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Lexical Availability and Foreign Language Teaching: Main Contributions of a Growing Field*

Abstract

Teaching vocabulary presents a significant challenge in foreign language instruction. This article discusses the advantages that the results obtained in studies on lexical availability offer for foreign language teaching. The methodology of lexical availability, which involves extracting vocabulary that is closely associated with specific lexical categories, was first developed in France in the 1950s, and since then, it has been predominantly used for teaching Spanish as a first language. More recently, in the past 15 years, it has also been employed for teaching Spanish as a foreign language. This article examines the origins and methodology of lexical availability, with a particular focus on two significant applications related to teaching Spanish as a foreign language. From a cognitive standpoint, the article discusses studies analysing the configuration of the mental lexicon using available vocabulary data. From a didactic perspective, the article explores how lexical availability can be used to improve the selection of vocabulary in teaching materials for Spanish as a foreign language.

Keywords: lexical availability, vocabulary teaching, foreign language teaching, Spanish as a foreign language, cognitive linguistics

One of the primary challenges in language teaching is deciding which vocabulary should be taught at each level of learning. Lexical availability is a complementary approach to traditional frequency-based research, as it uncovers the words that are most readily accessible to speakers in a particular communicative context, rather than the most commonly used or frequent ones.

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Therefore, by combining both available and frequent lexicons, we can establish the essential vocabulary of a language (Ávila Muñoz, 2016, 2017; Tomé Cornejo, 2015). The initial aim of lexical availability was to complement frequency-based vocabulary research, but it has now evolved into a substantial field of study with an extensive literature and practical relevance to enhance vocabulary teaching in both native and foreign language instruction, especially for Spanish. It also holds significance for cognitive studies that explore the mental lexicon's structure in both native and non-native speakers.

Studies on lexical availability in languages other than Spanish are still not as popular as they are in this language, although in recent years these studies have notably developed for English as foreign language.¹ It is also worth noting that researchers from Hispanic countries have largely contributed to the development of this field, despite the fact that its origins are in France and focused on French, and that it can be applied to any language.

In this context, given the considerable developments in lexical availability research in recent years, this article seeks to provide an up-to-date overview of the field's most important findings. Our focus will be on research that addresses issues particularly relevant to foreign language teaching, such as how available lexicon is organised internally, and how such studies can greatly assist in selecting appropriate vocabulary for instructional materials. Thus, our goal is to inform researchers interested in language teaching beyond Spanish or English about the benefits and prospects of these studies. The article will provide an overview of the terminology, key authors, and major milestones in the field.

Lexical Availability

Origins

The concept of lexical availability was first introduced in the 1950s (Michéa, 1953), but it was not until the 1980s that research was standardised with a common approach and measurement system. The concern to determine what the fundamental lexicon of a language is—that is, which words are most commonly used in a given language and to establish which vocabulary should be taught to foreign language students—is an old one. Just as adult speakers of a language

¹ Some of the most recent and significant publications on lexical availability applied to English as a Foreign Language are, among others: Ferreira & Echeverría, 2010; Canga Alonso, 2017; Martínez Adrián & Gallardo del Puerto, 2017; Ferreira, Garrido, & Guerra, 2019; Jiménez Catalán & Fernández Fontecha, 2019; Jiménez Catalán & Canga Alonso, 2019; as well as the monograph edited by Jiménez Catalán in 2014, dedicated to applications of lexical availability to teaching Spanish and English as foreign languages.

cannot possibly know *all* the vocabulary of their own language, a restricted sample must also be selected when teaching vocabulary in a foreign language. As Grève and Van Passel (1971, p. 105) point out,

in view of the lexicological limitation [...] both in the field of literature and in that of everyday language, a similar limitation is imposed in the teaching of a language, both of the mother tongue and of foreign languages (author's own translation).

Since the end of the nineteenth century—and even before that, though mainly during that period—lexicographical work has focused on collecting the basic vocabulary of a community. Such work, however, was not always intended for language teaching purposes and many publications were criticised for referring only to written texts. Still, some of them should be considered ground-breaking work in their field.² The general belief that the most frequent lexical elements found in a text corpus are the most useful for building a language's basic vocabulary had to be reconsidered. Around 1950, a group of French researchers set up a study to provide students of French as a foreign language a solid basic knowledge of French, which led to the development of the *Français Fondamental* (Gougenheim et al., 1964). On that occasion, the selection of words was based on frequency rates, that is, number of times a given word was repeated in a text. It was soon noticed that this method labelled some widely used French words as non-existent or very rare. Well-known words did not appear on the list simply because they were not related to the topics and circumstances of conversation included in those studies (Michéa, 1953).

The absence of everyday words (or frequent lexica) such as *fork*, *subway* or *tooth* soon raised suspicions about the flaws of using word frequency as criteria for selecting the most commonly used vocabulary items of a given language. As a result, experts pursued a criterion known as vocabulary availability, which involved devising a new word-counting formula that went beyond mere frequency and incorporated a simple- and complex-dispersion rate. This formula proved more effective at determining the rate of word usage than the frequency-based methodology, as it took into account the *distribution of frequencies* in the text and avoided potential oversights.

The type of relationship observed between the resulting “basic lexicon”—or “thematic lexicon”—and the communicative situations they were mentioned in, and the subsequent critical review of previous word-selecting criteria, led to the development of a new research tool coined as *lexical availability* and the concept of *available lexicon*.

²Carcedo (2000) carries out a detailed historiographical review on the subject, based mainly on Gougenheim et al. (1964). In Sánchez-Saus (2019, pp. 15–18), we also review the basic vocabularies based on the lexical frequency previous to the *Français Élémentaire* and the *Français Fondamental*.

Michéa (1953, p. 342) was the first author to use this term, defining it as follows:

In the presence of a given situation, the first words that come to mind are those that are specifically related to that situation. An “available word” is a word, which, though not particularly frequent, is always ready for use and comes immediately to mind when needed. (author’s own translation)

The methodology used to extract available vocabulary was stimuli-based. Stimuli represented thematic areas or so-called *centres of interest* (which, from a cognitive perspective, can be considered as categories, of different types; this matter will be addressed in subsection Cognitive Approach). The term *centre of interest*, which was adopted from pedagogical studies, was first used by Michéa (1950, p. 189) despite being traditionally used by lexicography for the classification of certain lexicographic works (Sánchez-Saus, 2019). The authors of *Français Fondamental* selected 16 centres of interest, which they believed contain the most basic and universal vocabulary. However, their choice is not considered universal by later works, and the authors do not provide an explanation for their selection. The basic lexical units included in their studies are:

1. body parts;
 2. clothing (men’s and women’s);
 3. the house (except for the furniture);
 4. house furniture;
 5. food and beverages at meals (all daily meals);
 6. objects placed on the table and used at daily meals;
 7. the kitchen, its furniture and utensils therein;
 8. the school, its furniture and the school equipment;
 9. heating and lighting;
 10. the town;
 11. the village;
 12. means of transportation;
 13. field and garden work;
 14. animals;
 15. games and entertainment;
 16. professions (all kinds of professions, not those referring to a single job).
- (Gougenheim et al., 1964, pp. 152–153, author’s own translation)

The problem of how to select the centres of interest that should be used has been widely debated in recent years, initially raised by López Morales (1999, p. 33). A summary of the heterogeneity of centres of interest in related literature can be found in the work of Samper Padilla, Bellón Fernández, and Samper Hernández (2003). For more up-to-date information, refer to Fernández Smith

et al. (2012), Paredes García (2014), González Fernández (2014), and Tomé Cordero (2015). Moreover, a summary and a proposed set of centres of interest for learners of Spanish as a foreign language can be found in Sánchez-Saus (2016).

While frequency lists usually have a balance of grammatical terms, such as articles, prepositions, and conjunctions, along with verbs, adjectives, and nouns, the available lexicon mostly comprises nouns, with a few exceptions for verbs, adjectives, and adverbs. The reason for the prevalence of nouns in the available lexicon is mainly because of the methodology used to recall those words and the selection of centres of interest. As the fundamental lexicon of a language is comprised of both the frequent and available vocabulary, the two types of studies complement each other to form the fundamental lexicon of a language.

Method of Extraction of Available Lexicon

Lexical availability can be defined as the flow of vocabulary used in a specific communicative situation and which, as noted above, complements the frequent lexicon to determine the basic lexicon of a language. In order to collect data from this lexicon, experts use associative tests, that is, a test where informants identify all lexical units derived from the proposed centres of interest and they note down all the words related to them.³ This results in lists of vocabulary that outline the real lexicon a speaker uses for each centre of interest (Carcedo González, 1998).

The formula used to calculate the availability index of each word is that developed by the professors of the Universidad Nacional Autónoma de México, López Chávez and Strassburger (cf. López Chávez & Strassburger, 1987, 1991). From a given vocabulary list, their formulation is based on the analysis of a matrix of vectors in which the following elements are involved:

- (a) the absolute frequency of a unit,
- (b) the absolute frequency of that unit regarding its position on the list,
- (c) the number of participants in the survey,
- (d) the amount of positions the unit holds in the list; and
- (e) the unit positions, that is, the unit's availability degree, which gets lower as the word appears in lower positions.

The formula for the lexical availability index of a word is as follows:

³ Some studies have conducted the tests orally. This was particularly the case when the informants were children. Gómez-Devís and Herranz-Llácer (2022) discuss the methodological problems that this approach entails.

$$D(P_j) = \sum_{i=1}^n e^{-2.3 \left(\frac{i-1}{n-1} \right)} \frac{f_{ji}}{I_1}$$

wherein

n = unit highest position regarding a specific centre of interest,

i = unit position,

j = unit index,

e = Euler's number, or Napier's constant (2.7182828459045...),

f_{ji} = absolute frequency of the word in j in the i position,

I_1 = number of informants participating in the survey,

$D(P_j)$ = availability of the word in j .

Based on this formula, one can find out the lexical availability index/degree of a specific word, its frequency, that is, the number of times the word appears with respect to the total number of units, its frequency of occurrence based on the percentage of informants who have mentioned this word during the survey and the cumulative frequency, that is, the sum of all relative frequencies. This formula has now been incorporated in different software applications and it can be used to calculate lexical availability. It is included in several platforms and software applications, such as Lexidisp (Moreno Fernández, Moreno Fernández & García de las Heras, 1995), Dispolex (<http://www.dispolex.com>), Dispogen (Echeverría, Urzúa & Figueroa, 2005) and DispoCen (Ávila Muñoz, Sánchez Sáez & Odishelidze, 2021) which, unlike the others, is conceived as an R package capable of extracting lexical availability data and also lexical centrality data (topic discussed in subsection Cognitive Approach).

It should be noted, however, that this is not the only formula that has been used in studies of lexical availability and, in fact, it has been criticised by some specialists. Callealta Barroso and Gallego Gallego (2016), for example, analyse other existing indexes, formulas, their usefulness and their differences, such as the indexes for lexical availability of a word, lexical availability of a subject, competence of the subject's lexical availability and the lexical compatibility of a word. This last concept, the lexical compatibility of a word, was used by Ávila Muñoz and Sánchez Sáez (2010 and 2011) to accurately describe the word association processes produced by subjects during availability tests. In these and similar works (Ávila Muñoz & Villena Ponsoda, 2010), the need to objectively justify the use of traditional formulas is raised for the first time. These authors propose alternative ways of finding the index of lexical availability using Fuzzy Sets Theory, which also allows to suggest new lines of research.

The Pan-Hispanic Project

While the initial studies adopting the lexical availability approach concentrated mainly on French and English (Dimitrijévich, 1969; Mackey, 1971; Njock, 1979), Spanish is the language that has seen the most development of these studies and has been the subject of the highest number of publications. The first works on lexical availability related to Spanish-speaking communities emerged in Central America and the Caribbean in the 1970s, primarily authored by Humberto López Morales, who played a significant role in advancing the use of lexical availability in Spanish and disseminating these studies throughout the Hispanic world.

The Pan-Hispanic Project on Lexical Availability, coordinated by López Morales, gave a final and crucial boost to the study of lexical availability in Spanish. This project, which involved many Spanish and Latin American researchers, utilised a consistent methodology for over two decades in order to create lexically available dictionaries specific to various regions of the Spanish-speaking world. As a result, academics were able to draw linguistic, ethnographic, and cultural comparisons amongst different Spanish-speaking regions, and to specify geographical areas of dissemination, a useful starting point for further analysis.

Samper Padilla (1998) provided a detailed description of the frame methodology used in the Pan-Hispanic Project. In processing and editing language materials, Samper Padilla employed similar informants (pre-university level native speakers), centres of interest (the sixteen centres selected in the first French works), variables (such as gender, sociocultural level, geographical area—urban/rural—and type of school—public/private), and guidelines for lemmatisation.

Lexical Availability and Spanish as a Foreign Language

The significance of adapting the lexical availability methodology to Spanish as a foreign language became evident after the launch of the Pan-Hispanic Project on Lexical Availability. According to Carcedo (2000, p. 46), availability tests for foreign Spanish speakers are valuable in determining how social and cultural backgrounds influence vocabulary knowledge, identify which elements of Spanish vocabulary individuals are able to activate, and determine the most common errors that are made. By testing students at different levels, we can also analyse the various stages of their lexical learning process, and grade lexical units accordingly. Comparisons between native and non-native communities are now feasible because availability studies have been conducted in both.

This provides a solid lexical foundation for textbook editors and other teaching materials for foreign language instruction.

In the early 1990s, research and articles on lexical availability began to criticise the limited vocabulary traditionally included in Spanish teaching materials. Benítez (1994) conducted a thorough analysis of three Spanish textbooks used for language teaching and concluded that the textbooks contained numerous irrelevant or completely unnecessary lexical units. Similarly, Benítez and Zebrowski (1993) conducted a study on the four Spanish textbooks most frequently used for language teaching in Poland and arrived at the following conclusion:

[A]uthors do not adequately select the vocabulary to be taught and they absolutely disregard the results of Spanish lexicon studies, i.e. the ones we base our work on and the ones most recently published in several Hispanic countries. (Benítez & Zebrowski, 1993, p. 229, author's own translation)

Carcedo (2000) pioneered the study of lexical availability for foreign Spanish speakers, using Finnish speakers as his focus. Carcedo first extracts their available Spanish lexicon using the same methodology employed in the Pan-Hispanic Project. He then creates a corpus with output and analyses and describes the specific trends observed in the vocabulary of these students. He highlights its applicability for error analysis, examines the features and evolution of that vocabulary in different learning phases, and accounts for the cultural peculiarities that are reflected in that lexicon between native Spanish speakers and Finnish students. He also concludes that the available lexicon of Finnish students, although quantitatively adequate, is not in line with the real lexical needs of everyday communication among Spanish speakers. Therefore,

good curricular programming in early learning phases should include words which are highly available amongst Spanish mother tongue speakers, since these are the most used. The incorporation of other, less frequent units should be avoided. (Carcedo, 2000, p. 219, author's own translation)

Samper Hernández's (2002) monographic study on lexical availability in Spanish as a foreign language is another significant work that includes students with various mother tongues. In the study, 45 students enrolled in Spanish courses at the University of Salamanca were interviewed about the 16 centres of interest outlined in the Pan-Hispanic Project. Samper Hernández applied four variables, namely gender, knowledge of other languages, level (beginner, intermediate, advanced or higher), and mother tongue (English, Italian, Japanese, and others), to the results. The study revealed that the available lexicon of foreign speakers is quantitatively much smaller than that of native speakers. The

variables such as gender and knowledge of other languages were found to have little influence on the number of words known by the speakers, whereas the overall level of knowledge of Spanish had a significant impact. Samper Hernández's methodological innovations are particularly noteworthy. She took the criteria of the Pan-Hispanic Project (as outlined by Samper Padilla, 1998) and adapted them for non-native Spanish speakers results. In doing so, she incorporated new elements such as the presence of words from the students' mother tongues, spelling peculiarities, and other problems observed in the recorded errors.

In Sánchez-Saus (2016) we conducted a study on 322 Spanish as a foreign language students, with six different mother tongues (English, French, German, Italian, Finnish, and Polish), and categorised their Spanish knowledge into A, B, and C levels of the Common European Framework of Reference for Languages (CEFR). The methodology used for data processing followed Samper Hernández's approach but with a modified list of centres of interest. Results indicated that factors such as gender,⁴ knowledge of languages other than Spanish, or daily use of Spanish had no influence on the number of words known by the students. Significant differences were only found between A and B level informants, not between B and C levels. The study concluded that the greatest amount of lexicon is usually learned between lower and middle levels, and that the difference in the number of words known between middle and upper levels is not significant.

As of today, experiments similar to those described above have also been reproduced in non-Spanish-speaking countries with students of Spanish, for example, in Poland, Slovenia, Romania, Iceland, the United States, Turkey, China, Portugal, Korea, Morocco, among others. Aabidi (2019) provides an exhaustive account of them, to which we refer the reader for detailed information. Akbarian and Farrokhi (2021) also conduct a similar review, but focused on EFL.

Cognitive Approach: Study of the Relationships between Words in a Specific Centre of Interest

Generating words out of categories, a phenomenon called “semantic fluency” or “category instance generation,” is quite common in cognitive studies. One of the pioneering researchers working on the links between lexical availability and cognition is Natividad Hernández Muñoz (Hernández Muñoz, Izura & Ellis,

⁴ As Montero Saiz Aja (2021) points out, although gender is an important variable in second language acquisition, it has received little attention in studies measuring results from tests related to active vocabulary. She conducts a comprehensive review of these studies and carries out an analysis with EFL students, reaching the same conclusion as us: gender does not have an impact on this issue.

2006; Hernández Muñoz, Izura, & Tomé Cornejo, 2013; Hernández Muñoz & Tomé Cornejo, 2017). She began by analysing which cognitive factors (semantic, lexical, or both) influence the availability of words when generated in response to certain category labels. She then concludes that typicality, concept familiarity, age of acquisition, and word frequency are the criteria determining the availability of a given word.

Following these works, many later articles have analysed the cognitive mechanisms that characterise available lexicons, and the relationships between lexical units belonging to the same category or centre of interest. Here we can name only a few, but López González (2014) carefully revisits the first published articles on this idea, while putting into practice the described methods with Spanish learners from Poland.

Cañizal Arévalo (1991), Paredes García (2006), and Manjón (2008) were the first to observe the numerous relationships between available words. Each of them, using a different set of native Spanish speakers, observed that words tend to be organised into clusters or groups of closely related words. The later development of the DispoGrafo program (Echeverría et al., 2008) promoted this type of research and led to multiple publications that illustrate the relationships between words within a centre of interest through graphs. DispoGrafo was also employed by Ferreira and Echeverría (2010) to examine the relationships present in the lexicon of native and non-native English speakers (in this case, native Spanish speakers). The participants took a lexical availability test where they had to generate words from various semantic categories. The semantic connections found were subsequently illustrated through several graphs or semantic networks, which revealed that EFL students distinguish only large semantic categories, while native speakers of English organise words into highly specific subcategories. That is to say, EFL students created clusters—which were made explicit by means of several graphs or semantic networks—with fewer words and with less frequent relationships between the words, while natives created more clusters, denser ones and with more frequent relationships between words.

Santos Díaz (2017a) shares a similar objective to that of Ferreira and Echeverría (2010). Using the same software application, Santos conducts an analysis with Spanish native speakers, non-native speakers with French as their mother tongue, and non-native speakers with English as their mother tongue. Her study concludes that the results of the lexical availability task in native speakers show, as in Ferreira and Echeverría's study, dense clusters with a great number of subcategories inside (for example, in the human body: parts of the head, limbs and parts, internal organs, etc.). When asked to complete the survey in English or French, the number of identified words and relationships established between them is lower.

In other works, the nature of the relationships established in the available lexicon has been analysed. For example, in Sánchez-Saus (2016), a study carried

out only with non-native speakers of Spanish from different mother tongues, we conducted an analysis of the relationships within each centre, also using DispoGrafo. We considered relationships such as synonymy, hypernymy-hyponymy, antonymy, parasynonymy, metonymy, and meronymy, as well as cultural oppositions and terminological relationships. We concluded that the predominance of certain types of relationships depended on the type of centre of interest. When this could be considered a natural category (for example, “parts of the body” or “animals”), the relationships tended to depend on the meaning of the units (primarily hypernymy-hyponymy between the name of the category and the words inside it: “body”—“arm,” or “animal”—“dog,” and cohyponymy: “arm”—“leg,” “dog”—“cat”). When the centres were formed as radial categories or schemas, the relationships between words tended to be designative, especially metonymy or contiguity (for example, in a centre of interest like “school and university,” a relationship like “classroom”—“chair”—“table” is very frequent).

Meanwhile, Ávila Muñoz and Sánchez Sáez (2010, 2011) have conducted work on centrality that supports the cognitive principles of lexical availability. This research has led to the development of new lines of inquiry based on the Prototypes Theory, which propose innovative strategies for identifying community categories that are shared among members of specific communities. In the adaptation of the concept of availability to that of centrality, it was considered that each stimulus or centre of interest revolves around a prototype created from the concept that the stimulus itself determines. When an individual undergoes this type of experiment, they access their lexical network from the prototype generated by the initial stimulus as an entry point. Accessibility involves entering the central core of the lexical network represented by the stimulus, and from that access point, each individual will traverse their personal lexical network. Obtaining the structure of this lexical network for each subject is an impossible and useless task, as it is supposed to be determined by a multitude of uncontrollable biographical factors. However, from the particular realisations, the structure of lexical accessibility for a population in a specific stimulus or centre of interest can be quantitatively estimated. The quantification of this accessibility is the measure of the concept of centrality of each term for each stimulus, once the information provided by all individuals in the studied sample has been integrated (Ávila, Santos, & Trigo, 2020, p. 86). Thanks to the development of the concept and measurement of lexical centrality, levels of centrality or prototypicality of each word within the centre of interest or lexical category can be established.

All these papers reviewed under the cognitive approach are of enormous interest in themselves, as we have tried to show. Nonetheless, identifying the cognitive nature of the categories (or centres of interest) used in lexical availability and the types of relations that underpin them has applications of great

relevance for language teaching, especially foreign language teaching, as we will explore in the next section.

Didactical Approach: Selection of Vocabulary to Be Included in Teaching Materials of Spanish as a Foreign Language

One of the main objectives of lexical availability has always been to improve the selection of the vocabulary in language teaching materials. Despite this, research employing lexical availability data with both native and non-native speakers has gained traction only in recent times. However, this scientific interest traces back 25 years ago when some publications began examining the lexicon chosen in Spanish as a foreign language teaching materials. These works already mentioned availability studies and pointed out their many deficiencies (see the analyses by Benítez & Zebrowski, 1993; Benítez, 1994).

Later in time, Bartol Hernández (2010) listed the advantages of using the available lexicon methodology when developing new learning materials. These are:

(a) the available lexicon methodology reduces the arbitrariness of vocabulary selection, as it is based on an academic corpus resulting from an availability survey;

(b) the words under study are followed by an availability index, which results from combining the word's frequency and survey position (a measurable calculation);

(c) it helps identify the lexical organisation of what is called "semantic memory" and the "mental lexicon" of the informants tested;

(d) the word output is grouped into cognitive fields called centres of interest, these being fairly equivalent to the topics and subtopics outlined in the CEFRL;

(e) it allows for diatopic comparison between different methodologies, thus including a sociolinguistic approach in teaching materials;

(f) such studies, at the same time, relate the impact of social aspects to the lexical proficiency of the student.

Additionally, Bartol Hernández (2010) concludes that lexical production tests prove also to be highly useful for a different purpose, that is, to determine the lexical mastery of students of Spanish as a foreign language, his discovery occurring at a time when lexical availability in Spanish as a foreign language was still under-developed.

Paredes García (2015) follows the same path and considers how to apply the results of lexical availability to the selection of vocabulary in the teaching of Spanish as a foreign language. He claims the importance of using an empirical basis for the lexical selection methodology and highlights the fact that the centres of interest used by lexical availability are very similar to those in-

cluded in the CEFRL and the Instituto Cervantes Curricular Plan. Additionally, Paredes describes three more criteria for lexical selection: (1) social distribution (percentage of surveys in which a term appears); (2) relative weight (based on the accumulated frequency of a term in a centre of interest), and (3) prototypicality. This last criterion refers to the relationship between a unit's semantics and its thematic category. Ávila Muñoz and Villena Ponsoda (2010, pp. 183–84) consider that the terms in availability lists respond to four types of association: (1) nuclear elements, (2) denotational associations, (3) derivations, and (4) individual associations. When analysing the lexical associations that speakers assign to a given centre of interest, we can determine the degree of semantic compatibility of a unit in relation to its original stimulus. Assuming the principles of the theory of prototypes, Ávila and Villena resort to the mathematical concept of *diffuse set*, according to which the relationship between an element and its set is not defined in traditional belonging/non belonging terms, but according to the degree of compatibility of the element with respect to its set.

Ávila Muñoz (2016) uses the concept of fuzzy sets for lexical selection. He takes hold of the theory of prototypes to explain the way words originate in the minds of speakers and then proposes an appropriate lexical selection method based on the Fuzzy Expected Value model to determine a series of guidelines that shall result in the development of a database for teaching purposes. The model aims to help Spanish as foreign language teachers to select the to-be-taught vocabulary according to the lesson's learning objectives and the level of their students. This selection is based on the compatibility index of each of the terms regarding its notional scope, that is, the degree of accessibility of a word naturally given by its native population.

The concept of fuzzy sets has also been used by Santos Díaz (2017b) to establish criteria for selecting vocabulary for CEFRL A1 and A2 levels, which is a very useful method for designing teaching materials. To a certain extent, Santos, Trigo, and Romero (2020) complement this work by considering the semantic relationships of available words using a cognitive approach when developing tasks for teaching materials. They design tasks based on the relationships such as hypernymy-hyponymy, morphological derivation, or metonymy observed in cohesive centres of interest, which they called "prototypical centres," and other tasks based on cultural aspects for less cohesive centres of interest, called "relational centres."

In their study, Jiménez Calderón and Rufat (2019) compared the results of a lexical availability study conducted on Spanish university students with a lexical frequency repertoire and with the examples provided in the inventory of specific notions of the Instituto Cervantes Curricular Plan (ICCP). Their objective was to create a trustworthy vocabulary list for the category of "parts of the body" and establish a methodology that can be applied to other areas

covered by the ICCP for future research. The authors' ultimate goal is to develop a comprehensive lexical repertoire for teaching Spanish at all levels.

Hidalgo Gallardo and Rufat (2022) present their own approach to selecting appropriate learning vocabulary for foreign students of Spanish. Their method involves a triangulation or combination of three sources of lexical information: (1) the lexicon used by native Spanish speakers, (2) the most commonly used Spanish words, and (3) the specific notions listed in the Instituto Cervantes Curricular Plan.

Finally, the utilisation of lexical availability has been employed to produce teaching materials for Spanish language learners who are immigrants. Jiménez Berrio (2013) conducted an analysis of the lexicon related to the human body that is presented in textbooks used for immigrant students and compared it to the actual available vocabulary of those same learners. The author determined that the vocabulary selection in the textbooks was insufficient in terms of quantity and lacked many essential words that should be included in secondary school curriculum, especially those related to non-visible body parts.

Conclusions

Lexical availability is a highly significant area of research for determining the vocabulary that should be taught, as well as for analysing certain aspects of the configuration of the mental lexicon. However, current literature mainly focuses on Spanish and has been conducted predominantly by Spanish and Latin American researchers. This article aims to raise awareness of lexical availability among the international research community, particularly researchers interested in foreign language teaching, and extend our findings to other foreign languages.

We have aimed to outline the key developments in the history of lexical availability, which emerged with the objective of complementing the frequent vocabulary to determine the fundamental lexicon of a language. The French authors who pioneered this approach in the mid-20th century had a didactic objective: to select the lexical units to teach at the initial levels of teaching French as a foreign language. We have also examined the methodology that has been used in most studies, including the mathematical formula of lexical availability, the selection of categories or centres of interest for lexical extraction, and the latest methodological updates such as the concept of lexical centrality, which strengthen the links between the available lexicon and the prototypicality of certain elements within a semantic category.

In the section on applications of availability studies, we have focused on two perspectives: cognitive and didactic. Several studies have employed lists of available vocabulary to explore the configuration of the mental lexicon, including the relationships between words inside the categories, and the differences in these relationships across various semantic categories. As a result, many articles have been published in recent years featuring both Spanish native speakers and learners of Spanish as a foreign language. One significant finding from these articles is that foreign language learners have weaker relations established in their lexicon compared to those established by native speakers.

As for the didactic perspective, the results of the lexical availability studies have been very useful for selecting the vocabulary that should be taught at the different levels of Spanish as a foreign language and, therefore, that should appear in learning materials, as well as the extent to which the guidelines of the Instituto Cervantes Curriculum Plan correspond to the vocabulary that learners are able to activate. In addition, knowing what relationships are established within the semantic categories has been used to recommend more efficient didactic approaches to vocabulary.

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Marta Sánchez-Saus Laserna

Lexikalische Verfügbarkeit und Fremdsprachenunterricht: Hauptbeiträge eines wachsenden Bereichs

Zusammenfassung

Die Vermittlung von Vokabular stellt eine große Herausforderung im Fremdsprachenunterricht dar. In diesem Artikel werden die Vorteile erörtert, die die Ergebnisse von Studien zur lexikalischen Verfügbarkeit, bei denen es um die Extraktion von Vokabeln geht, die eng mit bestimmten lexikalischen Kategorien verbunden sind, für den Fremdsprachenunterricht bieten. Die Methode der lexikalischen Verfügbarkeit wurde erstmals in den 1950er Jahren in Frankreich entwickelt und wird seitdem vor allem für den Unterricht von Spanisch als Erstsprache eingesetzt. In den letzten 15 Jahren wurde sie auch für den Unterricht von Spanisch als Fremdsprache eingesetzt. In diesem Artikel werden die Ursprünge und die Methodik der lexikalischen Verfügbarkeit untersucht, wobei der Schwerpunkt auf zwei wichtigen Anwendungen im Zusammenhang mit dem Unterricht

von Spanisch als Fremdsprache liegt. Vom kognitiven Standpunkt aus betrachtet, behandelt der Artikel Studien, die die Konfiguration des mentalen Lexikons anhand von verfügbaren Vokabeln analysieren. Aus didaktischer Sicht untersucht der Artikel, wie lexikalische Verfügbarkeit genutzt werden kann, um die Auswahl von Vokabeln in Lehrmaterialien für Spanisch als Fremdsprache zu verbessern.

Schlüsselwörter: lexikalische Verfügbarkeit, Wortschatzunterricht, Fremdsprachenunterricht, Spanisch als Fremdsprache, kognitive Linguistik