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LEXICAL AVAILABILITY OF YOUNG SPANISH EFL LEARNERS: EMOTION WORDS VERSUS NON-EMOTION WORDS¹

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Abstract

This study intends to contribute to L2 emotion vocabulary research by looking at the words that primary school EFL learners produce in response to prompts in a lexical availability task. Specifically, it aims to ascertain whether emotion prompts (Love, Hate, Happy and Sad) generate a greater number of words than non-emotion prompts (School and Animals). It also seeks to identify the words learners associate with each semantic category to determine whether the words produced in response to emotion prompts differ from non-emotion words. The results showed a significant difference in the number of words generated across prompts. Most words were produced for the prompt School, followed by Animals, Happy, Love, Hate and Sad. Non-emotion prompts elicited a higher number of words than emotion prompts, and within the latter, a significant effect of valence was observed as learners retrieved a higher number of words in response to positive emotion prompts than to negative prompts. Overall, learners' lexical availability output in each of the six prompts showed the predominance of nouns over other word classes. However, slightly different patterns were also observed for the top 10 responses to Happy, Hate and Sad, and together with nouns, other word classes appeared as well.

Keywords

Language and cognition, Emotion words, Lexical availability, Primary school EFL learners, Cultural content.

1. Introduction

Our study aims to develop insights into the mental lexicon of English as foreign language (EFL) primary school learners. Following Schreuder and Weltens (1993), we understand the mental lexicon as a container of words and, at the same time, as a motor responsible for the activation of complex processes. Our approach to EFL young learners' lexicon is through the study of their lexical availability, which is understood

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here as the words that are retrieved in response to prompts related to semantic categories. Among these, we look at the words that are produced in response to emotion prompts (Love, Hate, Happy and Sad) in comparison to non-emotion prompts (School and Animals).

Lexical availability research is based on association tasks, where semantic categories such as Food and Drink, Animals or Hobbies are used as stimuli to elicit words from speakers' minds; they may not be the most frequent words in a language, but emerge when the situation arises and specific words are needed to communicate ideas or feelings related to the situation, such as *pencil*, *notebook* or *teacher*, when talking about daily activities at school. By means of this task, two aspects of word knowledge are measured: frequency and the degree of word availability. In lexical availability studies, *frequency* refers to the number of informants who retrieve the same word in response to a word prompt. It is measured by the position or order occupied by the word response in the ranking of all the words retrieved by a group of informants; in this ranking, first-word responses to prompts are regarded as the most available in a learners' lexicon (López Morales, 2014).

The study of lexical availability of second or foreign language learners (L2) dates back to the 1990s, with the work of Carcedo (1998), who inspired an important body of research on Spanish as a foreign language (SFL) and more recently on English as foreign language (EFL). Two research trends are observed in L2 research. The first one includes sociolinguistic studies aimed at the identification of the words activated by groups of learners in response to prompts related to daily topics such as Food and Drink, School or Hobbies; it also includes studies on the effect of gender (Hernández-Muñoz, 2010; Jiménez Catalán & Ojeda Alba, 2009) or age/course level (Martínez & Gallardo, 2014; Jiménez Catalán, Agustín, Fernández & Canga, 2014; Carcedo, 1998) on learners' lexical availability. These studies have reported striking similarities in the lexical availability of both Spanish and English learners at different educational levels. For instance, the research has revealed a recurrent list of most and least productive prompts within groups of university, secondary and primary school students, the two most productive prompts being Food and Drink and Animals, and the least productive Kitchen utensils, Furniture, Transport and Objects on the table at mealtime (e.g. Jiménez Catalán, 2014; Carcedo, 1998).

More recently, a new type of psycholinguistic approach to L2 learners' lexicon has appeared in lexical availability studies. The main topics addressed so far have been: (i) the comparison of lexical networks in English native and non-native speakers (Ferreira & Echeverría, 2010); (ii) the effect of priming on L1 and L2 prompts (Hernández Muñoz, 2014), age of acquisition, word familiarity, typicality and imageability (Hernández, Izura & Ellis 2006; Hernández, Izura & Tomé, 2014); and (iii) the influence of the prompt properties, such as frequency, length and cognateness (Hernández, Izura & Tomé, 2014) on L2 Spanish learners' lexical availability). This research seeks to understand how L2 learners organize their lexicon. More research is needed to explore other semantic categories and word properties that may have an effect on learners' L2 lexicon, such as emotion words and their valence (positive versus negative emotion words). These issues have been addressed in psycholinguistics (e.g. Altarriba & Bauer, 2004; Altarriba, Bauer & Benvenuto, 1999), but they have been neglected in lexical availability studies.

The study of emotion vocabulary has gained ground in the field of second language acquisition (SLA) since Dewaele and Pavlenko's (2002) study on the use of emotion words in French and English interlanguage. According to Dewaele (2012), the main issues that have been considered so far are (i) learners' perception of emotions, (ii) learners' activation of emotions in recalling their memories in autobiographies, and (iii) learners' production and use of emotion words in narratives. As lexical availability is more related to productive and autobiographical emotion recall research, in the remainder of this section we will focus on studies that have dealt either with the production, use or recall of emotion words.

Studies on the production and use of emotion words by foreign language learners have examined the effect of language proficiency, gender, extraversion, learners' linguistic profile or social class. For instance, Dewaele and Pavlenko (2002) found that low proficient foreign language learners were less likely to produce emotion words in conversations than high proficient ones. The authors speculated that this could have been the consequence of a lexical handicap that became more salient when talking about emotional matters or that the emotion words were felt to be too detached to describe their feelings. However, the absence of emotion words might be due to other factors, for example, the task used in data collection. In this respect, most studies on emotion vocabulary in a foreign language have been based either on retellings or interviews. These techniques facilitate the interpretation of meaning but present some limitations. With narratives or interviews, and in fact by means of any kind of production task, we can only get a partial view of the emotion words activated in learners' lexicons.

The present study attempts to contribute to L2 emotion vocabulary research by examining the words retrieved in response to emotion prompts compared to non-emotion prompts in a lexical availability task accomplished by primary school EFL learners. To our knowledge, this is the first attempt to study the words that primary school EFL learners associate with emotion words. We feel that this approach could shed light on the budding conceptual representations of these words in young EFL learners' mental lexicon. We need to ascertain whether the words produced in response to emotion prompts follow the same or a different pattern of organization than non-emotion words. Likewise, we need to know whether positive emotion prompts activate a greater number of words than negative emotion prompts and if EFL learners' responses are related to emotion and feelings. This knowledge could provide us with insights into the structure of young EFL learners' emotion lexicon. Likewise, lexical availability data on emotion words compared to non-emotion words could serve as reference for prospective studies as well as for the design of tasks to enhance emotions in EFL classrooms – which we see as the key to motivate learners (Dewaele, 2015). Thus, our study seeks the following objectives: First, we aim to ascertain whether there is variation in learners' word responses across prompts. Second, we aim to determine the effect of valence on learners' retrieval in response to emotion prompts. Third, we pursue the identification of the words that learners frequently associate with Love, Hate, Happy and Sad as emotion prompts, compared to School and Animals as non-emotion prompts. Finally, we intend to clarify if the words retrieved in response to emotion prompts have to do with emotions. Our research questions are as follows:

- (1) Do the six prompts (School, Animals, Love, Hate, Happy, Sad) generate a similar or a different number of words?
- (2) Do emotion and non-emotion prompts generate a similar or different number of words?
- (3) Is the valence of emotion prompts linked to the generation of words?

- (4) Which are the most frequent words generated by emotion prompts and non-emotion prompts?
- (5) Which are the first-word responses retrieved by learners in response to emotion prompts and non-emotion prompts?

In the next section, we present the theoretical and methodological background for our research questions. This is followed by the description of the method, the presentation of the results and their interpretation.

2. Background

Our study builds on Collins and Loftus' (1979) semantic activation model and on L1 and L2 psycholinguistic research on emotion words. This model sustains the theoretical foundation of cognitive lexical availability studies. Its main assumptions are that words come in a flow and that any word can be associated with other words. With respect to word activation, Field (2004) noted that the associations between the word stimuli and the responses may reflect distinct relations, such as word class, synonymy, antonym or superordinate-hyponym pairs. Other relations traditionally studied within L2 word association research (see Meara, 2009) but overlooked in lexical availability studies are meaning-based paradigmatic and syntagmatic relations and form-based clang associations. In both the semantic activation model and in lexical availability research, there is no presupposition of the type of relations that may come up in the activation. In lexical availability, the strength of the association between the word stimuli and the activated words is determined by the number of participants who generate the same response and by the order in which a given response appears in the ranking of responses. First-word responses are seen as the most available, and consequently, the higher the number of participants who retrieve identical responses, the stronger the association between the prompt and the responses.

Emotion words are entrenched in our daily experience and conceptualized in our mind as a two-sided valence dimension; positive at one end, and negative at the other (Russell, 1998; Oschner, 2000). Psycholinguists have investigated the effect of emotion words versus neutral words on word recall, finding the former to be recalled faster and more often than the latter (e.g. Anoshian & Hertel, 1994). The reason is that emotion words are linked to pleasant or unpleasant events deeply engraved in human memory and they are processed at a deeper level than neutral words (Kazanas & Altarriba, 2015; Mackay & Ahmetzanov, 2005). Furthermore, positive emotion words seem to be more memorable, as they tend to be more frequently recalled than negative emotion words and neutral words (Zimmerman & Kelley, 2010; Bauer et al., 2009). Tse and Altarriba (2009) found that both word valence (positive, neutral and negative) and word concreteness (high or low concreteness) affected immediate serial recall in the L1. Therefore, the exact role played by valence in word activation, especially in the L2, remains to be investigated

Traditionally, both in L1 and L2 psycholinguistics and in SLA research, emotion words have been classified as abstract words and studied in opposition to concrete words (e.g. Kroll & Tokowicz, 2005). Nevertheless, Altarriba, Bauer and Benvenuto (1999), and more recently, Kazanas and Altarriba (2015) and Pavlenko (2008a) have argued that emotion words are 'a separate class of words in the mental lexicon', as they are linked to different cognitive representations and different learning processes. Furthermore, Pavlenko, and earlier, Altarriba, Bauer and Benvenuto (1999), distinguished between emotion words and emotion-laden words. According to Pavlenko, emotion words refer

to particular affective states ('happy' and 'angry') or process ('to worry', 'to rage'), whereas emotion-laden words '... do not refer to emotion directly but instead express or elicit emotion ('jerk' or 'loser') from the interlocutors ('cancer' or 'malignancy')" (p. 148).

Psycholinguistic studies on emotion words and lexical availability research employ similar types of tasks to investigate the mental lexicon. The tasks may have been named differently, for instance: *word availability* (Baumeister, 1985), *word fluency* (Ardila et al., 2006), *word association* (Hell & de Groot, 1998) and *semantic category* tasks (Martin, 1994), but despite terminological differences, the tasks are similar if not identical, as they all use prompts to activate word responses. Nevertheless, they differ in focus, as fluency tasks look at the number of words retrieved, association tasks at relations between the stimulus and the responses, and lexical availability tasks at the degree of word availability and frequency as measured by the number of participants who retrieve the same word.

In sum, the use of a lexical availability task in the present study is theoretically grounded in semantic and psycholinguistic theory. It is also methodologically robust, as association tasks have been traditionally used to explore the nature of the mental lexicon as well as memory and lexical recall. The present study differs from L2 emotion vocabulary research in the data collection task and in the group of learners investigated. It also differs from previous lexical availability research in the use of emotion prompts to explore the organization of this semantic category in EFL learners' lexicon and the effect of valence as a dimension of word knowledge.

3. Method

Participants

Forty-five children in sixth grade took part in the study (mean age = 11.4 years). The sample was recruited from a school in a monolingual medium-size capital city in northern Spain in a middle/low social class area. The school is characterized by the use of English as a vehicular language to teach and learn social sciences throughout three courses of primary education in fourth, fifth and sixth grade. The sample represents the total population of sixth-grade students in the school. Spanish was the L1 for 26 students and the L2 for 19 learners; the latter were the children of immigrant families and either had been born in the town or had arrived in the city and attended the same school since early infancy (before age 3). Their family languages (L1s) were Urdu (n = 6), Arabic (n = 6), Romanian (n = 5) and Bulgarian (n = 2). However, due to space limitations, the comparison of English lexical availability in multilinguals and bilinguals, as well as the effect of learners' L1s on English lexical availability, will be addressed in depth in a subsequent study. Here, we will consider participants as a single group, as the sample was fairly comparable concerning English tuition and level. At the moment of data gathering (April 2015), the participants had received approximately 819 hours of English tuition, distributed as follows: 594 corresponding to English as a subject (taught 3 hours per week throughout the six courses of Spanish primary education) and 225 to content taught in English (2 hours per week throughout fourth, fifth and sixth grades). As to the English level group, according to teachers' reports, it was A2 (CEFR), on the basis of the requirements officially established for sixth-grade CLIL programmes by the education board of the self-governing community where the school was located.

Data collection instruments

Students were administered a written questionnaire consisting of two parts. The first one was a sociobiographical survey aimed at the identification of learners' linguistic profiles. The second part included a lexical availability task comprising six prompts: Love, Hate, Happy and Sad as emotion words and Animals and School as non-emotion words. The selection of the words was done in accord to the following criteria:

(i) Prompts used in previous research together with novel prompts were included. As mentioned earlier, lexical availability studies make use of an association task consisting of semantic categories; the exact number and the specific categories included may vary, but many are shared by most studies, such as School or Animals. The prompts allow comparing results among studies conducted in different contexts. However, emotion prompts such as Love, Hate, Happy and Sad are absent in lexical availability research. Furthermore, the majority of the prompts used previously are nouns rather than other word classes. The inclusion of two adjectives referring to states of emotion (Happy and Sad) will allow us to explore the effect of valence in more detail.

(ii) Love, Hate, Happy and Sad, as well as School and Animals, are conceptually equivalent in English and Spanish according to the meaning attributed to each term in dictionaries (e.g., Cambridge Dictionary and *RAE, Diccionario de la Real Academia Española*). They are also similar in frequency in English and Spanish, as School (*Escuela*), Animals (*Animales*), Love (*Amor/Amar*), Hate (*Odio/Odiar*), Happy (*Feliz*) and Sad (*Triste*) are found within the 3,000 most frequent words in well-known corpora (BNC for English, CREA for Spanish). Kroll, Tokowicz and Dufour (2002) claimed that frequency, as well as concreteness and cognateness, have an effect on word acquisition and use. Pavlenko (2008) added equivalence as another factor to be considered. Therefore, by including emotion and non-emotion prompts that are equivalent in concept and frequency in English and Spanish, we hope to conduct a more objective analysis of the effect of emotion valence (positive and negative words).

(iii) Animals and School have shown to be very productive in lexical availability studies, and first responses have been shown to be less diverse in productive prompts than in less productive ones. Animals and School are not included in dictionaries of emotion words (e.g. Ryan, 2014); therefore, we will consider them as neutral words or non-emotional words. Their inclusion in the present study will serve as a reference to elucidate whether emotion words differ from non-emotion words in terms of conceptualization and categorization in the lexicon of primary school EFL learners.

Students received oral instructions in Spanish about how to fulfil the task. Firstly, they accomplished the linguistic background questionnaire and then the lexical availability task; they were asked to write as many English words as came to their mind related to each prompt presented in written form in the lexical availability task. The time allowed was 2 minutes per prompt, as controlled by a stop watch. Students were not allowed to look at the prompts until the order was given or to add new responses when time finished. The order of presentation was as follows: School, Love, Sad, Animals, Hate, and Happy.

The participants were informed about the purpose of the study, its anonymous character and its voluntary basis. All the children expressed their willingness to collaborate, as did their teachers. Previously, the school gave informed consent to participate in this study.

Data codification and analyses

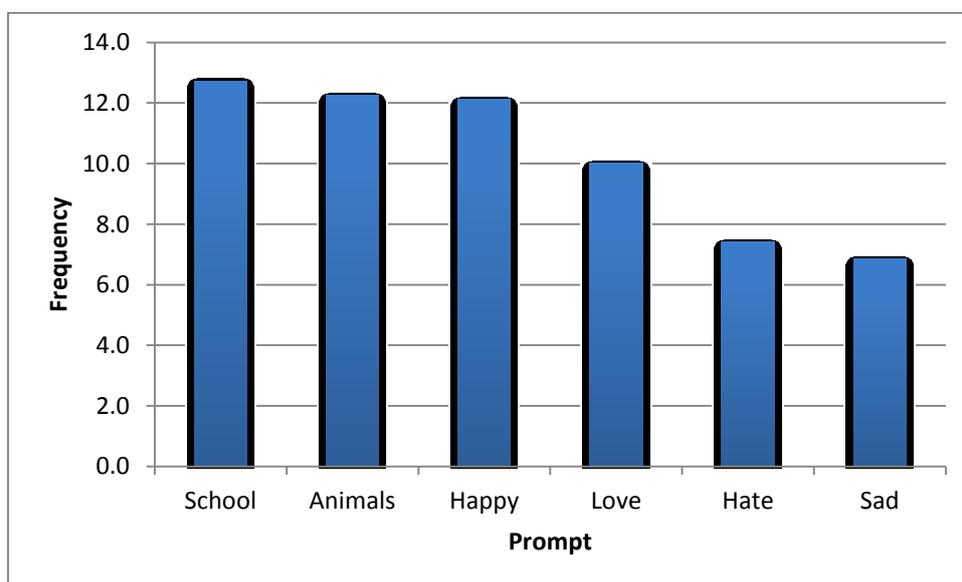
Learners' word responses were encoded electronically in plain text files, one per student. Each file was edited according to the following criteria: (i) repetitions of the same word within the same prompt were counted only once; (ii) Spanish words,

unintelligible words, and names of commercial brands and proper names were deleted; (iii) spelling mistakes were corrected, but grammar mistakes (e.g. wrong order in lexical units) were kept; (iv) regular plurals were lemmatized to singular, except words with plural forms referring to objects or clothes (e.g. ‘glasses’ or ‘trousers’); (v) irregular plurals, such as ‘feet’ or ‘women’, were maintained; (vi) –ing and –ed past suffixes were replaced by their corresponding infinitive form, except for those words that existed as separate entries in dictionaries (e.g. ‘swimming’ or ‘went’); and (vi) conventional lexical units and idiosyncratic phrases retrieved by learners as wholes were hyphenated and counted as one word.

4. Results

EFL learners’ words responses to the six prompts (Animals, School, Love, Hate, Happy and Sad) yielded a corpus of 2762 word tokens. A one-sample Kolmogorov-Smirnov test revealed that the distribution of word tokens across the six prompts was not normal for four out of six prompts; hence, we opted for non-parametric statistics. To answer the first research question, we used a Friedman test, which confirmed a significant difference in the number of words generated across the six prompts ($n = 45$, $df = 5$, $\chi^2 = 82.3$, $p < .0001$). Most words had been produced for the prompt School (rank = 4.6), followed by Animals (rank = 4.4), Happy (rank = 4.3), Love (rank = 3.4), Hate (rank = 2.3) and Sad (rank = 2.1). Figure 1 visualises the mean number of word tokens for each prompt.

Figure 1: Mean frequency of word tokens for each prompt



For the second research question, we calculated the average of the tokens for School and Animals and for Happy, Love, Hate and Sad. A Wilcoxon Signed Rank Test showed that the non-emotion prompts elicited a higher average number of word tokens than the emotion prompts (Wilcoxon $Z = -4.3$, $p < .0001$).

As to the third research question, we added up the tokens for Happy and Love and did the same for the tokens of Hate and Sad. A Wilcoxon Signed Rank Test showed that

valence had a significant effect on learners' retrieval, since more words were generated by the positive than by the negative emotion prompts (Wilcoxon $Z = -5.2$, $p < .0001$).

We now focus on the fourth question. Table 1 displays the top 10 words for the six prompts ranked according to the number of learners who retrieved them. We will report the results on the basis of the word class and the vocabulary domain observed in the words elicited by each prompt. Overall, learners' word retrieval in each of the six prompts showed the predominance of nouns over other word classes; this was particularly evident with respect to responses to three prompts: Animals, School and Love, as the top 10 words activated were nouns. However, slightly different patterns were observed for the top 10 responses to Happy, Hate and Sad, as together with nouns, other word classes appeared as well within these prompts: two verbs in Happy (*play* and *run*), two adjectives in Hate (*black* and *pink*), and an -ing word, an adjective and a verb in Sad (*bullying*, *black*, *cry*). It is important to point out here that according to most dictionary entries (e.g. Oxford Dictionaries), *play*, *run* and *cry* could also be categorized as nouns.

Table 1 Distribution of top ten word responses to concrete and emotion prompts

Animals	n	School	n	Happy	n	Love	n	Hate	n	Sad	n
<i>cat</i>	38	<i>pencil</i>	26	<i>friend</i>	19	<i>father</i>	24	<i>Maths</i>	15	<i>exam</i>	13
<i>dog</i>	37	<i>Maths</i>	24	<i>family</i>	14	<i>mother</i>	24	<i>fish</i>	8	<i>bullying</i>	10
<i>elephant</i>	32	<i>book</i>	23	<i>father</i>	13	<i>friend</i>	21	<i>January</i>	8	<i>dog</i>	10
<i>lion</i>	28	<i>computer</i>	20	<i>party</i>	13	<i>brother</i>	20	<i>language</i>	8	<i>cat</i>	8
<i>fish</i>	25	<i>teacher</i>	19	<i>mother</i>	12	<i>sister</i>	19	<i>black</i>	7	<i>homework</i>	8
<i>monkey</i>	25	<i>notebook</i>	17	<i>dog</i>	11	<i>dog</i>	14	<i>music</i>	6	<i>school</i>	6
<i>bird</i>	22	<i>PE</i>	16	<i>play</i>	10	<i>family</i>	14	<i>school</i>	6	<i>animal</i>	5
<i>snake</i>	20	<i>pen</i>	16	<i>run</i>	9	<i>teacher</i>	14	<i>science</i>	6	<i>bird</i>	4
<i>tiger</i>	19	<i>pencilcase</i>	16	<i>animal</i>	8	<i>cat</i>	11	<i>winter</i>	6	<i>black</i>	4
<i>crocodile</i>	16	<i>table</i>	16	<i>football</i>	8	<i>party</i>	11	<i>pink</i>	5	<i>Cry</i>	4

The top 10 words in Table 1 can be grouped within the following vocabulary domains: domestic animals, school objects, activities and actions, and family and relations; also, some of the words retrieved by learners can be included within the vocabulary domains of colours, hobbies and food. The vocabulary domain of school appears related to the prompts Love, Hate and Sad. Among these, Hate and Sad also generated words within the domain of colours: *black* and *pink*. Finally, Hate was the prompt that triggered words from a wider variety of domains, since in addition to the already mentioned domains, it also elicited words related to the domain of food (*fish*), months (*January*) and seasons (*winter*).

The top 10 word responses for each prompt uncovers the most frequent words from the perspective of the number of learners who retrieved each word. The frequency of responses is an important dimension in lexical availability studies, but *availability*, as shown in learners' first-word responses to each prompt, is equally important. Because of their relevance in getting insights into EFL young learners' lexicon, we will examine each learner's first response per prompt one by one (Research question 5) and complete the information by providing evidence of the shared first-word responses among prompts.

Animals

All participants provided words in response to this prompt. In total, 45 tokens and 20 different types of first-word responses were collected; the most frequent were *dog*, *lion* and *cat*, retrieved by 12, five and four learners, respectively; seven types of first responses were retrieved by two learners each: *bird*, *crocodile*, *elephant*, *fish*, *monkey*, *snake* and *whale*. Up to 10 word responses occurred only once: *dolphin*, *frog*, *giraffe*, *horse*, *hummingbird*, *ladybird*, *leopard*, *parrot*, *rabbit* and *tiger*.

School

The tokens elicited by this prompt were 45 (whole sample), of which 20 were different type of first-word responses. The most frequent was *pencil*, retrieved by six learners; *book*, *chair*, *maths* and *pen*, retrieved by three learners; and *ruler*, *school*, *board*, *scissors* and *teacher* by two learners. The remaining types were retrieved only once; these were *blackboard*, *colour*, *computer*, *electric*, *laboratory*, *legging(s)*, *Monday*, *music class* and *notebook*.

Happy

Only 42 learners were considered here, as the first responses by three learners needed to be discarded in accordance with the established criteria: one learner (L1 Spanish) retrieved a personal name, another learner (L1 Urdu, Russian L2, Spanish L3) retrieved a Spanish proper name (*Pakistan*), and finally, another learner retrieved an intelligible word (*Psvita*).

The number of different (types) first-word responses was 30. The distribution was as follows: *dog*, *football*, *friend* and *unicorn* (three learners each); *brother*, *candy play* and *rainbow* (two learners). Finally, up to 22 words or word phrases occurred only on one occasion as first response and they were: *April*, *bicycle*, *city*, *dance*, *family*, *go to school*, *hamburger*, *July*, *mother*, *music*, *park*, *pink*, *purple*, *rain*, *rainbow*, *religion*, *role (game)*, *sister*, *smoke*, *sunny*, *vacation* and *with my family*.

Love

The first-word responses retrieved by five students were discarded either because of the retrieval of a personal name or Spanish lexical expression (e.g. *San Valentin*). Therefore, the sample considered here consists of 40 learners, who produced a total of 40 tokens and 20 types as first-word responses. The most frequent were *family* and *mother*, retrieved respectively by 11 and five learners. *Father*, *peace* and *party* were activated by three learners each, and *dog* by two learners. The following words occurred only on one occasion: *brother*, *dad*, *eat*, *friend*, *pink*, *sister*, *t-shirt*, *boyfriend*, *girlfriend*, *girl* and *mum*. To this list, idiosyncratic phrases should be included as first-word responses retrieved by one learner in each case: **celebrate birthday*, **play in mother* and *mummy mother*.

Hate

One learner did not reply to this prompt; therefore, the sample consisted of 44 learners, who produced a total of 44 tokens and 29 types. *Family* was the most frequent first-word response, retrieved by eight learners; followed by *snake*, activated by four learners; *brother*, *bullying* and *dog*, elicited from three learners; and *cry* and *exam*, retrieved by two learners in each case. The remaining types were retrieved only once as first response: *bullying*, *butterfly*, *celebrate birthday*, *dance*, *eat*, *elephant*, *exam*,

father, friend, jump, love and destroy, lucky man, maths, modern family, mother, ostrich, peace, police, science, sister, small animal (s), white and winter.

Sad

Out of the sample of 45 learners, the first-word responses of nine learners were discarded on the basis of the established criteria. Therefore, here we consider the responses of 36 learners, who produced a total of 36 tokens and 30 types. The most frequent were *bullying* and *exam*, retrieved by three learners each, and *dog* and *cry*, cited by two learners. The remaining first-word responses types were recalled on one occasion only: *animal, animals, always, big hero, black, cat, cut down, death, don't play, fish, forest, friend, fuck, homework, hospital, hungry, hunt, kill, love, no love, school, shirt, sleep, stupid, the dark, winter and work.*

Shared responses

First-word responses yielded a corpus of 146 tokens and 134 types, and 21 of them occurred in different prompts. Table 2 displays the alphabetical list of the shared first-word responses according to the prompts in which they appeared. As can be observed, *friend, dog* and *snake* were present as first-word responses in the four emotion prompts.

Table 2: Shared 1st responses:

1st response	Prompts
<i>Brother</i>	Love, Happy, Hate
<i>Bullying</i>	Hate, Sad
<i>Cat</i>	Animals, Sad
<i>Celebrate birthday</i>	Love, Hate
<i>Cry</i>	Hate, Sad
<i>Dance</i>	Happy, Hate
<i>Dog</i>	Animals, Love, Hate, Sad
<i>Eat</i>	Love, Hate
<i>Elephant</i>	Animals, Hate
<i>Exam</i>	Hate, Sad
<i>Family</i>	Love, Happy, Hate
<i>Father</i>	Love, Hate
<i>Fish</i>	Animals, Sad
<i>Friend</i>	Love, Happy, Hate, Sad
<i>Mother</i>	Love, Happy, Hate
<i>Peace</i>	Love, Hate
<i>Pink</i>	Love, Happy
<i>School,</i>	School, Sad
<i>Sister,</i>	Love, Happy, Hate
<i>Snake</i>	Animals, Happy, Hate, Sad
<i>Winter</i>	Hate, Sad

Finally, we compared our primary school EFL learners' responses with the ones reported in Doost et al.'s (2006) normative corpus, which was built on words generated by native English speaking children on emotional categories (Happiness, Sadness and Threatening). We compared Love/Happy and Hate/Sad to the categories labelled by Doost et al. as Happy thing/Happy and Sad thing/Sad feeling, respectively, and the results were as follows: 16 words produced by learners in response to Love/Happy and 10 words in response to Hate/Sad were found in the 25 top word responses generated by native English speaking children of similar age. Table 3 shows the words shared in both corpora, with the corresponding percentages of children who generated the word response in each case.

Table 3 Shared word responses in English L1 (Doost et al 1999) and EFL (the present study) (raw numbers)

Love/Happy	English L1 N = 109	EFL N = 45	Hate/Sad	English L1 N = 109	EFL N = 45
Friend	53	28	Die	16	5
Holiday	29	2	Bullying	26	10
Christmas	35	2	Fight	9	2
Birthday	40	3	Kick	17	1
Family	20	12	School	6	8
Music	7	5	Sad	8	1
Football	20	8	Angry	12	2
Swimming	22	2	Bad	11	2
Mum	26	4	Cry	9	4
Love	14	4	Cold	13	1
Dad	19	9			
Party	22	11			
Animal	9	7			
School	18	9			
Play	21	16			

5. Discussion and conclusion

We set out to investigate whether primary school EFL learners would produce different numbers of words in response to the prompts included in the lexical availability task. The answer to the first research question is affirmative, as our learners produced different numbers of words across the six prompts. This outcome corroborates L2 lexical availability research where most and least productive prompts have been reported (e.g. Jiménez Catalán, 2014; Hernández-Muñoz, 2010; Carcedo, 1998). However, we went further to investigate the effect of emotion prompts compared to non-emotion prompts and valence. In this regard, our finding is similar to the one in the study conducted by Whissell and Nicholson 1991 (as cited in Doost et al., 2006), on children's generation of synonyms in a semantic category task, where most and least productive prompts were also found for adjectives describing emotions. Among the most productive were Happy and Sad, and the least, Proud and Guilty. This suggests that some words are more familiar to children than others both in the L1 and L2.

The second research question dealt with differences in the production of word tokens in response to emotion and non-emotion prompts. Our data show that learners retrieved a significantly higher number of words for School and Animals than for the group Love, Hate, Happy and Sad. Thus, our study does not support the predominance of emotion words over neutral words reported by Kazanas and Altarriba (2015), Mackay and Ahmetzanov (2005), on the contrary, it confirms the tendency observed by Anooshian and Hertel related to the greater recall of emotion words in the L1 but *not* in the L2. Likewise, our result is in line with L2 emotion vocabulary research, whereby learners prefer the L1 to talk about emotions and feelings, for declaring love or swearing (see Dewaele, 2004, 2013; Dewaele & Salomidou, 2017).

The most plausible explanation for the greater number of words generated by the non-emotion prompts could be learners' poor exposure to emotion words. Support for this argument is found in a study by Kaneko (2003), who examined Japanese EFL learners'

use of words of *anger, surprise, anxiety* and *grief* in interviews and checked for the presence of emotion words (positive and negative) in learners' course books. Her result confirms the observations posited by Arnold (1999) on the little attention paid to emotion and affect in foreign language teaching. However, this was not attested to in the interview conducted by the first author with the English teachers of the school where the data were collected. According to their report, Happy and Sad were among the first English adjectives learnt by children, together with Love and to a less extent Hate, as these adjectives are introduced as early as the first year of primary education. Furthermore, these emotion words are included in learners' course books throughout the six years of primary education. Hence, on the basis of teachers' reports, we cannot attribute this finding to the lack of exposure to emotion words, at least as far as Love, Hate, Happy and Sad are concerned.

A second explanation might be that School and Animals are more concrete than Love, Hate, Happy and Sad in the sense that we visualize the physical entities to which School and Animals refer. We checked each word in N-Watch (See Davis, 2005), a normative programme that provides values for the imageability of English words. On the basis of the scores provided by this tool, we can rank our prompts in a scale from most to least concrete as follows: 1) School, 2) Animals, 3) Happy, 4) Love, 5) Hate and 6) Sad. According to dual-coding theory (Paivio, 1986), concrete words are codified, accessed and recalled verbally and by means of images: this double processing is what makes concrete words easier to be recalled, as shown by the studies conducted by Schwanenflugel, Akin and Luh (1992), Hell and de Groot (1998), Walker and Hulme (1999), and Fliessbach et al. (2006). The greater number of words retrieved by EFL learners in response to School and Animals compared to Love, Hate, Happy and Sad could be interpreted in the same terms. However, another possibility might be the existence of formal and semantic equivalence in English and Spanish regarding Animals and School compared to the partial equivalence of Love, Hate, Happy and Sad, where only meaning but not form is equivalent. Evidence suggests that cognateness facilitates recall and learning (e.g. Costa, Santesteban & Caños, 2005; de Groot & Keijzer, 2002; Kroll et al., 2000). Furthermore, Groot and Nash (1991) found cognates to be linked by identical lexical and conceptual representations in Dutch English bilingual lexicons. Also, Costa, Santesteban and Caños (2005) and Hell and de Groot (1998) observed that the retrieval of words that are similar in form and meaning across languages is faster than those that are not equivalent.

In research question 3, we asked whether positive emotion prompts would activate a higher number of word responses than negative emotion prompts. Our findings suggest that valence has an effect, as learners retrieved a higher number of words in response to Love and Happy compared to Hate and Sad. In this respect, our findings corroborate the studies carried out by Zimmerman and Kelley (2010), Bauer, Olheiser, Altarriba and Landi (2009), Tse and Altarriba (2009), and Kousta et al. (2013), where a clear effect of valence in favour of positive words was found. One reason for this finding might be the predominance of positive words over negative words in learners' course books, as shown in Kaneko (2003). However, further research is needed in which EFL learner's lexical availability output on emotion and non-emotion prompts is compared to the vocabulary input of their course books.

As to research question 4, a close look at the data reveals striking similarities in the predominance of nouns over other word categories in the six prompts investigated. This result was unsurprising considering the initial state of English acquisition by our

learners and the predominance of nouns in children's language (Gentner, 2006). Nouns are the first category to be acquired in English and Spanish; adjectives, verbs, adverbs and other kind of words, such as grammatical words, are learned later (Liceras & Carter, 2009). Nevertheless, the fact that Happy and Sad triggered a greater number of different words and word classes than the other prompts suggests some effect of the type of prompt on learners' lexical retrieval. This finding should be further investigated by means of EFL learners of the same and different ages and language levels, as well as by means of these and other adjectives related to emotion but also to neutral words that could serve as reference.

Regardless of the prompt, the words retrieved by the EFL learners in the present study can be grouped into similar vocabulary domains, such as wild and domestic animals, school objects, activities and agents, and above all, family, friends, hobbies and colours. That is to say, both emotion prompts and non-emotion prompts elicited words within these vocabulary domains. As to emotion prompts, the majority of learners' responses cannot be considered emotion words if compared to Ryan's (2015) emotion words dictionary and to Johnson-Laird and Oatley's (1989) emotion word list. However, learners' words in response to Love, Hate, Happy and Sad are very similar to the 25 top word responses retrieved by English children in semantic tasks (see Doost et al. 2006). Johnson-Laird and Oatley (1989, p. 98) noted that when we love or hate, we do not do it in a vacuum; there is always an object of our affection. From this point of view and from the perspective of Pavlenko (2008b) and Kazanas and Altarriba (2015), we could venture that *family*, *dog* and *friend*, among other words in the corpus, could be in fact considered emotion-laden words that have to do with feelings and emotional experiences in primary school EFL learners' lexical availability data. Furthermore, learners' word responses were activated in response to Love, Hate, Happy and Sad (considered emotion terms by Ryan, 2014), therefore, we may conclude that what learners' word responses may be revealing is not only their conceptualization of the words Love, Hate, Happy and Sad but also the words that learners associate with those words. This emerges in the vocabulary domains of learners' top 10 responses but particularly in the learners' first-word responses that are addressed in the following paragraph.

As we saw in the results to our fifth research question, learners' first-word responses revealed idiosyncratic rather than common or typical patterns. Animals and School, and to a certain extent, Love, tended to elicit a greater number of shared first-word responses than Happy, Hate or Sad. Nevertheless, a close look at the data reveals that the idiosyncrasy is less strong than it may appear at first sight. Looking at the responses of individual learners, we note that their first-word responses correspond to identical vocabulary domains even if they are different words, thus suggesting similar conceptualizations. This is the case of *family*, *father*, *mother*, *sister* and *brother*: different words, but the same vocabulary domain. However, variations in learners' first responses are not at all surprising if we consider the possible influence of other factors, such as learners' experience in the world or personal factors. For instance, the tendency to produce more words in response to positive prompts might be linked with a given personality trait, such as optimism or emotional intelligence. Furthermore, due to the associative nature of the lexical availability task, the link between the prompt and the response is by force something that may be closely related to one's own experience. For example, the first response given by one student (S6A3), whose linguistic profile was Urdu L1, Spanish L2 and English, uncovers a personal experience: the object of Love is the pupil's country, and even if this learner was capable of retrieving 16 English words,

the first word that came to his mind was the name of his country. Experiences are of different kinds; therefore, variation as well as typicality should be expected. Unfortunately, our results are hard to compare because of the lack of lexical availability studies including emotion prompts. Likewise, due to the small sample of EFL learners participating in this study, the findings can only be considered as exploratory.

In sum, this study has been a first attempt to identify the words primary school EFL learners activate in response to emotion prompts in a lexical availability task. Our findings point to quantitative differences concerning the words generated across prompts but qualitative similarities in terms of the conceptual representations of Love, Hate, Happy, Sad, School and Animals. The words retrieved by learners, 11–12 year-olds at the initial stage of adolescence, are predominantly nouns and point to images of family, friends and personal relations. Perhaps, the most revealing finding is that young EFL learners do not seem to differ much in their responses to emotion prompts from native English-speaking children, which seems to suggest similar patterns in the conceptualization of emotion words. Further research is needed in this regard, with comparisons using equal length corpora, equal labelling of emotional categories, and above all, equal time in word association tasks.

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