enhanced in the input, underlined or in bold; sometimes, the instructor gave the equivalent chunks in English, and the learners had to search for them in the texts. In any case, target forms were never extracted from the context in which they appeared.

It is widely accepted that L2 learners have a limited capacity to process simultaneously form and meaning in the L2 and that when they read or listen to a text, they tend to prioritize meaning comprehension (Van Patten, 1990; Peters, 2007). Consequently, the first time the learners confront a text, they do not tend to focus on grammatical or lexical features. In this light, meaning-oriented comprehension activities were assigned first and only after learners' attention was directed to target chunks.

The first day of class, vocabulary-teaching methodology was explicitly explained to students, and the concept of chunk and collocation was introduced and explained in the L1. A worksheet was assigned with the goal of helping distinguish free combinations, collocations and chunks and idiomatic expressions. After working with the texts, focusing both on the meaning of the text at a holistic level and on the meaning and form of the target forms, we encouraged the students to record in their notebooks five chunks worth learning because they were helpful or new to them.

4.3.3. The experimental group of explicit treatment

Students assigned to this condition were exposed to the same texts as the control and noticing groups. Meaning-focused activities were followed by different types of discrete point exercises aimed at chunk learning. As in the experimental noticing group, the first day of the semester, the methodology was explained, and instruction was given on what a collocation and a chunk is in the L1. An activity aimed at recognizing these lexical units followed.

In this group, awareness raising of collocations and chunks was performed by completing activities after being exposed to the texts. Thus, target forms were not typographically enhanced, and learners' attention was not drawn to them during or after reading or listening comprehension. However, exercises on the form and meaning of chunks followed. The students had access to exemplars of the target forms in the texts, and the answer key was always commented on in class. The exercises were of different types, such as connecting the parts of the chunk, inserting part of the chunk, drawing the chunk to a personal sphere, translating the chunk and classifying the chunk (see Boers *et al.*, 2014 for a review of the most common exercises in textbooks).

4.3.4. Overview

To sum up, the instruction methods implemented in the three different conditions can be observed in Table 1.

Table 1. Summary of vocabulary and chunk treatment in the three groups.

GROUP	VOCABULARY APPROACH	CHUNK TREATMENT
CONTROL (CG)	Single-word oriented	No awareness raising No attention directing
EXPERIMENTAL NOTICING (ENG)	Multi-word oriented	Awareness raising Attention directing
EXPERIMENTAL EXPLICIT TREATMENT (EGET)	Multi-word oriented	Awareness raising Discrete exercises

4.4. Measurement of chunk knowledge

Collocation competence was measured at a recognition level. Receptive chunk knowledge will be taken in this study as that necessary to recognize that two or more words appear together as conventionalized, as well as the necessary knowledge to access the meaning of these word combinations (Gyllstad, 2007). Learners' abilities for the active recognition of chunks before and after the pedagogic treatment were assessed through the administration of a pretest, at the beginning of the course, and three posttests, one at the end of each teaching unit. Each of these posttests assessed the knowledge of only the chunks that appeared and/or were treated in the corresponding unit. Since delayed posttests were not administered, we could only measure short-term chunk knowledge.

These tests were aimed to assess the recognition of both the form and the meaning of the target chunks. The structure consisted of a gapped sentence in which the right chunk had to be inserted. This is because the intention was to measure the knowledge of the whole collocation and not just the knowledge of one of its constituents (Nation and Webb, 2011). The task consisted of selecting the correct collocation for that particular context amongst four possible options. The instructor insisted on their leaving it blank if they did not know the correct answer.

The distractors included in the test items can be classified as two types: (1) correct chunks whose meaning was not appropriate for the particular context of the sentence and to which learners were also exposed, and (2) incorrect chunks in Spanish. We considered a chunk as incorrect if it did not appear in the *Diccionario Combinatorio Práctico* (Bosque, 2006) or in the *Corpus de referencia del español actual*.

To elaborate these distractors, we relied on our own teaching experience with Anglophones and on the feedback given by other instructors in the same institution after a pilotage. These types of distractors are primarily based on possible L1 transfers –both semantic, such as **bañar el sol*, as a possible transfer from *sunbathe*, and formal, such as **las películas se relajan*, as a possible transfer with *movies release*. Other distractors are chunks with a constituent that appeared in the same teaching unit.

The last type of distractor of incorrect chunks included in the test was, in support-verb collocations, collocations formed with other support verbs, such as *hacer, tomar, poner, dar, tener, coger* and *estar*.

According to Schmitt’s (2010) classification, this test measured the form recognition of the target form because the task consisted of selecting the form in the L2. However, it also measured meaning recognition because to select the correct item, meaning comprehension was also required (Gyllstad, 2015). Every correct response was assigned one point, and 0 points were given to every incorrect or blank response.

4.5. Calendar

Table 2 provides an overview of the calendar and how the experimental study was implemented.

Table 2. Calendar of the experimental study.

MOMENT	NOTIONS IMPLIED	COMMON MATERIAL, ACTIVITIES AND TESTS
Week 1	Free time and leisure.	Informed consent. Pretest. Concept of collocation (only in experimental groups). Chapter 15: People who have fun. Spanish people and their free time.
Week 2		Chapter 15: People who have fun. Do you like movies? Posttest 1.
Week 3	Health and hygiene.	Chapter 16: Healthy people Symptoms.
Week 4		Chapter 16: Healthy people. Health campaigns Posttest 2.
Week 6	Internet. Chores. Objects.	Chapter 17: Innovative people. Technology and elderly people.
Week 7		Chapter 17: Innovative people. Posttest 3.
Week 8		Questionnaire about the approach and methodology (only in experimental groups).

5. RESULTS

The research questions we attempt to explore in this study are as follows:

- *RQ1: In chunk learning, to what extent does pedagogical treatment contribute to the development of active recognition?*
- *RQ2: Which pedagogical treatment—explicit exercises or chunk noticing in the input—contributes more to the development of abilities for chunk active recognition?*

Table 3 shows the mean of the correct items before and after the treatment in each group.

Table 3: Correct items in the pretest and posttest in the three groups. Scale from 0 to 21. SEM: Standard error of the mean.

GROUP	TIME	MEAN	SEM
Control Group	Pretest	10	0.831
	Posttest	11.813	0.684
Experimental Noticing Group	Pretest	8.75	0.831
	Posttest	12.938	0.684
Experimental Group of Explicit Treatment	Pretest	7.6	0.744
	Posttest	14.8	0.612

To respond to our first research question, we performed a two-way repeated-measures ANOVA with the within-subject factor Time (Pretest vs. Posttest) and the between-subject factor Group (Control Group, Experimental Noticing Group and Experimental Group of Explicit Treatment). The ANOVA showed the main effects of Time ($F_{(1,49)} = 117.822, p < 0.001$) and Group ($F_{(2,49)} = 0.093, p < 0.001$) and the interaction between the two factors Time \times Group, $F_{(2,49)} = 15.516, p < 0.001$).

The three groups of students started the course with a similar level of knowledge in chunks; there were no differences between them in the Pretest (all $p \geq 0.109$). The three groups improved their performance on the posttest (all $p \geq 0.016$). However, the rate of learning was different between them. CG improved by 2 chunks (SEM: 0.727), ENG improved by 4 chunks (SEM: 0.727), and EGET improved by 7 chunks (SEM: 0.650).

To test specifically the difference in the learning gains between the pretest and posttest in the three groups, and to explore our second research question, we computed a new variable, i.e., the difference between pretest and posttest performance. We performed a one-way ANOVA on this new dependent variable. The results showed that ENG participants improved their performance more than CG participants, although this improvement did not reach statistical significance ($p = 0.075$). However, EGET participants learned more chunks than CG ($p = 0.010$) and ENG ($p < 0.001$) participants; see Figure 1.

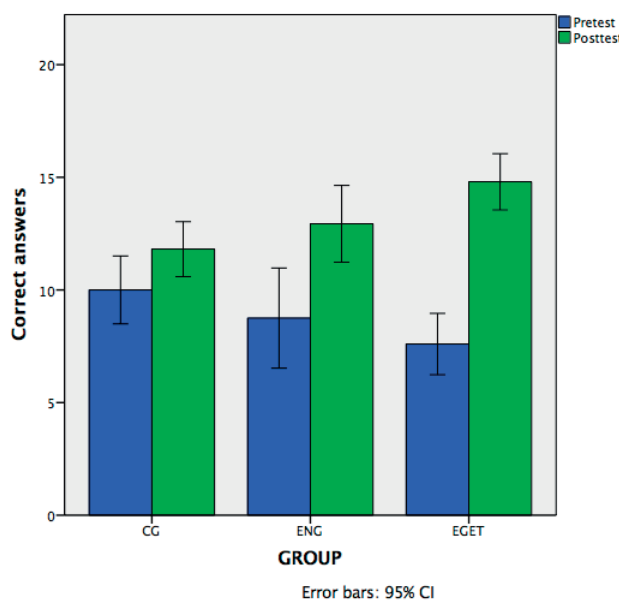


Figure 1. Correct items in the pretest and the posttest in the three groups. Scale from 0 to 21. Error bars 95%.

6. DISCUSSION

The results obtained allow us to partially confirm the prediction made in our first research question. Indeed, learners in the two experimental groups in which vocabulary was approached in its formulaic dimension, obtained learning gains in the active recognition of the target form. The fact that target chunks were actually learnt by manipulating the input with techniques such as L1 glosses or typographical enhancement replicates the results

found by Laufer and Girsai (2008) and Peters (2012). Moreover, our data allow us to state that doing exercises on chunks promotes learning at a recognition level, which confirms results obtained by Szudarski (2012).

Nevertheless, contrary to one of our predictions, the control group, with mere exposure to the target forms, although at a very low rate, also showed learning gains. The positive results obtained for the control group confirm those obtained by Webb *et al.* (2013) and Pellicer-Sánchez (2015) who confirmed that collocations can be learnt while reading. The fact that our participants learnt some collocations while reading –although at a very low rate– are partially in line with those obtained by Szudarski (2012) who found that meaning focus instruction only did not lead to much improvement in collocation learning. Nevertheless, it must be admitted that these positive results might be attributed to some extent to the higher familiarity of the students with the test task.

Regarding the second research question, according to the collected data, our predictions can be confirmed. When we look at the evolution from the pretest to the posttest, it can be stated that engaging in explicit exercises on chunks generates significantly higher learning gains than noticing them in the input or merely being exposed to them. Moreover, our data show that noticing chunks in the input in different ways leads to higher learning gains than giving no attention to chunks.

These encouraging results yielded by explicit activities conditions fail to replicate those obtained by Boers *et al.* (2014) and Stengers and Boers (2015), where learning gains found were rather unpromising. One possible reason for these promising learning gains obtained in our study is the fact that students always had access to exemplars of the correct collocations in the texts. Access to the correct collocation was given prior to the activities and not only in the form of corrective feedback, which has been shown to seldom have remedial effects (e.g., Stengers and Boers, 2015). Another possible explanation is that learners in the exercises group had lower previous knowledge of the target forms, so the room for improvement was higher.

Consequently, our data allow us to be more in agreement with those researchers who claim that explicit exercises are more beneficial for the development of phraseological competence (Stengers *et al.*, 2010); however, we are also aware of the fact that language is highly populated with formulaic language, so it is not a realistic goal to try to teach it all explicitly. It is therefore a welcome trend to explore the benefits of attention-drawing techniques in order to raise awareness because the time and effort investment is significantly lower. It must be taken into account that our study was conducted in a teaching-learning context prone to homework assignments. Students are aware that they have to meet the syllabus requirements, and they work under significant academic pressure. More time-consuming activities are appropriate for such a demanding learning context, but noticing techniques might be worthwhile to consider in different conditions.

In addition, because attention-drawing techniques yielded positive results as well, it is worthwhile to continue research in this line in order to find out whether this type of strategy-oriented classroom training promotes independent learning and helps students notice chunks encountered outside the classroom. Research carried out in this line has not found encouraging results (Peters: 2012, Boers *et al.*, 2016). Further research is needed to shed more light on the specific effects of implementing noticing techniques.

7. CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

One of the purposes of this investigation was to contribute to build a less rare body of research in the acquisition of the phraseological competence in Spanish as a foreign language by implementing some of the relevant principles of a lexical approach within the broader methodology of an official Spanish language program. Our goal is to continue investigating how we can create more learning opportunities in authentic teaching-learning conditions. As this study has shown, a lexical approach to vocabulary and collocations as part of a regular language course yields significant learning gains, and we advocate avenues of research that add more evidence to this instance.

In this investigation, we have demonstrated that chunks can be learnt under implicit, semi-implicit, and explicit conditions. By comparing these three learning circumstances, we have come to the conclusion that explicit exercises on chunks generate active recognition abilities more than non-instructed learning and semi-implicit conditions. Although time and effort investment was higher in the exercise group, the learning gains obtained were considerably higher. We can also assume that directing attention to chunks in the input leads to more learning gains than merely being exposed to them.

There are a number of limitations to this study. First of all, the reduced sample of participants ($n=52$) constrains its external validity. Additionally, exposure to input –and consequently exposure to target forms– outside classroom time was not fully controlled, because the investigation was embedded within a language course that had pre-set protocols for homework assignments that included vocabulary reviews on a regular basis. We also mentioned our

students' high motivation as one of the idiosyncrasies of the sample, so we were not able to control whether any of the informants had gone in depth or deliberately worked with target forms outside classroom time.

Finally, this study only considered the effects of noticing and explicit instruction in the acquisition of abilities for active chunk recognition. Nevertheless, recall goes one step further in the knowledge of the target form. Future research might want to evaluate the effects of the same pedagogic treatments on recall. Furthermore, it would be profitable to assess the effects of the different attention drawing techniques such as bolding, marginal glosses, etc. as well as to determine which type of exercises lead to more chunk learning gains.

REFERENCES

- Alba-Quiñones, V. (2014). "El uso de las colocaciones en muestras escritas de aprendices de español. Análisis e implicaciones metodológicas". *Estudios de lingüística: ELUA*, 28, 155-176. <https://doi.org/10.14198/ELUA2014.28.06>
- Boers, F., J. Eyckmans, J. Cappel, H. Stengers, M. Demecheleer. (2006). "Formulaic sequences and perceived oral proficiency: putting a Lexical Approach to the test". *Language Teaching Research*, 10, 245-261. <https://doi.org/10.1191/1362168806lr195oa>
- Boers, F., Lindstromberg, S. (2009). *Optimizing a lexical approach to instructed second language acquisition*. Basingstoke: Palgrave Macmillan. <https://doi.org/10.1057/9780230245006>
- Boers, F., Lindstromberg, S. (2012). "Experimental and intervention studies on formulaic sequences in a second language". *Annual Review of Applied Linguistics*, 32, 83-110. <https://doi.org/10.1017/S0267190512000050>
- Boers, F., Demecheleer, M., Coxhead, A., Webb, S. (2014). "Gauging the effects of exercises on verb-noun collocations". *Language Teaching Research*, 18, 54-74. <https://doi.org/10.1177/1362168813505389>
- Boers, F., Demecheleer, M., He, L., Deconinck, J., Stengers, H., Eyckmans, J. (2016). "Typographical enhancement of multi-word units in second language text. *International Journal of Applied Linguistics*. Early online publication. <https://doi.org/10.1111/ijal.12141>
- Bosque, I. (ed.). (2006). *Diccionario práctico combinatorio del español contemporáneo*. Madrid: SM.
- Durrant, P., Schmitt, N. (2010). "Adult learners' retention of collocations from exposure". *Second language research*, 26(2): 163-188. <https://doi.org/10.1177/0267658309349431>
- Eyckmans, J., Boers, F., Stengers, H. (2007). "Identifying Chunks: Who Can See the Wood for the Trees?" *Language Forum*, 33, 85-100.
- Gyllstad, H. (2007). *Testing English Collocations: Developing Receptive Test for Use with Advanced Swedish Learners*. Lund: Lund University.
- Gyllstad, H. (2015). (Personal communication, February 10, 2015).
- Higueras, M. (2006). *Las colocaciones en el aula de ELE*. Madrid: Arco Libros.
- Higueras, M. (2011). "Lexical collocations and the learning of Spanish as a foreign language". In J.L. Cifuentes Honrubia and S. Rodríguez Rosique (eds.). *Spanish Word Formation and Lexical Creation*, pp. 439-464. Amsterdam/Filadelfia: John Benjamins Publishing Company. <https://doi.org/10.1075/ivitra.1.18gar>
- Hulstijn, J. H., Laufer, B. (2001). "Some Empirical Evidence for the Involvement Load Hypothesis in Vocabulary Acquisition". *Language Learning*, 51, 539-558. <https://doi.org/10.1111/0023-8333.00164>
- Laufer, B. (1997). "The lexical plight in second language reading". In J. Coady and T. Huckin (eds.). *Second Language Vocabulary Acquisition: A rationale for pedagogy*, pp. 20-34. Cambridge, Cambridge University Press.
- Laufer, B. (2010). "Form focused instruction in second language vocabulary learning". In R. Chacón-Beltrán, C. Abello-Contesse, M. M. Torreblanca-López and M. D. López- Jiménez (eds.). *Further insights into non-native vocabulary teaching and learning*, pp. 15-27. Bristol, Buffalo, Toronto: Multilingual Matters.
- Laufer, B., Girsai, N. (2008). "Form-focused instruction in second language vocabulary learning: A case for contrastive analysis and translation". *Applied Linguistics*, 29, 694-716. <https://doi.org/10.1093/applin/amn018>
- Laufer, N., Waldman, T. (2011). "Verb-Noun Collocations in Second Language Writing: A Corpus Analysis of Learners' English". *Language Learning*, 61/2, 647-672. <https://doi.org/10.1111/j.1467-9922.2010.00621.x>
- Lewis, M. (1993). *The Lexical Approach*. London: Language Teaching Publications.
- Lewis, M. (1997). *Implementing the Lexical Approach*. London: Language Teaching Publications.
- Lewis, M. (ed.). (2000). *Teaching Collocation. Further Developments in the Lexical Approach*. London: Language Teaching Publications.
- Li, J., Schmitt, N. (2010). "The development of collocation use in academic texts by advanced L2 learners: A multiple case study approach". In D. Wood (ed.). *Perspectives on formulaic language: Acquisition and communication*, pp. 22-46. New York: Continuum.

- Lindstromberg, S., Boers, F. (2008). *Teaching Chunks of Language. From Noticing to Remembering*. Helbling Languages.
- Meunier, F., Granger, S. (eds.). (2008). *Phraseology in Foreign Language Learning and Teaching*. Amsterdam: John Benjamins. <https://doi.org/10.1075/z.138>
- Nation, P., Webb, S. (2011). *Researching and analyzing vocabulary*. Boston: Heinle Cengage Learning.
- Nekrasova, T. (2009). "English L1 and L2 speakers' knowledge of lexical bundles". *Language Learning*, 59, 647–686. <https://doi.org/10.1111/j.1467-9922.2009.00520.x>
- Nesselhauf, N. (2003). "The use of collocations by advanced learners of English and some implications for teaching". *Applied Linguistics*, 24, 223–242. <https://doi.org/10.1093/applin/24.2.223>
- Nesselhauf, N. (2005). *Collocations in a Learner Corpus*. Amsterdam: John Benjamins. <https://doi.org/10.1075/scl.14>
- Pellicer-Sánchez, A. (2015). "Learning L2 collocations incidentally from reading". *Language Teaching Research*. 21/3, 381-402. <https://doi.org/10.1177/1362168815618428>
- Pérez Serrano, M. (2015). *Un enfoque léxico a prueba: efectos de la instrucción en el aprendizaje de las colocaciones léxicas*. (Unpublished PhD. Dissertation). Departamento de Lengua Española. Universidad de Salamanca.
- Pérez Serrano, M. (2017). *La enseñanza-aprendizaje del vocabulario en ELE desde los enfoques léxicos*. Madrid: Arco Libros.
- Peters, E. (2007). "The influence of Task Instruction on Vocabulary Acquisition and Reading Comprehension". In M. P. García Mayo (ed.). *Investigating Task in Formal Language Learning*, pp. 178-98. Clevedon: Multilingual Matters.
- Peters, E. (2012). "Learning German formulaic sequences: The effect of two attention- drawing techniques". *Language Learning Journal*, 40, 65-79. <https://doi.org/10.1080/09571736.2012.658224>
- Real Academia Española. *Corpus de referencia del español actual*. Retrieved from <http://corpus.rae.es/creanet.html>
- Robinson, P. (1995). "Task complexity and second language narrative discourse". *Language Learning*, 45/1, 99-140. <https://doi.org/10.1111/j.1467-1770.1995.tb00964.x>
- Robinson, P. (2003). "Attention and memory during SLA". In C.J. Doughty and M.H. Long (eds.). *The handbook of Second Language Acquisition*, pp. 631-78. New York: Blackwell publishing. <https://doi.org/10.1002/9780470756492.ch19>
- Sánchez Rufat, A. (2011). "Léxico gramaticalizado y lengua formulaica: algunas precisiones al enfoque léxico". *Singagma*, 23, 85-98
- Sánchez Rufat, A. (2015). "La naturaleza léxico semántica del verbo dar en la construcción verbo+nombre". *Anuario de Estudios Filológicos*, 38, 205-223.
- Schmidt, R. (2001). "Attention". In P. Robinson (ed.), 3-33. New York: Cambridge University Press. <https://doi.org/10.1017/CBO9781139524780.003>
- Schmitt, N. (ed.) (2004). *Formulaic sequences: acquisition, processing and use*. Amsterdam: John Benjamins. <https://doi.org/10.1075/llt.9>
- Schmitt, N. (2008). "Instructed Second Language Vocabulary Learning". *Language Teaching Research*, 12, 329-363. <https://doi.org/10.1177/1362168808089921>
- Schmitt, N. (2010). *Researching vocabulary: A vocabulary research manual*. Basingstoke: Palgrave. <https://doi.org/10.1057/9780230293977>
- Siyanova-Chanturia, A., Conklin, K., Schmitt, N. (2011). "Adding more fuel to the fire: An eye- tracking study of idiom processing by native and nonnative speakers". *Second Language Research*, 21, 1-22. <https://doi.org/10.1177/0267658310382068>
- Siyanova-Chanturia, A. (2017). "Researching the teaching and learning of multi-word expressions". *Language Teaching Research*, 21/3, 289-297. <https://doi.org/10.1177/1362168817706842>
- Stengers H., Boers, F., Housen, A., Eyckmans, J. (2010). "Does chunking foster chunk-uptake?" In S. De Knop, F. Boers and T. De Rycker (eds.). *Fostering Language Teaching Efficiency through Cognitive Linguistics*, pp. 99-117. Berlin/New York: Mouton de Gruyter. <https://doi.org/10.1515/9783110245837.99>
- Stengers H., Boers, F., Housen, A. (2011). "Formulaic sequences and L2 oral proficiency: Does the type of target language influence the association?" *International Review of Applied Linguistics Linguistics*, 49/4, 321-343. <https://doi.org/10.1515/iral.2011.017>
- Stengers, H., Boers, F. (2015). "Exercises on collocations: a comparison of trial-and-error and exemplar-guided procedures". *Journal of Spanish Language Teaching*, 2/2, 152-164.
- Szudarski, P. (2012). "Effects of meaning-and form-focused instruction on the acquisition of verb-noun collocations in L2 English". *Journal of Second Language Teaching & Research*, 1/2, 3–37. Retrieved from <http://pops.uclan.ac.uk/index.php/jsltr/article/view/32>
- VanPatten, B. (1990). "Attending to form and content in the input: an experiment in consciousness". *Studies in Second Language Acquisition*, 12/3, 287-301. <https://doi.org/10.1017/S0272263100009177>

- Webb, S., Newton, J., Chang, A. (2013). "Incidental learning of collocation". *Language Learning*, 63, 91-120.
<https://doi.org/10.1111/j.1467-9922.2012.00729.x>
- Yamashita, J., Jiang, N. (2010). "L1 influence on the acquisition of L2 collocations: Japanese ESL users and EFL learners acquiring English collocations". *TESOL Quarterly*, 44, 647-668.
<https://doi.org/10.5054/tq.2010.235998>

APPENDIX: SPANISH CHUNKS CHOSEN AS TARGET ITEMS

estrenarse películas
contar la historia
gastar dinero
pasar el rato
actor de reparto
tener tiempo libre
ir de excursión
pasarlo bien
tomar el sol
seguir consejos
dar un paseo
contraer una enfermedad
gravemente enfermo
hacer dieta
hacerse daño
instalar *skype*
fundirse la bombilla
dar órdenes
encender la luz
lavar la ropa
registrarse en *Twitter*