Introduction

Although vocabulary learning research has traditionally been characterized by a single-word-centered conceptualization of lexical knowledge, examining the acquisition of items beyond the single word has recently gained a more prominent role in vocabulary research. It is now widely agreed that multiword units\(^1\) should also be a component of the vocabulary learning curriculum and that they should be taught alongside single-word items.

Single words and multiword units evidently differ in their form and in the form-meaning connections they bear with them. Multiword units have a more complex and usually longer form; they are subject to different levels of compositionality; and are commonly associated with more opaque, figurative meanings. Laufer (1997) claims that factors such as idiomaticity and complexity negatively affect the learning of lexical items, suggesting that idiomatic expressions are more difficult to learn than their non-idiomatic single-word equivalents. As Peters (2014) argues, “It is not unlikely that the learning burden of collocations is higher because it is more difficult to allocate attentional resources to the formal properties of two (or more) words compared to one” (p. 90). We might therefore expect that the distinctive features of single words and multiword units lead to sizable differences in their learning. The remarkable increase in the number of studies investigating the acquisition of multiword units has brought about a better understanding of the conditions leading to their learning. Nevertheless, the potentially differential learning patterns that single words and multiword units exhibit is yet to be empirically proven.

The aim of this chapter is thus to shed light into the learning of single words and multiword units and of the conditions that affect these processes. The present discussion is framed around three themes that are crucial in creating the conditions for successful vocabulary intake: the relative effectiveness of different modes of exposure; the need for repeated exposures; and the degree of noticing and attention to unknown vocabulary. The best account of the learning of these two types of lexical items is provided by those studies that have included both single words and multiword units in their experimental design. Thus, the present discussion and conclusions draw heavily from such studies (e.g., Alali & Schmitt, 2012; Laufer & Girsai, 2008; Peters, 2009, 2014). The paucity of this type of research makes us
also resort in this discussion to empirical studies that have examined the learning of single words or multiword expressions. In spite of the myriad of methodological differences across these studies, it seems possible to identify some converging results from those earlier investigations.

**Critical Issues and Topics**

Successful vocabulary intake occurs “because certain conditions are established which facilitate learning”, namely repetition, noticing, retrieval, varied encounters and varied use, and elaboration (Webb & Nation, 2017, p. 61). According to Webb and Nation (2017), two key factors underpin these conditions: repetition and the quality of attention at each encounter. This quality of attention to target items when they are encountered is determined, among other factors, by the learning approach chosen, as different teaching methods and input modes will make learners attend to lexical items in different ways and will result in different levels of engagement with the target vocabulary. Repetition and learning approach are two crucial issues in the teaching and learning of vocabulary and are therefore chosen to frame the discussion provided in this chapter. In addition to these two factors, the quality of attention to unknown vocabulary also depends on learners’ noticing of the lexical items. Therefore, the third key issue discussed in this section is the examination of methods that have been used to increase learners’ noticing of the target vocabulary in an attempt to foster their learning. The present section aims at shedding some light into our understanding of the learning of single words and multiword units in relation to these three main topics.

**Effectiveness of Learning Approaches**

The manner in which lexical items are learned affects their learning burden (Nation, 1990), and it is one of the factors determining the quantity and quality of attention that learners are likely to pay to lexical items. In the discussion of approaches to vocabulary learning, a main distinction is usually made between *incidental* and *deliberate* or *intentional learning* approaches. The main difference between these two complementary approaches is the intentionality (or lack of) to learn new lexical items and commit them to memory. Incidental learning is defined as “learning which accrues as a by-product of language usage, without the intended purpose of learning a particular linguistic feature” (Schmitt, 2010, p. 29), whereas in deliberate learning approaches learners have the specific goal to learn vocabulary (Schmitt, 2008). One of the key questions in the examination of the learning of single words and multiword units is whether the same approaches can be used to learn both types of items and whether they would have a similar effect on learning gains. In fact, the few available studies empirically comparing the learning of single words and multiword sequences have focused on exploring the relative effectiveness of different learning methods.

**Deliberate Learning**

The use of vocabulary activities that explicitly direct learners’ attention to unknown lexical items creates the conditions for deliberate learning to occur. This happens for example when learners memorize a set of words from word lists, translation pairs, or flash cards. Investigations of the effect of explicit vocabulary activities on the acquisition of single words abound. Previous research has shown that a variety of explicit exercises and task types are effective for the acquisition of single words, with learning rates that go up to 70% in some studies.
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(e.g., Laufer, 2005). Some of the methods investigated include memorization and mnemonic techniques such as the keyword method (e.g., Barcroft, 2009; Brown & Perry, 1991; Ellis & Beaton, 1993; Jones, 1995); written vocabulary activities, such as fill in the blanks and original sentence writing (e.g., Barcroft & Rott, 2010; Folse, 2006; Zou, 2016); and first language (L1) translation (e.g., Joyce, 2015), just to name a few. Empirical evidence has also shown that new vocabulary can be learned from pushed-output activities that make learners produce language orally (e.g., De la Fuente, 2002; Ellis & He, 1999; Ellis, Tanaka, & Yamazaki, 1994), and that these activities support learners in the challenging transition from receptive to productive knowledge. Deliberate learning of single words does not only lead to the acquisition of declarative knowledge of vocabulary (at the receptive and productive level) but also to the development of the automaticity and fluency with which newly learned words are processed (Elgort, 2011; Pellicer-Sánchez, 2015), triggering the acquisition of both representational and functional aspects of vocabulary knowledge (Elgort, 2011). As Schmitt (2008) notes, deciding which activity or explicit approach is best for vocabulary learning is problematic, because of the many methodological and contextual differences among the existing studies. A less problematic assumption though, is that the effectiveness of a particular task depends on the degree of involvement and engagement with the unknown vocabulary. As proposed by Laufer and Hulstijn (2001), the task’s involvement load, i.e., the amount of need, search, and evaluation that it leads learners to do, affects word learning and retention. Research has shown that explicit activities with differing levels of involvement lead to different learning rates (e.g., Keating, 2008).

Luckily, studies examining the effect of explicit activities on the learning of multiword units is no longer an anomaly in vocabulary research. Recent research has provided evidence that multiword items can be deliberately learned from a range of activities that present items both in context and in a decontextualized manner (Le, Rodgers, & Pellicer-Sánchez, 2017). Multiword sequences can be learned from receptive activities, such as presenting multiword units in sentences with translations (e.g., Webb & Kagimoto, 2011) and from productive tasks that require learners to produce the multiword sequences in gapped sentences (e.g., Webb & Kagimoto, 2009) and in free sentence writing (e.g., Zhang, 2017). Among the different explicit approaches to the learning of multiword units, gap-filling exercises seem to be the most commonly used in EFL textbooks. Boers, Demecheleer, Coxhead, and Webb (2014) found that one of the most frequent formats involved matching exercises in which learners had to provide the missing components of the target units in the form of a gap-filling exercise, sometimes from a set of options provided. They found that this type of exercises actually led to very poor gains, which they interpreted as a consequence of learners making the wrong choices. Interestingly, Boers, Dang, and Strong (2017) found that most activities in EFL textbooks did not provide exemplars of the target multiword units before the focused exercise, which was identified as a possible source for the incorrect guesses and wrong choices that learners often make in gap-filling exercises. The use of concordancers might help to address this problem and a few studies have indeed shown that explicit activities that require learners to work with a concordancer help to build learners’ formulaic knowledge (e.g., Chan & Liou, 2005; Sun & Wang, 2003). These studies have shown that focused instruction can lead to the improvement of learners’ receptive and productive knowledge of multiword units, with productive knowledge usually measured in cued production tasks. Learning multiword units over an extended period of time can also promote the integration of the acquired knowledge in learners’ writing (e.g., Alhassan & Wood, 2015; Peters & Pauwels, 2015). Sustained deliberate learning of multiword units can also be an effective awareness-raising technique. Jones and Haywood (2004) showed that the deliberate study
of formulaic sequences over a ten-week period through reading and writing activities was successful in raising students’ awareness of formulaic sequences and had a positive effect on learners’ written productions. The relative effectiveness of the focused exercises examined depends on a range of factors such as the language proficiency of learners (Webb & Kagimoto, 2009), previous knowledge of multiword units, and the specific type of sequence examined (Chan & Liou, 2005).

Most of the explicit activities mentioned above have been used for the learning of both single words and multiword units. There are other activities, however, that seem to be especially (or even exclusively) relevant for the learning of multiword units, as they focus on exploiting a feature that is particularly salient in multiword sequences. Deliberate learning through activities that attempt to engage learners with salient features of multiword units, such as through building connections between idiomatic and literal meanings (e.g., Boers, Demecheleer, & Eyckmans, 2004) and through focusing on sound patterns (e.g., Boers, Lindstromberg, & Eyckmans, 2014; Eyckmans, Boers, & Lindstromberg, 2016) have been shown to lead to gains on learners’ knowledge of multiword units. These approaches are likely to be more effective for the teaching of multiword units than single words (Alali & Schmitt, 2012).

The studies reviewed in this section suggest that the type of focused exercises that lead to the successful deliberate learning of single words, can also be effective for the acquisition of multiword units. Nevertheless, an important question is whether the same deliberate learning approach would result in similar gains for both types of lexical items. One of the few studies comparing the learning gains of single words and multiword units from explicit activities was conducted by Peters (2014). The EFL learners in this study were exposed to the target items in non-communicative, decontextualized vocabulary exercises. The two experimental groups differed in the time of the first posttest: Group 1 was tested immediately after the treatment; and Group 2 was tested one week after the treatment. Both groups were tested again two weeks after the treatment. Results showed that the explicit treatment led to the acquisition of vocabulary and that after only one session (approximately 100 minutes) learners could recall the form of both single words and collocations. Importantly, the recall of single words in the first posttest was significantly higher than that of collocations (Group 1: 8.10 vs. 6.81; Group 2: 5.00 vs. 3.57, out of 12), but the effect size was moderate for both groups. The significance of this difference disappeared in the second posttest (Group 1: 3.71 vs. 3.76; Group 2: 6.29 vs. 4.79).

The difference in learning gains for single words and multiword units seems to be modulated by the level of lexical mastery measured. Alali and Schmitt (2012) explored the learning of single words and idioms from three different deliberate learning conditions: (1) presentation of target items and translation equivalents; (2) presentation of target items and translations + oral repetition of target items; (3) presentation of target items and translations + fill in the gaps activities. They measured receptive and productive knowledge of the single words and idioms on immediate and delayed posttests (12 days after presentation). Results showed that the three learning conditions led to gains in knowledge of both single words and idioms, which led them to conclude that “the generally parallel results between idioms and words hint that other methodologies may also produce learning gains for formulaic sequences that are similar to the gains for words” (p. 165). Crucially, results showed that there were no significant differences between the learning of single words and multiword units from the three conditions at the level of recognition but significant differences emerged when looking at recall scores. Results of this study suggest that both single words and idioms can be taught using the same approaches and that they are learned at a similar rate when...
looking at receptive scores but interesting differences among the various learning conditions appear when recall scores are considered.

A different picture emerged from the results of the study by Laufer and Girsai (2008). They examined the effectiveness of three different learning conditions on the acquisition of single words and collocations: (1) a meaning-focused communicative approach that involved reading a text and a group discussion; (2) vocabulary activities including multiple-choice and fill-in the gaps; and (3) a translation task with brief contrastive instruction. In the immediate test, the explicit contrastive analysis and translation group outperformed the other two groups in all measures of active and passive recall and this advantage was the same for single words and collocations. Importantly, although this was not the focus of the study, the descriptive statistics showed that the scores for collocations were higher than single words in all measures at both immediate and delayed testing points. These findings might suggest that the learning conditions investigated here, which were different from those examined by Alali and Schmitt (2012), had a stronger effect on the learning of collocations or that the multiword expressions in this study were easier to learn. Higher gains for collocations than for single words were also found in the studies by Kasahara (2010, 2011). Japanese university students in Kasahara (2011) were asked to remember a set of target items (either unknown single words or known-and-unknown word combinations) presented in a list alongside their definitions. Results of both immediate and delayed meaning recall tests showed that collocations allowed significantly better retention and retrieval of the meanings than the single words.

The studies comparing the learning of single words and multiword units seem to suggest that, provided that other factors and conditions remain constant, knowledge of both types of lexical items accrue in a similar way, and that “at least some of the teaching methodologies we use for individual words can be effective in teaching formulaic sequences” (Alali & Schmitt, 2012, p. 153). With the exception of Alali and Schmitt (2012) who suggested differences in learning gains at the recall level, the other studies do not seem to support the claim that multiword units are more difficult to learn than single words, with some studies even suggesting that certain multiword combinations might be easier to learn than single words (e.g., Kasahara, 2010, 2011). Even when an initial difference between gains for single words and multiword units was observed (Peters, 2014), it disappeared after a short period of time.

Incidental Learning

Meaning-focused activities with which learners engage for communicative purposes, without a specific intention to learn new vocabulary, create the conditions for incidental learning to occur. This happens, for example, when learners read a text or watch a movie for general comprehension. It is worth noting that this does not mean that there cannot be deliberate or intentional learning in these cases. We could easily imagine a situation where a learner is reading a text for comprehension, encounters an unknown word, and makes a deliberate and intentional effort to guess it from context and commit it to memory. We would then argue that there is intentionality and deliberate learning in this case, even though the condition was not intended to lead to deliberate learning. Distinguishing between incidental and deliberate approaches is difficult, but we can distinguish between the learning conditions that are intended to engage learners in intentional or incidental learning (Pellicer-Sánchez & Boers, 2019). Thus, the discussion presented in this section refers to those conditions that engage learners in a communicative activity without a particular focus on vocabulary, and where vocabulary learning happens as a by-product of the main communicative task.
Learning Single Words vs. Multiword Items

Investigations on the incidental acquisition of single words are abundant and have mainly focused on learning from reading. The benefits of reading for the incidental acquisition of vocabulary have been demonstrated both for L1 speakers (e.g., Saragi, Nation, & Meister, 1978) and L2 learners (e.g., Day, Omura, & Hiramatsu, 1991; Zahar, Cobb, & Spada, 2001; Pigada & Schmitt, 2006; Pellicer-Sánchez & Schmitt, 2010; Webb, 2007). Studies exploring extensive reading treatments have generally revealed larger gains than those examining the effect of shorter reading tasks (e.g., Horst, 2005; Pigada & Schmitt, 2006; Pellicer-Sánchez & Schmitt, 2010; Webb & Chang, 2015a). Learning new words incidentally from listening is also possible, but the added difficulty in noticing unknown words in the auditory input has led to smaller gains (e.g., Brown, Waring, & Donkaewbua, 2008; van Zeeland & Schmitt, 2013; Vidal, 2011). The simultaneous presentation of written and aural input in reading-while-listening conditions has also afforded the incidental acquisition of single words (Webb & Chang, 2015b), with some evidence suggesting that this bimodal input condition might be superior to listening-only (Brown et al., 2008) and reading-only (Webb & Chang, 2012) conditions. Multimodal exposure that combines both verbal and visual information has also been shown to create the conditions for incidental vocabulary learning to occur. Single words can be learned from watching television programs (e.g., Rodgers, 2013; Peters & Webb, 2018) and captioned videos (e.g., Montero, Peters, & Desmet, 2018; Muñoz, 2017; Neuman & Koskinen, 1992; Winke, Gass, & Sydorenko, 2010), and the benefits seem to be higher than reading-only conditions (e.g., Neuman & Koskinen, 1992).

By contrast, very few studies have investigated the incidental learning of multiword items and the focus has long been on the acquisition of collocations. The available studies have shown that collocations can be successfully learned from reading (Pellicer-Sánchez, 2017) and reading-while-listening conditions (Webb, Newton, & Chang, 2013). The relative effectiveness of different input modes has recently been compared by Webb and Chang (under review) and results point at an advantage of the reading-while-listening mode over reading-only and listening-only. Importantly, Webb and Chang found that listening led to higher gains than reading, suggesting that listening might play a more prominent role in the acquisition of two-word combinations than of single words. The presence of intonation contours and prosodic form of multiword units may help learners identify them as chunks and might support their learning.

A direct comparison of the incidental learning of single words and multiword units has only been carried out by Laufer and Girsai (2008). The gains of the meaning-focused instruction group in their study, who completed only communicative tasks (i.e., reading comprehension and pair/group discussion), indicted that collocations were better learned from incidental exposure than single words, and this was the case both for the immediate and delayed posttests. However, the gains were in general quite low, leading them to conclude that the group that did not receive focused instruction showed very little learning. The combination of reading with focused activities led to better gains for both single words and collocations.

Overall, the same type of input modes that are beneficial for the incidental acquisition of single words seem to lead to the learning of multiword units (particularly collocations). Incidental learning gains for both types of items seem to be boosted when written and auditory input are combined in reading-while-listening conditions. Although listening has led to the smallest gains in single-word learning, initial evidence suggests that it may play a greater role in the learning of multiword units, pointing at a differential effect of input modes on the learning of collocations and single words.
Rate of Decay

It is evident from the discussion provided thus far that vocabulary learning studies have had a clear focus on examining learning gains. Nonetheless a common finding from the vocabulary learning literature is that part of that acquired knowledge decays (Schmitt, 2007). There has recently been a call for more research on the rate at which accrued lexical knowledge is forgotten, since a better understanding of the conditions that contribute to lexical decay, as well as of the factors affecting this process, will help to inform pedagogical practices. Recent investigations have shown that part of the lexical knowledge acquired from deliberate learning is lost after as little as one month and that the factors that affect the learning of words do not have the same effect on the process of decay (Barclay, 2017). Frequency of exposure is one of the factors that plays a role in the process of lexical decay and more exposures during the learning phase seems to lead to better retention of the learned vocabulary (Barclay, 2017). A pertinent issue to the present discussion concerns the durability of learning gains of single words and multiword units. Would newly acquired knowledge of multiword units be retained at the same rate as knowledge of single words or are any of these lexical items prone to a more rapid decay? A tentative answer to this question can be formulated by exploring the learning gains of those studies that have included both an immediate and a delayed posttest in their design.

One of such studies was conducted by Alali and Schmitt (2012). They measured knowledge of single-word items and idioms immediately after the treatment and on delayed tests (12 days after the presentation of items). The authors reported that the results of the immediate and delayed tests were very similar and that there was some expected decline. Although this was not the aim of the study, a comparison of the knowledge “lost”, i.e., immediate scores minus delayed scores, of single words and idioms provides useful insights about their rate of decay. The reported descriptive statistics show that the amount of single-word and multiword knowledge that decayed from the immediate to the delayed test was very similar, with a loss of three points in both cases and both tests (form recall: 3.6 [single words], 2.9 [idioms]; meaning recall: 3.37 [single words], 3.87 [idioms]). These similar descriptive figures suggest that the newly acquired knowledge of single words and multiword units (at least of the type explored in this study) might be retained at a similar level.

A similar pattern was observed in the results of the study by Peters (2014). All participants were tested in two testing sessions, but participant groups differed in the time of those sessions (Group 1: one and two weeks after treatment; Group 2: immediate test and two weeks after treatment). A large and significant effect of time was found on the learning gains. Results of Group 1 showed that recall scores were lower in the second test, providing evidence that some of the lexical knowledge shown in the first test was lost one week later. Looking at the means of items in all repetition groups across the two testing sessions, we observe that there were more single words forgotten than collocations (1.46 vs. 1.02, max = 4). However, the interaction between test time and item type was only small. Unexpectedly, scores of Group 2 were actually higher in the second test than in the immediate test, which was attributed to the possibility of participants verifying their responses after the first test. Importantly for this discussion, the difference between the immediate and delayed tests for single words and for collocations did not reach statistical significance. Similarly, Laufer and Girsai (2008) observed that some of the scores in the one-week delayed test were higher than in the immediate test, which they also explain as the effect of learners’ checking some of the items in the dictionary or with their peers after the first testing session. Interestingly, the collocation scores in the delayed test were always higher than those in the immediate test,
Learning Single Words vs. Multiword Items

whereas in the case of single words they were mostly the same or slightly lower. Although
this was not empirically tested in their study and is based on observations of the mean scores,
it might indicate interesting differences about the retention of knowledge of single words and
multiword units. It is important to note though that the higher scores in delayed tests than
in immediate tests could also be attributed to a testing effect, as has been suggested for both
the retention of single words (e.g., Peters & Webb, 2018) and multiword combinations (e.g.,

Taken together, compelling evidence for any difference between single words and mul-
tiword items in the rate of decay is yet to be explicitly examined. Existing evidence points
towards the similarity in the rate at which knowledge of single words and multiword units is
not only learned but also forgotten.

Quantity of Encounters

Exposure to repeated encounters is a key factor in the learning of single words and multi-
word units (Wood, 2002). Research has furnished evidence that repeated exposure to new
and partially known vocabulary is crucial in achieving lexical mastery. Studies exploring
the role of frequency of exposure have mainly been conducted in the context of incidental
learning from reading with far fewer studies examining frequency effects during vocabulary-
focused instruction (Peters, 2014).

Earlier investigations of the role of frequency in the incidental learning of single words
showed that repeated exposures to new vocabulary determined learning gains and suggested
that the threshold for considerable vocabulary learning was around eight to ten encounters
(e.g., Pigada & Schmitt, 2006; Pellicer-Sánchez & Schmitt, 2010; Webb, 2007). This
umber of exposures also seems to be sufficient for learning vocabulary from reading-while-
listening conditions (Brown et al., 2008), but more encounters seem to be necessary if words
are learned from listening-only conditions (van Zeeland & Schmitt, 2013). Although the
specific frequency threshold suggested has varied, the majority of studies demonstrated the
significance of the effect. Less conclusive evidence comes from studies looking at the effect
of frequency of exposure on the acquisition of multiword units. In the context of incidental
learning from reading, Pellicer-Sánchez (2017) and Szudarski and Carter (2016) showed that
a higher number of encounters with new collocations was not necessarily better. Neverthe-
less, these studies compared only two frequency groups (4 vs. 8 in Pellicer-Sánchez, 2017;
6 vs. 12 in Szudarski & Carter, 2016). When increasing the number of frequency groups
and the overall number of exposures to target collocations, a stronger and significant effect
of frequency seems to emerge. The study by Webb, Newton, and Chang (2013) showed a
significant effect of frequency of exposure, with an advantage of the 10 and 15 repetitions
groups. This suggests that the frequency threshold for the learning of multiword sequences
might be similar to that of single words. Through repeated exposures in written input learn-
ers do not only acquire knowledge of the form and meaning of words but they also improve
the fluency with which single-word items (e.g., Godfroid et al., 2017; Mohamed, 2018;
Pellicer-Sánchez, 2016) and multiword items (e.g., Pellicer-Sánchez & Siyanova-Chanturia,
under review) are processed in context.

Repeated exposures to lexical items also play a major role in the deliberate learning of
new vocabulary. Studies on single-word learning have shown that increased retrievals lead
to significantly higher vocabulary gains in various deliberate learning conditions such as
learning from word pairs (e.g., Nakata, 2017) and fill-in-the-blanks and sentence writing
exercises (e.g., Folse, 2006). Very few studies have examined the role of repeated exposures
on the learning of both single words and multiword combinations. Peters (2014) examined the effect of repetition (1, 3, or 5 exposures) on the deliberate learning of both single words and collocations from explicit vocabulary activities and found a large, significant effect of repetition on the scores of both types of lexical items. In general, words and collocations appearing five times were significantly better learned than those appearing only once. In the study by Alali and Schmitt (2012), the comparison of the learning conditions that received only one exposure to the target items and the two conditions that involved one extra exposure revealed an advantage of repetition for both single words and idioms, providing further evidence for the similar role of frequency for the two types of lexical items investigated. Crucially, findings showed that it was not just the amount but also the type of exposure that made a difference. Recall of both single words and multiword units was better achieved when the repetition was through written activities than through oral repetition of the target items, suggesting an interesting interaction between the number of exposures and the mode in which the items are repeated.

Frequency of exposure is not the only factor affecting the learning process and its effect is certainly modulated by multiple factors. More recent investigations have rightly noted the complexity of this factor and the need to consider its interaction with other factors such as relevance, saliency, and distribution of the encounters, both for single words (Laufer & Rozovski-Roitblat, 2015; Webb & Chang, 2015a) and multiword units (Szudarski & Carter, 2016), abandoning the earlier, more simplistic view of the role of frequency of exposure. As Chen and Truscott (2010) argued, “the goal of research should not be to identify a definitive number of exposures needed but rather to understand a complex process involving multiple, interacting variables” (p. 694).

In spite of the very few studies examining the role of frequency of exposure on the learning of multiword units and of the scarcer evidence comparing its effect on single words and formulaic sequences, current research seems to suggest that both types of lexical items are very similarly affected by this factor, both in terms of the size of the effect and the number of encounters needed for sizeable gains to be accrued. Initial evidence also suggests that certain input modalities might modulate the effect of frequency of exposure, further demonstrating the need to look at the interactions between frequency and other influential factors.

Noticing of Unknown Vocabulary

Providing various and varied encounters with target lexical items does not guarantee their successful acquisition. For the input to turn into intake, learners need to notice those unknown items (Schmidt, 1990, 1992) and unfortunately this is not always the case. As Peters (2012) argues, “In order to learn new words, FL [foreign language] learners need to notice new words, allocate attentional resources to them and process their lexical information elaborately to establish a form-meaning link” (p. 66). In the case of formulaic language, not noticing the form of a multiword unit should have an effect on its processing and its learning as a lexical unit (Bishop, 2004). It could be argued that noticing is particularly important for the learning of multiword units, as certain types of sequences often consist of components that are known to learners and they might fail to notice their association with other (adjacent or nonadjacent) words. In deliberate learning through explicit vocabulary activities, the learning condition created ensures (or aims to ensure) to some extent learners’ noticing of the target items as their attention is explicitly directed to the lexical items to be learned. However, a lack of noticing is particularly critical in incidental learning conditions, as “the mental elaboration which is claimed to affect retention may not necessarily take
place” (Laufer & Shmueli, 1997, p. 89). Thus, an important concern in vocabulary learning research has been to explore ways to make target vocabulary more salient, increasing the chances of it being noticed by learners. These conditions characterized by steps to increase learners’ attention to particular lexical items while maintaining the communicative goal of the activity have been described in the literature as being between the realms of intentional and incidental learning and have been referred to as semi-incidental learning approaches (Pellicer-Sánchez & Boers, 2019).

Two commonly used attention-drawing techniques include typographical enhancement (e.g., bolding, italicizing, and underlining) and instructions given to learners. Studies conducted with single words have shown that several types of attention-drawing techniques influence learners’ look up behavior. Peters et al. (2009), for example, showed that a task-induced word relevance technique (i.e., making learners pay attention to unfamiliar words in the text via comprehension questions) affected not only learner’s dictionary look up behavior but also promoted vocabulary knowledge. In the context of formulaic language learning, studies have shown that making multiword units more salient through typographical salience affects learners’ look up behavior (Bishop, 2004), and that these changes in processing behavior lead to larger gains, with effects that are comparable to those of deliberate learning through explicit activities (Sonbul & Schmitt, 2013). Choi (2016), taking advantage of the benefits of eye tracking, provided empirical evidence that the benefits found in enhanced conditions were indeed due to an increase in the processing time on enhanced forms.

The really interesting question for the present discussion is whether a given attention-drawing technique would have a similar effect on the acquisition of multiword units and single words. Some evidence comes from a study by De Ridder (2002) who investigated the effect of typographic salience on clicking behavior on a text with highlighted hyperlinks. Results showed that learners were more likely to consult glosses which had highlighted hyperlinks, and that consulting glosses did not have a significant effect on text comprehension. De Ridder included both single words and multiword units in the study, which suggests that this technique could be used to increase learners’ attention to both types of items. Unfortunately, no distinction was made between the two item types in the analysis.

The effect of typographical enhancement could be further increased by explicit instructions provided to learners. Peters (2009) examined the effect of combining textual enhancement and instructions on recall of individual words and collocations. The EFL learners in this study read a text with words and collocations underlined and glossed in the margin with L1 translation. Two treatment conditions were explored: Learners in Group 1 were told to read the text paying attention to unfamiliar vocabulary (general task); while learners in Group 2 were told to pay attention to unknown individual words and collocations that they encountered in the text. Results of an immediate, recall posttest showed that both treatments led to vocabulary gains but no significant differences between the two treatment groups emerged. Analysis of the interview data revealed that learners in both treatment groups exhibited the same strategies and attentional priorities. Results did not reveal a significant interaction between treatment conditions (i.e., general vs. specific task) and the type of item (single words vs. collocations), suggesting that the two attention-drawing techniques used had the same effect on both types of items.

In a follow-up study, Peters (2012) compared the effect of these two attention-raising techniques (instruction methods and typographical salience) on the learning of single words and multiword items. Results showed that asking learners to pay attention to formulaic sequences while reading was not an effective method, and that typographical salience (bold typeface and underlining) seemed to be a more effective technique, particularly in the case...
of multiword units. Learners recalled more formulaic sequences that were presented in the typographical salient condition than those that were not salient, however this was not the case for single-word items. These results came from a small number of participants and should therefore be treated with caution, but they indicate the need to further explore the differential effect that enhancement and attention-drawing techniques might have on formulaic sequences and single words.

Future Directions

The discussion provided in this chapter has identified some interesting trends that advance our understanding of the conditions contributing to the successful learning of single words and multiword units. The existing empirical evidence is scant and limited to a few contexts and types of items. Any conclusions drawn need to be taken as a tentative evaluation of the research that has been conducted thus far and need to be contested and corroborated in future research.

With the exception of those deliberate approaches that are specifically suitable for the teaching of certain types of multiword units (e.g., Boers et al., 2014), it seems that single words and multiword units can be learned from the same type of exposure and learning approaches. When other potentially confounding factors are controlled for (e.g., length of treatment, contextual factors, etc.), deliberate and incidental learning approaches lead to the acquisition of both single words and multiword units. Existing evidence suggests that different deliberate approaches cause similar gains in single-word and multiword learning, particularly at the level of recognition. Differences in the learning of individual words and sequences might emerge at the recall level, but further evidence is needed to confirm this conclusion. In the context of incidental learning, single words and multiword units exhibit a similar learning pattern, with studies suggesting that bimodal exposure in reading-while-listening conditions might lead to the highest gains. Recent evidence has pointed at the possibility of a differential effect of input modes on the two types of lexical items investigated, with listening possibly having a stronger effect on the learning of multiword sequences (Webb & Chang, under review). This differential effect of input modalities on the acquisition of single words and multiword units should be addressed in future investigations. Initial observations suggest that single words and multiword units are not only similarly learned but their knowledge also decays in a comparable way.

Concerning the role of the quantity of encounters with unknown vocabulary, research has shown that it is equally important for the deliberate and incidental learning of single words and multiword items. Nonetheless the effect of frequency is bound to interact with many other factors and future research should aim at gaining a better understanding of such complex interactions. As demonstrated in this chapter, studies on the learning of formulaic language have almost exclusively looked at the acquisition of collocations. Future research should look at other types of multiword units and compare the effectiveness of different learning approaches on the acquisition of sequences of distinct characteristics. It is remarkable that scarcely any studies have examined the effect of individual differences on the learning of single words and multiword items (e.g., Muñoz, 2017). This would clearly improve our understanding of the effectiveness of different learning approaches and would help to explain some of the conflicting findings.

In sum, the quality and quantity of exposures seem to be able to override the effect of the intrinsic properties of multiword units that have been claimed to make them particularly challenging for learners. The struggle with formulaic sequences may stem from the lack of
sufficient and adequate exposure to unknown sequences and from the fact that, even when learners get appropriate exposure, they may fail to notice the sequences in the input (Bishop, 2004; Pawley & Syder, 1983). Fortunately, attention-drawing techniques such as typographical enhancement can help to solve this insufficient noticing. Future research endeavors should investigate the optimum combination of factors (i.e., repeated encounters, learning approach, level of attention, etc.) to maximize the learning of various types of words and multiword units.

Further Reading

This chapter provides a comprehensive review of empirical work that has examined the effects of different procedures for teaching and learning multiword units. The chapter is framed around two main approaches to vocabulary learning: incidental learning from meaning-focused input and intentional learning from explicit vocabulary activities.


This review article provides an overview of second language vocabulary research and of the factors facilitating vocabulary learning, with a particular focus on single words. It discusses approaches for maximizing vocabulary learning in teaching programs.


This book provides an introduction to the main ideas behind the teaching and learning of vocabulary, covering both the learning of single words and multiword units. It provides a comprehensive overview of the factors and conditions contributing to vocabulary learning and discusses how to apply them to the design of a vocabulary teaching program.

Related Topics
Factors affecting the learning of single-word items, factors affecting the learning of multiword items, processing single-word and multiword items, incidental vocabulary learning, deliberate vocabulary learning

Note
1 The terms multiword units and formulaic sequences/language are used interchangeably in this chapter as the umbrella terms to refer to the different types of multiword combinations that have the tendency to occur together in written and spoken discourse.

References


