Usage-Inspired Insights into Second Language Learning: A Comparative Review of Usage-Based Studies on Vocabulary Development

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ABSTRACT

This paper examines how usage-based perspectives make contributions to insights about second language (L2) learning in the field of education. It first locates usage-based approaches in language learning, in particular L2 learning. It moves on to highlight two key usage-based features, namely frequency and salience, that have been applied successfully in the context of L2 learning and particularly in the two selected usage-based studies in this paper. Based on these two core features and chosen pieces of research, this paper aims to underpin usage-based investigations on lexical development in L2 learners, which is believed to not yet be researched substantially in the field. In marked contrast to the paucity of such studies, this paper seeks to illustrate how research focus on vocabulary learning could complement the predominantly studied acquisition of syntactic constructions. Despite the real likelihood of conducting usage-based lexical analyses, this paper subsequently counterargues that considerable limitations exist in researching lexicons from usage-based approaches. With a view to fulfilling these study aims, a comparative analysis of two chosen studies was carried out to draw on empirical evidence, affording usage-inspired insights into L2 learning in the educational discipline.

KEYWORDS
usage-based, second language learning, vocabulary, frequency, salience

Introduction
Language learning based on linguistic experience alone has conventionally been deemed to lack practicality (Behrens, 2009). In the past decade, however, advances in usage-based approaches have transformed such research perspectives. Generative and structural linguists view language as a separate and self-contained system of innate rules that generate grammatical structures, unaffected by the cognitive and social matrix of language use. Usage-based theories, on the other hand, regard the complexity of language as resulting from the interaction of linguistic cognition and social language use (Ibbotson, 2013).

The term "usage-based" can be traced back to Langacker's (1987) assumption that the linguistic system of a speaker is grounded in their knowledge of actual language usage and generalisations established through concrete usage events. Usage-based approaches to language acquisition thus hold the belief that language learning occurs from language use itself, by means of social interactions and powerful mechanisms of generalisation. More recently, the views from the Douglas Fir Group (2016) coincide with this notion that language learning is a socially driven endeavour.

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Usage-based perspectives lie at the heart of second language (L2) learning and unite different but mutually complementary linguistic and language learning research areas in L2 acquisition, including but not limited to: cognitive linguistics, psycholinguistics, sociolinguistics, corpus linguistics, statistical learning theory and social learning theory (Ellis, Romer & O'Donnell, 2016). These areas are brought together since they all emphasise the notion that actual language use is a primary shaper of linguistic form and a fundamental basis of language learning (Tyler, 2010).

In L2 studies, usage-based approaches have predominantly been adopted to investigate syntactic and grammatical development (e.g., Gries & Wulff, 2005; Ellis & Ferreira-Junior, 2009; Römer, O'Donnell & Ellis, 2014). To a much lesser extent, usage-based perspectives have been employed in L2 research to study learners' lexical development (e.g., Crossley, Salsbury, Titak & McNamara, 2014; Crossley, Kyle & Salsbury, 2016). Historically, there has been less interest in the study of L2 lexical development in comparison with syntactical research (Meara, 2002). In usage-based research, this may be due to difficulties of form-meaning mappings (i.e., connecting the lexical form and its meaning) emerging when it comes to the operationalisation of usage-based features considered from a lexical perspective (see Limitations for further explanation).

One of the core beliefs within usage-based perspectives is that language learning should be fundamentally based on language use. This means that insights from usage-based perspectives should therefore be identified by assessing solid evidence of language use. To achieve this goal, it seems inevitable to study empirical research in this paper. The structure of this paper is as follows. First, it will provide a critically comparative overview of two selected empirical usage-based studies and support this review with an explanation of the two relevant usage-based matrices under investigation: frequency and salience (see Comparative Overview for further explanation). Secondly, it offers theoretical and pedagogical insights generated from the two studies into L2 learning, including a critical evaluation of the insights elicited. Lastly, it will acknowledge some of the important limitations of employing usage-based perspectives in lexical research, stressing the importance of addressing these issues if further lexical-driven studies are to contribute to the field of usage-based studies in the future. Overall, the central aim of this paper is to underpin usage-based investigations into L2 vocabulary development to extract educational insights into theoretical and pedagogical implications.

Comparative Overview of Two Usage-based Studies: Frequency and Salience in L2 Learning

This paper aims to understand how key usage-based features have been applied in L2 vocabulary learning. To achieve this research goal, two studies with such successful applications have been selected to comparatively review and investigate in this paper amidst the paucity of this type of studies in the field. Specifically, they employed two core matrices, namely frequency and salience, which are key tenets of usage-based approaches. Table 1 summarises the basic information about the two studies.

Table 1

Background Information on the Two Studies

Selected Study	Study 1	Study 2
Research Title	Frequency effects and second language lexical acquisition: Word types, word tokens, and word production	A usage-based investigation of L2 lexical acquisition: The role of input and output
Authors	Crossley, S., Salsbury, T., Titak, A., and McNamara, D.	Crossley, S., Kyle, K., and Salsbury, T.
Year of Publication	2014	2016
Name of Journal	International Journal of Corpus Linguistics	The Modern Language Journal
Data	Salsbury Longitudinal Spoken Corpus	Salsbury Longitudinal Spoken Corpus
Focused Usage-based Feature	Frequency	Salience

The two studies explore frequency and salience respectively, to shed light on individual word acquisition. Usage-based accounts have strongly emphasised the role of word frequency in language learning and indicated that the more frequent words are, the more likely they are to be rapidly recognised, processed and retrieved in both written and oral forms (Ellis, 2002). In other words, repeated exposure to words allows lexical items to be accessed more readily and increases the likelihood that they will be retained in the long-term memory via lexical processing and storage. The more frequently constructions are experienced, the more deeply entrenched they become in the mind (Pérez-Paredes, Mark & O'Keeffe, 2020). The prime notion of the usage-based theory is from Zipf's power law of frequency distribution. Zipf's law (1935) illustrated how a decrease in word frequency is proportional to word ranking. In naturally occurring language, the most frequent word is roughly twice as frequent as the second most frequent word, and three times as frequent as the third most frequent word and so on, forming a steeper curve for high ranks and a flatter curve for others (see Figure 1 for example).

Figure 1 (Pérez-Paredes, Mark & O'Keeffe, 2020, P.5)

Example of Zipfian Distribution with Data from the Spoken British National Corpus 2014 (Love, Dembry, Hardie, Brezina & McEnery, 2017)
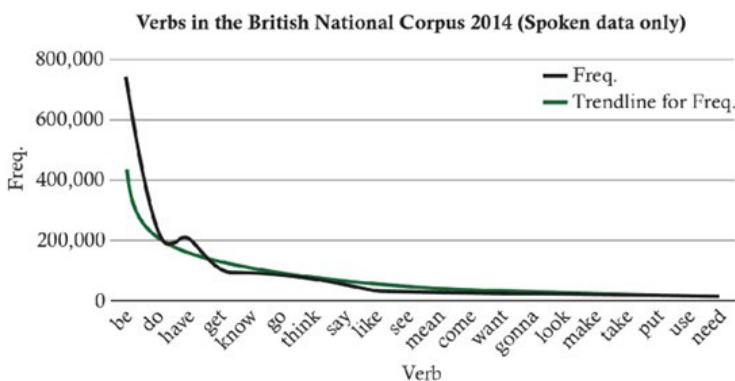
In addition to frequency, the usage-based learning framework posits that learners notice and acquire linguistic items based on their salience, another important construct in language learning (Boyd & Goldberg, 2009; Ellis, 2006, 2012). Salience is often related to how difficult a linguistic item is to notice: the more concrete and imageable words are, the more noticeable and hence more salient they are within the discourse (Crossley et al., 2016). Linguistic items with lower levels of salience draw less attention from language learners (Schmid, 2007) and therefore are seen as being more difficult to acquire, whilst more salient language is more likely to be acquired (Ellis, 2006; MacWhinney, 2008). Crossley et al. (2016) presumed that more familiar words such as breakfast, girl and paper have a greater degree of salience than less familiar words such as sultan, buffoon and puck. Familiarity effects result from learners more frequently encountering more familiar words in various contexts prior to producing the word in their language output.

On the relevance of usage-based insights to L2 learning, both studies are situated within the field of corpus linguistics and adopt usage-based approaches as their theoretical foundations. Tyler and Ortega (2018) regard the role of corpus linguistics as pivotal in usage-inspired L2 instruction, especially for guiding target and design decisions. In their view, corpus-based linguistic investigations of learner language development demonstrate authentic areas of instructional needs. They highlight the important contribution of corpus linguistics in exploring usage-inspired L2 instruction, considering the account of usage-based pedagogy as inadequate without such a research methodology. In this paper, both selected studies are corpus-based and therefore the selection seems adequate to fulfill the research methodological requirement suggested by Tyler and Ortega (2018) when it comes to eliciting usage-based insights into L2 instruction from empirical research.

Both studies employed the Salsbury Longitudinal Spoken Corpus (Salsbury, Crossley & McNamara, 2011) which is an English spoken corpus comprised of transcripts from free conversations between 6 L2 learners and 13 native English-speaking interlocutors taking part in an intensive English programme at an American university over a year. The corpus consists of 99 spoken samples collected from the L2 learners whose ages ranged from 18 to 29 years old. They comprised 3 Arabic speakers, 1 Spanish speaker, 1 Japanese speaker and 1 Korean speaker. The proficiency levels of the L2 learners were tested upon arrival to the programme with internal assessments. They all were tested into the lowest level, namely Level 1, on a scale of Level 1 to Level 6. Their language growth was assessed every two months by using the Test of English as a Foreign Language (TOEFL). The L2 learners and native speakers conversed every 2 weeks over the course of the year and each speaking session lasted from 30 to 45 minutes. Sessions were tape-recorded and then transcribed for research purposes.

A limitation possible to the analyses in this paper is that, as the two selected studies rely on one single corpus, results may be specific to this single dataset and therefore not completely generalisable to all L2 learning contexts. Although reliant on the same corpus, the two studies investigate the data differently by focusing on different usage-based features, frequency and salience. These two studies, overall, are structurally discrete but collectively build on each other, offering a more holistic picture of how different usage-based features interact within the same corpus to offer usage-inspired insights into lexical development.

Findings from both studies illustrate important implications for L2 learning. Two brief descriptions of the findings from the two studies are as follows.

Study 1 investigated frequency effects on lexical development. It was found that, at the beginning of

the 1-year longitudinal study, L2 learners produced less frequent words, fewer words from the first frequency band (i.e., the 1,000 most frequent words in English) and more words outside the most frequent 2,000 words. Throughout the year, the data revealed a significant linear trend towards the production of more frequent words, more words from the first frequency band and fewer words outside the most frequent 2,000 words. It also demonstrated that the apparent production of more frequent words over time in the L2 data strongly correlated to the production of infrequent words in learner L2 speech at the early stages of L2 acquisition. Frequency effects were meanwhile investigated by carrying out Zipfian distribution analyses. These analyses found that the input L2 learners were exposed to exhibited Zipfian trends, but reversed patterns were detected for L2 output. However, the input and output appeared to converge over time. It was suggested that many frequent words, especially function words, are associated with more complex syntactic form-function relations and thus are more difficult to produce, especially for beginner L2 learners.

Study 2 examined the role of salience in L2 lexical acquisition by analysing word properties such as concreteness, familiarity and meaningfulness and, more specifically, how these word attributes interact with language learning. Results indicated that L2 learners demonstrated lexical developments over the one-year course, reflecting a trend for their vocabulary production to become less salient (i.e., more sophisticated) as a function of time. Correspondingly, this lexical development of less salient L2 output accounted for 5-point gains in the standardised language test, TOEFL. This adds evidence to the suggestion that the more proficient L2 learners who score higher in the target language assessment are more likely to be able to produce less salient lexical items in their L2 output. This interaction between the language growth of L2 learners and the gains in the language test highlights the strong link between increasing lexical sophistication on the part of L2 learners and increased academic proficiency as measured by the test.

Reviewing the two studies above, it is evident that they both successfully infused usage-based features (i.e., frequency and salience) into researching the lexical development of L2 learners. According to Gries (2008, 2010), frequency is of vital importance in lexical learning and it is likely that frequency combines with salience to explain lexical acquisition and that the two features are intercorrelated. This notion echoes strongly with the two selected studies as Study 1 acknowledges the significant role of frequency by putting it into practice, while Study 2 subsequently moves beyond a frequency-based approach to understanding lexical acquisition, proposing that salience also plays a vital role in L2 learning. One notable convergence between the two studies is that, over time, L2 lexical output became more frequent, as indicated in Study 1, but less salient (i.e., more sophisticated) as indicated in Study 2. This may be due to the acquisition of function words and their more complex syntactic form-function mappings, even though they are found as more frequent words in actual language use.

Usage-Based Insights into L2 Learning

Adopting usage-based theoretical approaches can account for L2 lexical development and, importantly, yield both theoretical and pedagogical insights into the development, as the two selected studies illustrate. Theoretically, the analyses from the two studies demonstrate that language exposure, which is central to the usage-based theory, is an influential component of lexical development. From a pedagogical perspective, data-driven and vocabulary learning strategies could be inspired by the usage-based investigations of the two studies in this paper. The primary purpose of this section is to provide a critical evaluation of the insights these studies offer into usage-based accounts of L2 lexical development. This will then be followed by a discussion of the emerging limitations of each insight.

The Influences of Exposure on L2 Learning

L1 Influences

In Study 1, Crossley et al. (2014) argued that lexical exposure in the first language (L1) likely influences word production in an L2, leading to L1 lexical transfer. Production of lexical items which are frequent in the learner's L1 but infrequent in the L2 may come before production of frequent words in the L2. For instance, L2 English learners who have dissimilar L1s to English may produce items which mismatch English frequency distributions, as a result of cross-linguistic influence. On the other hand, L2 learners of English, whose L1 shared similar frequency distributions with English, produced more frequent L2 words, matching the L1 language use. In other words, L2 learners may rely on the distributional and statistical regularities in their L1s when first learning an L2, which may influence the frequency of the lexical items apparent in their L2 output. Findings from Study 2 also reported a great likelihood of L2 learners repeating word types found in their L1s and the repetitive lexical production tended to be more concrete and meaningful (i.e., more salient) in nature at the start of the programme.

However, Ellis (1997) questions whether frequent exposure to language forms alone is adequate for learners to acquire them, given that language acquisition involves many other learner features such as age of acquisition, cognitive abilities and gender (Verspoor & Schmitt, 2013; Crossley et al., 2016). This suggests that it is also critical to consider how these individual differences may act as contributory factors to L2 development in future studies, in addition to the learner's L1.

Laufer and Girsai (2008) indicated the pervasive influence that L1 has on the learner's lexis, causing learning difficulties. They further recommended form-focused instruction, which heightens learners' awareness of their L1-L2 differences and provides focused practice in the areas of these differences. They suggested that this may prove more effective than teaching strategies that set aside cross-linguistic influences on lexical learning. They pointed out that learners are required to notice the target items by receiving cross-linguistic instruction. These items then became more salient in the input when learners were taught the corresponding L1 forms and received information about the learning difficulties resulting from the differences between their L1 and L2.

Input Influences

Study 2 highlighted a strong correlation between the salience of the input provided and learners' lexical development by examining changes in lexical sophistication for both learners and interlocutors over time. Native English-speaking interlocutors began to change their input to learners, making it more sophisticated as learners had more exposure to the language at the later stages. As a result of that exposure, learners began to produce more sophisticated language. In other words, the input that learners received and experienced enhanced sophistication over time. This is in relation to how native English-speaking interlocutors appeared to make modifications to their language initially to make it lexically more salient to the learners. As the learners developed, their interlocutors continued to modify their language to become less salient over time. This insight echoes findings by Ellis (2008), which also suggest that native speakers vary in the type of modification they provide to engage with non-native speakers (NNSs) using modified input, "depending on their communicative style or skills and their prior experience of communicating with NNSs" (p. 214).

Tyler and Ortega (2018) support the notion that advanced L2 learners change their production to match the linguistic input they receive more closely. Even at highly advanced levels, learners continue to be sensitive to the frequencies at which they hear lexical items in the target language and

implicitly adjust their production accordingly. They further argue that, since no linguistic unit is ever produced in the exact same way and context, the input itself is variable perennially. In short, language learning input is ever-changing and varied, and production is affected accordingly. Overall, it is crucial to note the importance of modifying lexical input in terms of salience and how L2 output converges around these modifications.

Ellis and Collins (2009) argue for the role of input in L2 acquisition, stating that L2 learning places reliance on the quality of input available and the acquisition itself is input-driven (Wulff et al., 2009). Nevertheless, it is equally critical to note that the linguistic features contained in input alone cannot sufficiently explain L2 acquisition. On top of input, language acquisition depends on numerous other learner-based variables such as noticing, processing, storing and production (i.e., output) (Crossley et al., 2016). Studies of L2 learning should therefore consider a wide range of L2 learner variables in order to achieve a comprehensive understanding of factors affecting L2 acquisition. In addition to learner-based variables, it is important to acknowledge that the type of input explored by the two studies is limited to the classroom context of one particular English programme. Over the year, learners were presumably exposed to many other language inputs outside the programme. The data may therefore not be entirely representative of all language inputs received by the L2 learners and may be solely representative of the course. Tyler and Ortega (2018) point out that most L2 instructional approaches address the need for learners to be exposed to authentic input in order to let language learning occur, yet the speech patterns within the input of the L2 learners received outside the programme remain unknown in the two studies. In the absence of such information, there are limitations to the claims these studies can make regarding the effect of input on L2 development and processing. Future research may therefore consider a wide range of language inputs if possible to add value to the study.

Usage-Inspired L2 Pedagogies
Notably, usage-based approaches are useful to L2 learning beyond theoretical contributions, but also for their practical pedagogical applications. Both studies 1 and 2 investigated L2 lexical development from usage-based perspectives with corpus findings and they predominantly focused on exploring how the usage-based features operationalise in vocabulary acquisition from a theoretical point of view. It is understood that the main research goal of these studies was not to identify a definitive number of pedagogical implications in detail but rather to gain an understanding of the complex process underpinning lexical development through a usage-based lens in a selective fashion. Although this was not within the research goals of the two selected studies, further and more exhaustive discussion of the pedagogical implications generated from the applicable findings seems useful and is warranted in this paper. To achieve this goal, this session discusses the implications of corpus use, frequency and salience for usage-inspired pedagogies by bringing the use of corpus data in the two chosen studies to the fore.

Data-Driven Learning
Tyler and Ortega (2018) propose that corpus linguistics is an empirical cornerstone in the design of usage-inspired instruction. They further suggest that corpus linguistics has given birth to the pedagogical field of data-driven learning (DDL), in which language students are trained to make use of corpora to meet their language needs. Corpus use in DDL has been shown to allow learners to engage in guided corpus searches and develop their L2 knowledge independently by exploring compiled linguistic data such as concordance lines that provide examples of how a target item is used (Johns, 1994). Such exposure strengthens the salience of the target words (Chapelle, 2003), raising the possibility of paying attention to and learning of the items by learners (Schmidt, 2001). Gabrielatos (2005)

is in agreement with the view on how DDL is beneficial to learners' attention on L2 learning by putting forward that corpora can offer language learners a type of "condensed exposure" (p. 8) that can aid lexical awareness. Tyler and Ortega (2018) even regard DDL as paramount amongst the facets of usage-inspired L2 instruction.

However, incompatibility of views on language learning may emerge since, traditionally, more prescriptive views have treated language learning as a system of rules to memorise. A descriptive view of language learning, however, permits the observation of language patterns that exist in language use. For example, usage-based insights such as DDL allow learners to pay attention to actual language use and to learn how to make and learn from their own observations. Such insights, as suggested earlier, may encounter incompatibility with conventional prescriptive learning. In addition to these prescriptive views, Boulton and Cobb (2017) found that DDL only works well for learners at intermediate to advanced levels based on a meta-analysis of 64 empirical studies which indicated difficulties in the operationalisation of DDL by lower to intermediate learners. Teachers may thus need to give further explanation for teaching DDL by means of helping learners understand how practical a descriptive view of language learning is. It is also important for course designers to specify the adequate entry proficiency level of students as a prerequisite for any DDL courses or learning components.

Wordlists

L2 vocabulary learning can be optimised by taking usage-based features such as salience into account in conjunction with the frequency of vocabulary items, as suggested by Study 2. How frequency, as a usage-based feature, could operationalise in research of L2 vocabulary learning could be exemplified by the pedagogical wordlists developed primarily based on frequency in previous studies (e.g., West, 1953; Xue & Nation, 1984; Coxhead, 2000; Gardner & Davies, 2014). Since frequency is not the only indicator and variable driving language acquisition, Crossley et al. (2016) recommend that other variables and lexical properties of words affecting the L2 acquisition process, for example, salience, which goes beyond frequency, could be employed to construct a more principled approach to wordlist development. Using more principled selection criteria when developing wordlists would likely assist L2 learners in better meeting their own language learning needs, especially at lower proficiency levels, by offering a starting point grounded in usage-based perspectives for vocabulary learning.

When it comes to the inclusion of salience in wordlist compilation, the choice of which lexical unit to count as a word has major ramifications for word selection, in terms of adequate salience. Newman (2016) argues that the compilation of the Academic Word List (AWL) (Coxhead, 2000) did not fully consider the importance of salience as it used word families to construct the list. In AWL, all members of the word family are included, regardless of their varying degrees of salience. On top of that, it has been pointed out that word families often encompass lexical forms with very diverse meanings (Gardner, 2008; Durrant, 2009; Martinez & Murph, 2011). For example, from AWL, constitute subsumes constituting, constituent and unconstitutional. Newman (2016) thus suggests that the field may need to abandon the word-family paradigm in favour of using more valid constructs such as lemmas as the unit of counting for the wordlist to preserve the salience of all selected lexical items.

Despite the pedagogical advantages wordlists can offer, it is fundamental to bear in mind that they should not be taught and learnt in a decontextualised fashion (Coxhead, 2000). This view is supported by Study 2, which states that the development of wordlists and their use in isolation should not be advocated. Nation (2013) likewise suggests that learning a word involves many types of vocabulary knowledge. To address this issue, Tyler and Ortega (2018) proposed a usage-based tenet that

language learning is critically situated in contextualised social interactions. Words thus need to be contextualised in meaningful conversations for language acquisition to occur. It is therefore important for learners to repeatedly encounter and make use of the words from the pedagogical wordlist in different contexts (Coxhead, 2000; Nation, 2007). In this way, learners can acquire, consolidate and expand their vocabulary knowledge in meaningful and optimal conditions.

Conclusion and Limitations

The two selected empirical studies offer an important window into how vocabulary studies could be situated in usage-based theory by adopting different core usage-based features to investigate the lexical development of L2 learners. All these investigations in the two studies were conducted by employing corpus linguistic approaches that provided concrete evidence of authentic spoken data from L2 learners and their interlocutors. The usage-based insights offered by the studies are useful both theoretically and pedagogically in terms of L2 lexical development, and are of particular relevance to exposure influences and data-driven learning strategies. Despite the successful operationalisation of usage-based tenets, limitations exist when it comes to vocabulary studies from usage-based perspectives. Traditionally, the bulk of scholarly usage-based discussion has concentrated on syntactic constructions rather than lexicons. A plausible reason is the profound difficulty of demonstrating the form-meaning mappings (i.e., connecting the lexical form and its meaning) from usage-based perspectives based on individual lexical items. Goldberg (1995, 2006) argues that meaning maps constructions more steadily than individual or constituent words. Hunston and Su (2019) supported this notion and provided examples: guilty is associated with legal issues when it is in the pattern of adjective of in somebody is guilty of a crime, whereas guilty about has emotional associations when it occurs in somebody feels guilty about something. In other words, an individual lexical item only has meaning potentials and those potentials can merely be realised when the item occurs in specific patterns (Su & Hunston, 2019). Therefore, constructions, rather than individual words, are of most use and feasibility in illustrating usage-based perspectives. Future usage-based research on language learning may need to take these considerations into account, in order to integrate usage-based insights in the most effective way.

References

Behrens, H. (2009). Usage-based and emergentist approaches to language acquisition. Linguistics, 47(2), 383.

Boulton, A., & Cobb, T. (2017). Corpus use in language learning: A meta-analysis. Language Learning, 67(2), 348-393.

Boyd, J. K., & Goldberg, A. E. (2009). Input effects within a constructionist framework. The Modern Language Journal, 93(3), 418-429.

Chapelle, C. A. (2003). English language learning and technology: Lectures on applied linguistics in the age of information and communication technology. Amsterdam: John Benjamins.

Coxhead, A. (2000). A new academic word list. TESOL Quarterly, 34(2), 213-238.

Crossley, S., Kyle, K., & Salsbury, T. (2016). A usage-based investigation of L2 lexical acquisition: The role of input and output. The Modern Language Journal, 100(3), 702-715.

Crossley, S., Salsbury, T., Titak, A., & McNamara, D. (2014). Frequency effects and second language lexical acquisition: Word types, word tokens, and word production. International Journal of Corpus Linguistics, 19(3), 301-332.

Douglas Fir Group. (2016). A transdisciplinary framework for SLA in a multilingual world. The Modern Language Journal, 100(S1), 19-47.

Durrant, P. (2009). Investigating the viability of a collocation list for students of English for academic purposes. English for Specific Purposes, 28(3), 157-169.

Ellis, N. C. (1997). Vocabulary acquisition: Word structure, collocation, grammar, and meaning. In M. McCarthy & N. Schmidt (Eds.), Vocabulary: Description, acquisition and pedagogy (pp. 122-139). Cambridge: Cambridge University Press.

Ellis, N. C. (2002). Frequency effects in language processing: A review with implications for theories of implicit and explicit language acquisition. Studies in Second Language Acquisition, 24(2), 143-188.

Ellis, N. C. (2006). Cognitive perspectives on SLA: The Associative-Cognitive CREED. AILA Review, 19(1), 100-121.

Ellis, N. C. (2012). What can we count in language, and what counts in language acquisition, cognition, and use? In S. Th. Gries & D. S. Divjak (Eds.), Frequency effects in language learning and processing (Vol. 1). (pp. 7-34). Berlin: Mouton de Gruyter.

Ellis, N. C., & Ferreira-Junior, F. (2009). Construction learning as a function of frequency: Frequency distribution, and function. The Modern Language Journal, 93(3), 370-385.

Ellis, N. C., Römer, U. & O'Donnell, M. B. (2016). Usage-based approaches to language acquisition and processing: Cognitive and corpus investigations of construction grammar. Malden: Wiley-Blackwell.

Ellis, N., & Collins, L. (2009). Input and second language acquisition: The roles of frequency, form, and function introduction to the special issue. The Modern Language Journal, 93(3), 329-335.

Ellis, R. (2008). The study of second language acquisition (2nd ed.). Oxford: Oxford University Press.

Gabrielatos, C. (2005). Corpora and language teaching: Just a fling, or wedding bells? TESL-EJ, 8(4), 1-37.

Gardner, D. (2008). Validating the construct of word in applied corpus-based vocabulary research: A critical survey. Applied Linguistics, 28(2), 241-265.

Gardner, D., & Davies, M. (2014). A new academic vocabulary list. Applied Linguistics, 35(3), 305-327.

Goldberg, A. E. (1995). Constructions: A construction grammar approach to argument structure. University of Chicago Press.

Goldberg, A. E. (2006). Constructions at work: The nature of generalization in language. Oxford University Press.

Gries, S. T. (2008). Dispersions and adjusted frequencies in corpora. International Journal of Corpus Linguistics, 13(4), 403-437.

Gries, S. T. (2010). Dispersions and adjusted frequencies in corpora: Further explorations. In S. T. Gries, S. Wulff, & M. Davies (Eds.), Corpus linguistic applications: Current studies, new directions (pp. 197-212). Amsterdam: Rodopi.

Gries, S. T., & Wulff, S. (2005). Do foreign language learners also have constructions? Annual Review of Cognitive Linguistics, 3(1), 182-200.

Hunston, S., & Su, H. (2019). Patterns, constructions, and local grammar: A case study of 'evaluation'. Applied Linguistics, 40(4), 567-593.

Ibbotson, P. (2013). The scope of usage-based theory. Frontiers in Psychology, 4, 255.

Johns, T. F. (1994). From printout to handout: Grammar and vocabulary teaching in the context of data-driven learning. In T. Odlin (Ed.), Perspectives on pedagogical grammar (pp. 293-310). Cambridge: Cambridge University Press.

Langacker, R. W. (1987). Foundations of cognitive grammar: Theoretical prerequisites (Vol. 1). Stanford: Stanford University Press.

Laufer, B., & Girsai, N. (2008). Form-focused instruction in second language vocabulary learning: A case for contrastive analysis and translation. Applied Linguistics, 29(4), 694-716.

Love, R., Dembry, C., Hardie, A., Brezina, V., & McEnery, T. (2017). The Spoken BNC2014. International Journal of Corpus Linguistics, 22(3), 319-344.

MacWhinney, B. (2008). A unified model. In P. Robinson & N. Ellis (Eds.), Handbook of cognitive linguistics and second language acquisition (pp. 341-371). New York: Routledge.

Martinez, R., & Murphy, V. A. (2011). Effect of frequency and idiomaticity on second language reading comprehension. TESOL Quarterly, 45(2), 267-290.

Meara, P. (2002). The rediscovery of vocabulary. Second Language Research, 18(4), 393-407.

Nation, I. S. P. (2007). The four strands. Innovation in Language Learning and Teaching, 1, 1-12.

Nation, I. S. P. (2013). Learning vocabulary in another language (2nd ed.). Cambridge, UK: Cambridge University Press.

Newman, J. A. (2016). A corpus-based comparison of the Academic Word List and the Academic Vocabulary List. Theses and Dissertations. 6080. https://scholarsarchive.byu.edu/etd/6080

Pérez-Paredes, P., Mark, G. & O'Keeffe, A. (2020). The impact of usage-based approaches on second language learning and teaching. Cambridge Education Research Reports. Cambridge University Press.

Römer, U. T. E., O'Donnell, M. B., & Ellis, N. C. (2014). Second language learner knowledge of verb-argument constructions: Effects of language transfer and typology. The Modern Language Journal, 98(4), 952-975.

Salsbury, T., Crossley, S. A., & McNamara, D. S. (2011). Psycholinguistic word information in second language oral discourse. Second Language Research, 27, 343-360.

Schmid, H. J. (2007). Entrenchment, salience, and basic levels. In D. Geeraerts & H. Cuyckens (Eds.), The Oxford handbook of cognitive linguistics (pp. 117-138). Oxford: Oxford University Press.

Schmidt, R. (2001). Attention. In P. Robinson (Ed.), Cognition and second language instruction (Cambridge Applied Linguistics, pp. 3-32). Cambridge: Cambridge University Press.

Su, H., & Hunston, S. (2019). Language patterns and ATTITUDE revisited: Adjective patterns, attitude and appraisal. Functions of Language, 26(3), 343-371.

Tyler, A. (2010). Usage-based approaches to language and their applications to second language learning. Annual Review of Applied Linguistics, 30, 270-291.

Tyler, A., & Ortega, L. (2018). Usage-inspired L2 instruction: Researched pedagogy. Amsterdam: John Benjamins Publishing Company.

Verspoor, M., & Schmitt, N. (2013). Language and the lexicon in SLA. In P. Robinson (Ed.), The Routledge encyclopedia of SLA (pp. 353-360). New York: Routledge/Taylor & Francis.

West, M. (1953). A general service list of English words. London: Longman, Green & Co.

Wulff, S., Ellis, N. C., Römer, U., Bardovi-harlig, K., & Leblanc, C. J. (2009). The acquisition of tense-aspect: Converging evidence from corpora and telicity ratings. The Modern Language Journal, 93(3), 354-369.

Xue, G., & Nation, I. S. P. (1984). A university word list. Language Learning and Communication, 3, 215-229.

Zipf, G. K. (1935). The psycho-biology of language: An introduction to dynamic philology. Cambridge, MA: Addison-Wesley.