

Article

The Effects of L2 Spanish Proficiency and Length of Exposure Abroad in the Expression of Imprecise Quantities

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Abstract: In Spanish, imprecise quantities are typically expressed through approximators (APs) (e.g., *casi* \$60 ‘almost’, *como* \$30 ‘like’, and *90 y pico* ‘-ish’). APs make semantic boundaries fuzzy, but they provide instructions for utterance interpretation by establishing upper limits (e.g., *casi*), lower limits (e.g., *y pico*), or no specific limits (e.g., *como*). While APs occur frequently in naturally occurring language, they are rarely included in second language (L2) classrooms or textbooks, limiting learners’ exposure to these forms. This study examined how intermediate L2, advanced L2, and native Spanish speakers ($n = 20$ per group) discussed imprecise quantities during oral interviews in which they responded to money-related questions. The study investigated the effect of L2 proficiency and cumulative length of exposure abroad in the learners’ lexical knowledge of APs. GLMMs revealed that, overall, an increased L2 proficiency correlated to a more frequent and more natural use of APs. A significant interaction between L2 proficiency and length of stay abroad was also found, as even short periods abroad resulted in significant lexical gains for the intermediate learners. The results show that while proficiency mediates AP use, naturalistic exposure at an early stage accelerates lexical acquisition, promoting a more target-like expression of numeric imprecision.

Keywords: numeric imprecision; approximators; L2 Spanish; naturalistic exposure



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1. Introduction

Vague language is an inherent characteristic of all languages and a communication strategy that is prevalent in everyday interactions (e.g., Carter and McCarthy 2006; Channell 1994; Cutting 2007; Metsä-Ketelä 2006; Sabet and Zhang 2015). Previous research has shown that in informal contexts, speakers tend to be vague when discussing time, money, frequencies, and probabilities, among other quantity-related information (Channell 1994; Gibbs and Bryant 2008; Jucker et al. 2003; Van Der Henst et al. 2002). In Spanish, for instance, several scholars have noted that numeric imprecision is a common indicator of uncertainty and is typically marked lexically through the use of scalar approximators (APs) that make numeric expressions less precise (e.g., *como* 40 dólares ‘like 40 dollars’, *unos* 20 grados ‘some 20 degrees’, *al rededor de la 1 pm* ‘at around 1 pm’) (Grasso 2012; Jimenez 2019; Kern 2012; Mihatsch 2009, 2010; Said-Mohand 2006).

While APs add fuzziness to propositions containing numeric values, their semantic meaning indicates proximity, which assists hearers in the process of utterance interpretation. More specifically, depending on the semantic category to which these lexical items belong (i.e., defective, neutral, or excessive, as classified by García-Medall 1993), they might signal proximity in one or two directions. For example, APs such as *casi* ‘almost’ and *prácticamente* ‘practically’ have a defective semantic value and restrict the interpretation by establishing an upper limit. In contrast, excessive APs such as *y pico* ‘-ish’ or *y tantos* ‘-something’ only establish a lower limit. The last semantic category is composed of neutral APs, which do not establish a specific limit and, thus, mark proximity in both directions. The scalar value of APs is semantic knowledge that is shared among native speakers (Amaral 2007), and the appropriate use and comprehension of these forms require robust lexical knowledge that

incorporates all the specifications for each lexical entry (Jiang 2000). Understanding these fine-grained distinctions between APs can be a challenging task for non-native speakers.

In the context of second language (L2) acquisition, APs (or the expression of numeric imprecision in general) have not been thoroughly addressed. So far, research has shown that L2 learners tend to use APs with less frequency and make different lexical choices than native speakers when they discuss imprecise quantities or numeric values (e.g., Cheng and Warren 2003; Drave 2002; Yu 2009; however, detailed empirical data on the process of acquisition of these lexical items (i.e., when and how APs are acquired) is lacking, especially in L2 Spanish.

APs (and vague language in general) are acquired in a “particular socio-cultural context” (Peires 1997, p. 56) and are highly frequent in naturally occurring language use; however, they are rarely taught in L2 classrooms or included in textbooks (Channell 1994; Cutting 2007; De Cock et al. 2014; Peires 1997). As a result, L2 learners in a traditional classroom setting have reduced opportunities to encounter these forms in their input. Nonetheless, it is known that L2 contact in naturalistic settings, either through extended stays abroad (e.g., Milton and Meara 1995; Collentine 2004) or short periods of time (e.g., Llanes 2011; Llanes and Muñoz 2009; Pliatsikas and Chondrogianni 2015), promotes accelerated linguistic gains, especially in the lexical and semantic domains. Thus, investigating learners with various lengths of exposure to informal, naturally occurring language can generate important information about the effects that type of exposure and increased L2 contact have in the acquisition of APs.

The present study investigates the particularities of learner speech when expressing numeric imprecision in L2 Spanish. It focuses on the learners’ lexical knowledge of APs, taking into consideration the level of L2 proficiency (i.e., intermediate and advanced), as well as the cumulative length of exposure to Spanish abroad (measured in weeks). The data were obtained from oral interviews with experimental questions that targeted money-related answers (e.g., *¿Cuánto cuesta un boleto para el cine entre semana?* ‘How much does a movie ticket cost on a weekday?’), and the following three research questions guided the study:

1. Do L2 learners use APs when they talk about imprecise quantities in Spanish? If not, what other forms do they use?
2. Does the level of L2 proficiency (i.e., intermediate and advanced) determine the range and frequency of APs produced?
3. Do L2 learners who have spent time abroad (through study abroad or extended visits) in a Spanish-speaking country exhibit a more target-like use of APs?

As Kennedy (1987) observed, about one word in every seven involves quantification, and one important thing we do with everyday language use is to measure or estimate quantity, and this article aims to explore this common phenomenon by investigating how proficiency and experience abroad interact with the L2 learners’ ability to talk about imprecise quantities. Furthermore, this study aims to disseminate empirically based information that can be used by educators to better assist L2 learners in their process of lexical development.

The following section addresses the empirical domain of this study by specifying the type of APs under investigation. This section also presents a literature review on L2 expressions of numeric imprecision and AP use, followed by relevant information on the relationship between naturalistic exposure and lexical development.

2. Background

2.1. Vagueness and Numeric Imprecision

The type of vagueness¹ explored in the present study is scalar vagueness in the context of numeric expressions in references to money. According to Sauerland and Stateva (2011), scalar vagueness denotes intervals on a scale and can be manifested by scalar APs². While there are scalar APs that make elements in propositions more precise (e.g., exactly or precisely), others, such as *approximately*, *about*, and *some*, establish intervals around a point

on a scale and only denote proximity or closeness to the exemplar number (i.e., the numeric value they modify). This latter category is the core of the present study.

APs fall on both sides of the semantics–pragmatics distinction, although this article focuses on their semantic characteristics. On the one hand, the semantic value of these lexical items is assigned on a scale or continuum in relation to the element they modify (i.e., exemplar number). On the other hand, and as suggested by Channell (1994), the values assigned by APs can change depending on pragmatic/contextual factors, such as (a) the level of precision required by the context, (b) the item that is being approximated (e.g., money, people, pages, etc.), and (c) the size of the number (e.g., \$10 versus \$10,000).

A semantic account for Spanish APs was proposed by García-Medall (1993) and resonates with the scalar inferences literature (e.g., Cummins et al. 2012; Horn 1992; Kennedy 2013). According to García-Medall (1993), the inferences that APs activate are guided by values that are assigned on a scale or continuum in relation to the exemplar number. The scale is divided into three categories: *defectivos* ‘defective’ (i.e., APs that establish an upper limit, such as *casi* ‘almost’ and *prácticamente* ‘practically’), *neutros* ‘neutral’ (i.e., APs that do not specify the direction of the limit, such as *como* ‘like’ and *alrededor de* ‘around’), and *excesivos* ‘excessive’ (i.e., APs that establish a lower limit, such as *y pico* ‘-ish’ and *largos* ‘or so’). The restrictions that each AP category impose are illustrated in Examples 1–3, taken from González Rodríguez (2008, pp. 370–71):

Example 1. *La bolsa de manzanas pesa alrededor de tres kilos.*

‘The bag of apples weighs around three kilograms.’

- a. *Creo que dos kilos y medio. ‘I think two and a half kilograms.’*
- b. *Creo que tres kilos y medio. ‘I think three and a half kilograms.’*

Example 2. *La bolsa de manzanas pesa casi tres kilos.*

‘The bag of apples weighs almost three kilograms.’

- a. *Creo que dos kilos y medio. ‘I think two and a half kilograms.’*
- b. *#Creo que tres kilos y medio. # ‘I think three and a half kilograms.’*

Example 3. *La bolsa de manzanas pesa tres kilos largos.*

‘The bag of apples weighs three or so kilograms.’

- a. *#Creo que dos kilos y medio. # ‘I think two and a half kilograms.’*
- b. *Creo que tres kilos y medio. ‘I think three and a half kilograms.’*

The interpretation for Example 1, which contains the neutral AP *alrededor de* ‘around’, can be that the bag of apples weighs either *two and a half kilos* or *three and a half kilos*. For Example 1, both options are acceptable. Example 2, on the other hand, could only be interpreted as *three and a half kilos*. This instance contains the defective AP *casi* ‘almost’, and defective APs activate only negative inferences by signaling values that are below the exemplar number. Example 3 can only be interpreted as *three and a half kilos*, because excessive APs, such as *largos* ‘or so’, only signal values that are higher than the exemplar number. Put differently, and following Pardo (2018), neutral APs (*aproximadores* ‘approximators’ in the author’s words) have the possibility of marking proximity in two directions, while the other two categories, defectives and excessives (*aproximativos* ‘approximatives’ for the author), combine both proximity and polarity. Table 1 presents additional examples of APs of each semantic category.

Table 1. Examples of Spanish APs following García-Medall's (1993) taxonomy.

Defective	<i>casi</i> 'almost' <i>pácticamente</i> 'practically' <i>cerca de</i> 'close to'
Neutral	<i>como</i> 'like' <i>alrededor de</i> 'around' <i>unos/unass</i> 'some' <i>aproximadamente</i> 'approximately' <i>más o menos</i> 'more or less'
Excessive	<i>y tantos/tantas</i> '-something' <i>y pico</i> 'ish' <i>largos</i> 'or so'

Previous research has suggested that vagueness in discourse enables a use of language that is flexible enough to cope with an infinite variety of experiences (e.g., Channell 1994; Metsä-Ketelä 2006; Ullmann 1962). More specifically, speakers can be vague due to indetermination (Peirce 1902), practicality (Lasersohn 1999), lack of familiarity with what a word stands for (Ullmann 1962), memory loss (Crystal et al. 1975), or a lack of certainty at the time of speaking (Channell 1994; Jucker et al. 2003), among other reasons. From a cognitive perspective, research has shown that when the context does not demand precision, imprecise numeric expressions (e.g., time, money, frequencies, or probabilities) save the speaker time and cognitive resources and yield the same contextual assumptions that precise utterances would, but with lower processing costs (Gibbs and Bryant 2008; Jucker et al. 2003; Van Der Henst et al. 2002). In other words, talking about quantities and numeric values vaguely can help maintain fluency in a conversation and make an informative contribution without having to spend extra time and cognitive resources retrieving unnecessary details.

2.2. Numeric Imprecision in L2 Speech

Most of the existing literature on L2 speakers' use of imprecise language has focused on general extenders (e.g., and stuff), hedges (e.g., sort of), and non-numerical vague quantifiers (e.g., many) (e.g., Cheng and Warren 1999; De Cock et al. 2014; Nikula 1997; Sabet and Zhang 2015). To date, there is a scarcity of studies focusing on the use of APs or, in a more general way, the expression of numeric imprecision among L2 learners of different proficiency levels. Furthermore, while there are a handful of studies on the expression of imprecise quantities in L2 English, there is a lack of detailed empirical data in the Spanish context.

In one such study with English L2 learners, Drave (2002) examined the use of vague terms using corpus data of intercultural oral conversations between L2 learners of English dominant in Cantonese and native English speakers. The study showed that while there were no significant differences with regard to the vague lexical items that native English speakers and L2 learners used to talk about imprecise quantities (i.e., both groups favored *about* and *n or m* structures, such as *3 or 4*), native speakers used APs more frequently. In a similar study, Cheng and Warren (2003) investigated intercultural communication using corpus data from oral conversations between Cantonese-dominant L2 learners of English and native English speakers. The study examined several forms of vague language, including the approximation of quantities. Findings revealed that their L2 speaker participants frequently used *about* and *something* (e.g., about 10 dollars, 20-something dollars) to communicate imprecision and lack of certainty. This study did not discuss the frequency in which each lexical item analyzed was produced, thus it is unclear whether native and L2 speakers' use of vague terms differed quantitatively.

Additionally, Yu (2009) examined how Chinese-dominant L2 learners of English of various proficiency levels acquired hedging and investigated several different vague lexical items, including APs. The researcher conducted oral interviews and oral debates with

participants, and the analysis included tokens containing APs. Overall, the results indicated that APs were more prevalent in the interviews than in the debates and that intermediate and advanced L2 groups expressed numeric approximation using *n* or *m* structures (e.g., 40 or 50), while the beginners expressed quantity approximations with vague quantifiers, such as *a little*, *a few*, and *much*. The author concluded that an increased L2 proficiency correlated with a higher frequency and a wider variety of APs, since these forms were employed more among the intermediate and advanced participants.

Although past literature has identified the most frequent lexical items that L2 learners use to express numeric uncertainty in English (e.g., like, about, more or less, almost, something, and *n* or *m* structures), the proficiency measures used in some of the existing studies using corpus data (e.g., Drave 2002; Cheng and Warren 2003) are unclear. Furthermore, other studies (e.g., Yu 2009) did not include native speakers that could serve as a comparison group. These limitations point to a need for additional research to offer more conclusive evidence of the relationship between L2 proficiency and the use of APs to talk about imprecise quantities.

Finally, numeric imprecision in the L2 is also often expressed using grammatical forms like parenthetical verbs and adverbs of doubt, as these forms can be used to reduce the degree of commitment to a proposition (Hennemann 2012) and, thus, convey uncertainty. For example, in L2 Spanish, *pensar* ‘to think’ and *creer* ‘to believe’ have been found to be frequently used by learners whose L1 is English, especially at the lower-proficiency level (Jimenez 2019). Following Hennemann (2012, p. 159), it can be suggested that these parenthetical verbs have a “very general meaning, roughly equivalent to ‘cognize’, which, according to the context, is construed as a judgment over available evidence or as a personal opinion”. Similarly, English speakers learning Spanish as an L2 have also been found to rely on the use of adverbs of doubt to convey numeric imprecision. More specifically, Jimenez (2019) found that *probablemente* ‘probably’ appeared in the speech of intermediate-proficiency L2 learners quite frequently. According to Hennemann (2012), *probablemente* and its English counterpart ‘probably’ are cognates that express likelihood (of a state of affairs) and uncertainty. Furthermore, Arabski (1979) and Ringbom (1992) noted that cognates have been found to play a significant role at the early stages in the development of the L2, since they simplify production tasks by activating formally similar equivalents in the L1.

2.3. L2 Exposure and Lexical Development

Research in L2 acquisition has identified several elements that are independent of the target language but that play a significant role in this process. Some are related to affective aspects of learning, such as motivation, attitudes, anxiety, and self-confidence (e.g., Gardner and MacIntyre 1993), and others are related to exposure and L2 contact (e.g., Long 1980, 1996; Gass and Mackey 2006).

The Interaction Hypothesis (originally proposed by Long 1980, 1996 and further developed by Gass and Mackey 2006), for example, explains L2 contact and its effect on acquisition in a way that combines aspects of the Input Hypothesis (Krashen 1982, 1985) and Output Hypothesis (Swain 1985, 1995). This Interaction Hypothesis states that the development of language proficiency is promoted by interaction with interlocutors (i.e., the communicative act), which, as noted by Brown (2014), can occur between a non-native speaker and a native speaker or between a lower and higher non-native speaker. According to Long (1996), interaction facilitates acquisition because it connects input (i.e., the exposure learners have to the L2) and output (i.e., the language production) in productive ways.

During interaction, there is access to input, which provides information to activate the learning mechanisms (e.g., Lightbown and Spada 2013), as well as opportunities for producing output, which promotes noticing, metalinguistic awareness, and hypothesis testing (e.g., Swain 1993, 1995). In other words, interaction exposes learners to communicative pressure through the negotiation of meaning (e.g., Gass 2003; Swain 1993, 1995), allows L2 learners to notice their own patterns of language use and compare them to those of their interlocutors, and creates opportunities for learners to bring attention to

the correctness and/or incorrectness of their utterances (Brown 2014; Ehrlich et al. 1989; Gass and Mackey 2006).

More recent discussions on L2 exposure in the field of SLA revolve around the type of learning conditions and level of awareness that could result from explicit or implicit learning. Awareness is defined as “a particular state of mind in which an individual has undergone a specific subjective experience of some cognitive content or external stimulus” (Tomlin and Villa 1994, p. 193), and it is typically associated with the type of learning. More specifically, explicit learning involves awareness and a cognitive effort, while implicit learning does not (Leow and Zamora 2017). Furthermore, implicit learning occurs more often in naturalistic rather than academic contexts, as this form of learning “takes place naturally, simply, and without conscious operations” (Ellis 2008, p. 3). A similar approach has been taken in cognitive SLA under the lens of intentional and incidental learning (e.g., Leow 2015; Leow and Zamora 2017).

This contrast between implicit/incidental learning or explicit/intentional learning derived from the Monitor Model (Krashen 1982), as well as from the field of cognitive psychology and Reber’s (1976) work with abstracted knowledge. The potential effects of learning conditions (implicit or explicit) as well as the type of environment in which learning takes place have been central to SLA research (Sanz 2014), as they mediate the quality and quantity of input, output, and interaction learners have.

Adult L2 acquisition generally occurs through formal lessons, naturalistic experiences, or a combination of both, each one providing a different kind of L2 exposure (Pica 1983). On the one hand, classroom exposure is characterized by being formal, highly structured, and involving a teaching environment (Muñoz 2008). On the other hand, naturalistic exposure is unrestricted and unstructured, and allows the learner to actively interact with native speakers of the language without being restricted in a classroom environment (Muñoz 2008). Furthermore, while a classroom setting exposes learners to the language rules in an organized sequence, as well as to feedback and error correction, a naturalistic setting prioritizes communicating meaning; if there is error correction, it mostly focuses on meaning rather than grammar (D’Anglejan 1978; Krashen 1976; Krashen and Seliger 1975).

Research has found that study abroad programs provide opportunities for intensive language practice in naturalistic settings and promote accelerated learning. As noted by Sanz (2014), the study abroad context allows students to learn by doing and by living, as they are constantly surrounded by the language that fosters uninstructed (i.e., implicit) learning that is sometimes combined with an instructed (i.e., explicit) component.

There are different individual variables that can affect language gains while abroad, including gender, age, initial proficiency, and length of stay (Llanes and Serrano 2011). Interestingly, although researchers have stressed the importance of length of stay for L2 learners (Dwyer 2004; Llanes and Muñoz 2009), Llanes and Serrano (2011) affirm that it is a variable that has not received sufficient attention despite its substantial economic and pedagogical implications. For example, research on long-term study abroad has found that the learners’ productive skills in the target language benefit significantly from this experience. For example, gains in language production can be seen in higher fluency (e.g., Segalowitz and Freed 2004; Mora and Valls-Ferrer 2012; Segalowitz and Freed 2004), grammar accuracy (e.g., Collentine 2004; Issa et al. 2020), better pronunciation (Nagle et al. 2016; Wright and Zhang 2014), and more a stable intonation (Henriksen et al. 2010; Craft 2015). In addition, accelerated rates of lexical development seem to be one of the most significant gains of study abroad (Milton and Meara 1995; Collentine 2004), which have been attested in increased lexical fluency (e.g., Kim et al. 2015), pronunciation (e.g., Díaz-Campos 2004; Lord 2006), as well as complexity and richness (e.g., Serrano et al. 2011, 2012).

Long-term study-abroad programs typically last from a semester to a year (Hamad and Lee 2013); however, there are short-term programs (usually in the summer) that last from six days to six weeks (Evans and Fisher 2005; Issa et al. 2020; Grey et al. 2015), which have also been found to provide learners with significant opportunities for linguistic improvement. For example, in the lexical domain, research has found that short-term exposure reduces

lexical errors (Issa et al. 2020; Llanes and Muñoz 2009) and increases accuracy and speed (Grey et al. 2015). Pérez-Vidal (2014), and Kinginger (2013) posited that learners who take part in a study abroad have the opportunity to enhance their language proficiency and gain first-hand exposure to the target culture and practices. These opportunities are created by the immersive exposure that learners have while abroad. However, immersion may also occur informally through trips and extended visits and not only formally through study abroad.

While study abroad is a common form of extensive, meaningful, and authentic contact with the L2, it is important to note that naturalistic exposure occurs by just being in the target language community. As suggested by Howard (2012, p. 21), “naturalistic exposure through visits to and extended stays in the native speech community and through authentic resources and other opportunities for informal L2 contact outside the classroom has been shown to be highly beneficial to the L2 learner”. Thus, any type of experience abroad in a target-language community presents learners with optimal conditions for L2 learning, as the exposure to the language is abundant given the immersive setting.

Having reviewed the relevant literature on vagueness and APs, L2 expression of numeric imprecision, and the benefits of L2 immersion and naturalistic exposure, the next sections will present the study, including the research questions, followed by the methods, which includes information on the participants, data collection instrument and procedures, and data analysis.

3. Research Questions and Hypotheses

The following questions guided the study:

1. Do L2 learners use APs when they talk about imprecise quantities in Spanish? If not, what other forms do they use?
2. Does the level of L2 proficiency (i.e., intermediate and advanced) determine the range and frequency of APs produced?
3. Do L2 learners who have spent time abroad (through study abroad or extended visits) in a Spanish-speaking country exhibit a more target-like use of APs?

For RQ1, the hypothesis states that learners will use APs in Spanish, although it might not necessarily be their preferred form. These forms also exist and are frequently used in their L1 (English) (Channell 1994; Sauerland and Stateva 2011); thus, this category of vague lexical items is familiar to them. Other alternatives for expressing uncertainty might be through the use of parenthetical verbs (I think, I believe), as these forms are frequently used in English to denote tentative assertions and avoid fully committing to a statement (Jimenez 2019; Jucker et al. 2003; Stubbs 1986). For RQ2, the hypothesis is that the level of L2 proficiency will affect the range and frequency of APs produced, as lexical competence increases in tandem with language proficiency (Tanaka 2012). For RQ3, the hypothesis states that an increased time abroad will correlate with a more frequent and native-like use of APs, as lexical knowledge is prone to accelerated rates of development when learners receive naturalistic exposure to the target language (Grey et al. 2015; Issa et al. 2020; Llanes and Muñoz 2009).

4. Methods

4.1. Participants

A total of 60 individuals took part in this study, and they were separated into three participant groups: intermediate Spanish L2 (herein, Int L2; $n = 20$; 12 females, 8 males), advanced Spanish L2 (herein, Adv L2; $n = 20$; 9 females, 11 males), and a baseline comparison group of native Spanish speakers (herein NS; $n = 20$; 11 females, 9 males). Beginners were not included, because a pilot study showed that, at their level, they were not able to comprehend the language in the task or to respond spontaneously. The study used a recruitment flyer that contained the researcher’s contact information, a brief and very general description of the study, and information about the compensation for participating

in the project. Additionally, the snowball recruitment technique was crucial to find potential participants.

The Spanish L2 learners were native English speakers, born and raised in the United States in monolingual households. They started learning Spanish in school after puberty, and none of them had significant exposure to a third language. Some L2 learners had studied abroad in a Spanish-speaking country, and others had vacationed for either a short or extended period of time (see Table 1 for details). All the L2 learners (Int L2 and Adv L2) were either undergraduate or graduate students at a large public institution in Northeastern United States. The individuals in the NS group were born and raised in Mexico; learned Spanish naturalistically in the home setting as children; and when the study was conducted, spoke only Spanish at home, school/work, and with friends and family. In addition, NS did not receive significant instruction or exposure to English (or any other language) during their childhood and adolescence. All the NS were undergraduate students at a large public university in Northwestern Mexico.

4.2. Data Collection Instruments, Procedures, and Data Analysis

Before beginning the study, participants read and signed a consent form, which informed them of the length of the study, the total number of participants, procedures, and confidentiality of their data. The participants also gave consent to be audio recorded. The consent form did not give specific details about the items in the task to ensure that their answers were spontaneous.

The data for analysis came from oral interviews with 45 open-ended questions. All participants received the same questions in the same order, and the researcher (who is the author of this article) conducted all interviews. The interviews were audio-recorded and subsequently transcribed for analysis. The questions touched on different topics related to the participants' daily life (e.g., school/work, social life, eating habits, living arrangements). Fifteen out of the 45 questions were experimental items (i.e., triggered the expression of numeric imprecision), while the rest were distractors. The analysis was restricted to the answers to the 15 experimental questions.

The 15 questions that elicited quantities focused on money-related situations (e.g., the amount of money spent eating out every month or grocery shopping every week). See Example 4(a–d) for sample experimental interview questions. Imprecision in money-related utterances is frequent in daily language use, as speakers are often uncertain or lack specific details about the cost of items or activities. Thus, this topic situated the participants in a communicative context that was both realistic and meaningful. To foster homogeneity in responses, the experimental items exclusively focused on money-related situations, because, as Channell (1994) noted, depending on the nature of the item (i.e., discrete versus non-discrete), speakers may use different strategies of approximation. In addition, it is known that more proficient speakers tend to use more elaborate language than less proficient ones, and they tend to provide longer responses. Therefore, only the first answer to each of the 15 questions was included in the analysis, and any reformulations or repetitions were excluded.

Example 4. Sample experimental interview questions.

- a. *¿Cuánto gastas cuando sales los fines de semana con tus amigos? 'How much do you spend on the weekends with friends?'*
- b. *¿Cuánto gastas por semana en el supermercado? 'How much do you spend every week on groceries?'*
- c. *¿Cuánto gastas al mes comiendo fuera de casa? 'How much do you spend a month eating out?'*
- d. *¿Cuánto gastas en viajes o paseos al semestre? 'How much do you spend on trips every semester?'*

Two screening methods determined the participants' eligibility to take part in the study. First, following Cuza et al. (2013), a 50-item modified version of the *Diploma de Español como Lengua Extranjera* (DELE) was used as a proficiency measure to separate the L2 learners into

the intermediate and advanced groups. Second, the Language Experience and Proficiency Questionnaire (LEAP-Q; [Marian et al. 2007](#)) was used to gather information about the participants' language experience and use and to ensure that people with significant exposure to other languages or who were Spanish heritage speakers did not participate in the study. The LEAP-Q was administered to all the participants. Table 2 shows a summary of the data from the two screening tasks.

Table 2. Demographics of the participant groups, their performances on the proficiency measure, and their exposures abroad.

Participant Group	Age	DELE Score	Years of Spanish Education	Weeks Spent in a Spanish-Speaking Country
Intermediate L2	$M = 20.25$	$M = 33.51$	$M = 8.85$	$M = 2.97$
	$SD = 1.41$	$SD = 3.05$	$SD = 3.27$	$SD = 3.10$
Advanced L2	$M = 25.65$	$M = 44.50$	$M = 9.95$	$M = 18.2$
	$SD = 3.93$	$SD = 2.61$	$SD = 3.24$	$SD = 8.85$
Native speakers	$M = 21.10$			
	$SD = 1.20$	-	-	-

The self-reported data from the two L2 learner groups indicated that the Int L2 and the Adv L2 learners had a comparable number of years studying Spanish. However, the groups varied regarding the number of weeks spent in a Spanish-Speaking country and their DELE scores. The experience abroad was calculated based on the cumulative number of weeks the learners had either studied abroad, vacationed, or done missionary work in a Spanish-speaking country.

The quantitative analysis used descriptive statistics as well as four Generalized linear mixed-effects models (GLMMs) run in R using the lme4 package ([Bates et al. 2015](#)). GLMMs represent mixed-effects logistic regressions that allow binary responses and can include both fixed and random effects (hence mixed models). The first GLMM analyzed the effect of *proficiency group* (with three levels: Int L2, Adv L2, NS) on the variable *response type* (with two levels: 0 = using an AP; 1 = using another marker of imprecision). The second GLMM examined the effect of *proficiency group* on the variable *approximator type* (with two levels: 0 = defective AP; 1 = neutral AP). Recall that defective APs, such as *casi* 'almost', *prácticamente* 'practically', or *cerca de* 'close to', signal values that are slightly below the exemplar number. In contrast, neutral APs, such as *como* 'like', *más o menos* 'more or less' or *unos/as* 'some', signal values that are both slightly below and slightly above the exemplar number, marking proximity in two directions. Both *response type* and *approximator type* were categorical variables. The third and fourth GLMMs examined the interaction between *proficiency group* and *weeks abroad* on *response type* and *approximator type*, respectively. *Weeks abroad* was a set as a continuous variable. All the dependent variables were categorical and binary, and the models included the participant and item as random factors in order to account for variance in these components.

5. Results

Three questions guided the study: RQ 1 addressed the effect of proficiency on the use of markers of imprecision when responding to money-related questions. RQ2 focused on the effect of proficiency on the range and frequency of APs produced. For RQs 1 and 2, the answers provided by a group of native Spanish speakers were used as a baseline comparison in the analysis. RQ 3 examined the interaction between L2 proficiency and cumulative length of exposure to Spanish abroad on the use of APs.

5.1. Effects of L2 Proficiency

For RQ1, descriptive statistics were used first to identify all the markers of imprecision employed by the participants and the frequencies in which they were produced. Table 2 shows that five categories of markers of numeric imprecision were identified in the data and provides the distribution of answers according to the level of Spanish proficiency. The distribution of responses presented in Table 2 is based on the answers provided for each of the 15 experimental questions. The total contribution (i.e., tokens) for each proficiency group is provided at the bottom of each column.

Table 3 shows the use of APs (e.g., *como* ‘like’, *unos* ‘some’), parenthetical verbs (e.g., *pienso que* ‘(I) think that’, *creo que* ‘(I) believe that’), adverbs of doubt (e.g., *probablemente* ‘probably’, *quizá* ‘perhaps’), *n or m* structures (e.g., *\$40 o \$50* ‘\$40 or \$50’), and up-stepping (i.e., raising intonation in a declarative sentence).

Table 3. Distribution of markers of numeric imprecision according to the proficiency group ($n = 874$).

Markers of Numeric Imprecision	Proficiency Group		
	INT L2	ADV L2	NS
Approximators (472)	26.30% (76)	49.49% (143)	85.47% (253)
Parenthetical verbs (207)	31.49% (91)	33.91% (98)	6.08% (18)
Adverbs of doubt (96)	16.96% (49)	12.80% (37)	3.38% (10)
<i>n or m</i> structures (36)	3.45% (10)	3.81% (11)	5.07% (15)
Up-stepping (63)	21.80% (63)	0% (0)	0% (0)
Total (874)	100% (289)	100% (289)	100% (296)

Several tendencies were observed: First, the NS exhibited a strong preference for APs when discussing imprecise quantities; the Adv L2 produced these lexical items almost half of the time, while the Int L2 used them with the least frequency. Second, the Adv L2 and the Int L2 resembled each other in their use of parenthetical verbs and adverbs of doubt, but these forms were not frequently produced by the NS. Third, no marked differences across groups were found with regard to the use of *n or m* structures. Finally, the use of up-stepping to indicate numeric imprecision was only found among the Int L2. Example 3(a–e) illustrates the use of all the markers of imprecision. The excerpts are representative of a variety of speakers in the study.

Example 5. *¿Cuánto gastas cuando sales los fines de semana con tus amigos?*

‘How much do you spend on the weekends with friends?’

- (NS 15) Por persona **como 500 pesos**, pero depende de si voy con mi novia o si voy con mis amigos o de si es cena o solo ir a un bar o algo así. *‘For each person like 500 pesos, but (it) depends on whether (I) go with my girlfriend or if (I) go with my friends or if (it) is a dinner or just a bar or something like that.’*
- (Adv L2 16) Hum, **probablemente 50 dólares**. Yo cocino mucho en casa así que no salgo mucho, pero a veces estoy en el campus y me da hambre y no tengo opción. *‘Hum, probably 50 dollars. I cook a lot at home so (I) don’t go out much, but sometimes (I) am on campus and (I) get hungry and (I) don’t have an option.’*
- (Adv L2 08) Generalmente vamos a cenar con amigos. Por mí solo, yo pago **\$20 o \$25** cada vez. Eso más la propina. Siempre dejo propina porque yo era mesero cuando era más chico.

- ‘Generally, (we) go out for dinner with friends. Just for myself, I pay \$20 or \$25 every time. That plus the tip. (I) always tip because I was a waiter when I was younger.*
- d. (Int L2 01) **Yo pienso que 10 dolores** (sic). *No es mucho porque siempre me (sic) y mis amigos vamos a lugares no caros. Nosotros somos estudiantes y nosotros no tenemos mucho dinero. ‘I think that 10 dollars. (It) is not much because me and my friends always go to inexpensive places. We are students, and we don’t have a lot of money.*
- e. (Int L2 12) **15 dólares?**³ *cada persona, con el tip incluyido (sic). ‘15 dollars? each person, with the tip included.’*

While all the markers of numeric imprecision presented above merit attention as they represent the lexical and prosodic resources L2 learners have in their inventory, APs are the core of the present study. For that reason, the analysis will now focus on the use of these forms.

A GLMM was run to examine the role of Spanish proficiency in the use of APs as opposed to other markers of numeric imprecision. The GLMM included *response* as a categorical variable with two levels (the code 1 identified instances in which APs were used, whereas the code 0 identified the use of other markers of numeric imprecision) as a function of Spanish proficiency (Int L2, Adv L2, NS), which was also set as a categorical variable.

The model confirmed that increased L2 proficiency correlated with a more frequent use of APs as opposed to other devices (e.g., parenthetical verbs, adverbs of doubt, *n* or *m* structures, or up-stepping). The Adv L2 produced significantly more APs than the Int L2 ($\beta = 1.29$, $SE = 0.37$, $z = 3.48$, $p < 0.001$), and the NS produced APs more frequently than both the Int L2 learners ($\beta = 3.32$, $SE = 0.40$, $z = 8.29$, $p < 0.001$) and the Adv L2 learners ($\beta = 2.04$, $SE = 0.38$, $z = 5.31$, $p < 0.001$). These tendencies are illustrated in Figure 1.

Figure 1 shows the frequency of responses containing APs (top part of the *y*-axis) versus other markers of numeric imprecision (bottom part of the *y*-axis). Figure 1 illustrates a progression in which the use of APs increased in tandem with proficiency, and it demonstrates that, for the NS, APs were the default forms when expressing numeric imprecision.

Next, RQ2 addressed whether the level of proficiency determined the frequency and range of APs used. Table 4 presents the distribution of APs produced according to the proficiency group.

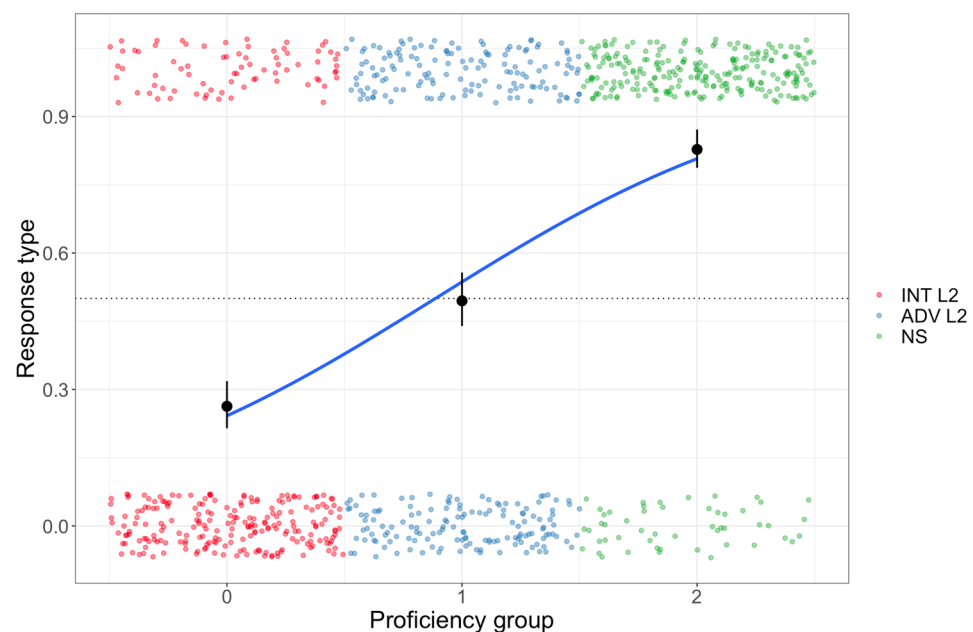


Figure 1. Distribution of other markers of imprecision (at the bottom) and approximators (at the top), according to the proficiency group.

Table 4. Distribution of approximators produced according to the proficiency group ($n = 472$).

Approximators	Proficiency Group		
	Int L2	Adv L2	NS
<i>Como</i> (278)	13.15% (10)	54.55% (78)	75.50% (191)
<i>Más o menos</i> (51)	15.78% (12)	19.58% (28)	4.34% (11)
<i>Casi</i> (44)	38.15% (29)	5.60% (8)	2.37% (6)
<i>Unos/as</i> (43)	3.94% (3)	12.58% (18)	8.70% (22)
<i>Alrededor de</i> (24)	0% (0)	7.69% (11)	5.14% (13)
<i>Cerca de</i> (17)	27.63% (21)	0% (0)	0% (0)
<i>Aproximadamente</i> (11)	1.31% (1)	0% (0)	3.95% (10)
Total (464)	100% (76)	100% (143)	100% (253)

From Table 4, we gather that several APs were produced. The NS and the Adv L2 favored the use of *como* ‘like’, while the Int L2 favored *casi* ‘almost’ and *cerca de* ‘close to’. Other APs, such as *más o menos* ‘more or less’, *unos/as* ‘some’, *alrededor de* ‘around’, and *aproximadamente* ‘approximately’, were produced with less frequency.

An interesting pattern related to lexical preferences is uncovered in Table 3. *Como*, the form that was favored by the Adv L2 and the NS, is a neutral AP, while the forms that were favored by the Int L2, *casi* and *cerca de*, are defective APs. Recall that neutral APs are those that activate positive and negative inferences, signaling values that are both slightly above and slightly below the exemplar number, and defective APs only activate negative inferences and signal values that are below the exemplar number. The remaining APs in the data (i.e., *más o menos*, *unos/as*, *alrededor de*, and *aproximadamente*) are all neutral APs.

A GLMM was run to further understand the relationship between proficiency and the use of neutral versus defective APs. The model included the variable *approximator type*, which was a categorical variable with two levels (the code 1 identified instances in which neutral APs were used, whereas the code 0 identified the use of defective APs), as a function of Spanish *proficiency* (Int L2, Adv L2, and NS), also set as a categorical variable.

The model confirmed that there were no significant differences when comparing the use of neutral APs among the NS and the Adv L2 ($\beta = 1.09$, $SE = 0.66$, $z = 1.63$, $p = 0.102$). However, the NSs were significantly more likely to use neutral APs than the Int L2 ($\beta = 4.76$, $SE = 0.78$, $z = 6.11$, $p < 0.001$), and similar results were revealed when comparing the Adv L2 with the Int L2 ($\beta = 3.66$, $SE = 0.71$, $z = 5.11$, $p < 0.001$). No significant random effects were found for participant or item. This tendency is illustrated in Figure 2, which shows the distribution of defective (bottom part of the y -axis) and neutral APs (top part of the y -axis), according to proficiency group.

Figure 2 illustrates the distribution of responses containing defective versus neutral APs. Figure 2 shows that only the Int L2 were significantly different from the other groups, as they produced defectives about half of the time. In contrast, once the L2 learners reached the advanced level, they behaved more like the NS and favored the use of neutral APs.

The first part of this section addressed the effects of proficiency alone in the expression of numeric imprecision. The next part of the results will broaden the scope and show how the interaction between L2 proficiency and exposure to naturalistic Spanish (i.e., cumulative length of exposure abroad) shaped the way L2 learners expressed numeric imprecision.

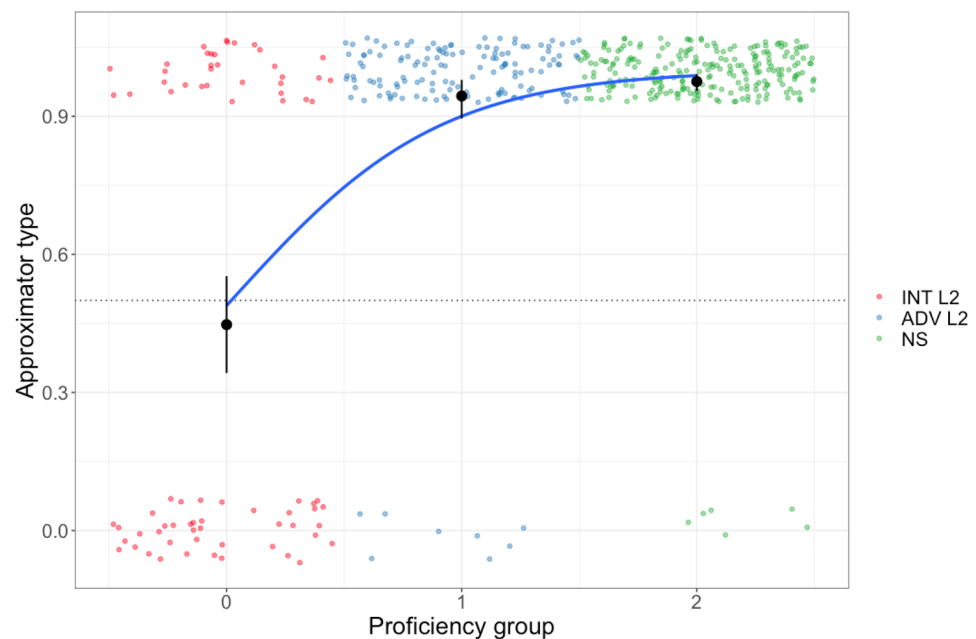


Figure 2. Distribution of defective (at the bottom) and neutral approximators (at the top), according to proficiency group.

5.2. Effects of L2 Proficiency and Length of Exposure Abroad

RQ3 investigated whether learners who have spent time abroad (via study abroad or extended visits) in a Spanish-speaking country exhibited a more target-like use of APs. To answer this question, first, a GLMM examined the use of APs over other markers of numeric imprecision (e.g., parenthetical verbs, adverbs of doubt, *n* or *m* expressions, and up-stepping) as a function of L2 proficiency and number of weeks abroad. The response variable was categorical, while the variables L2 proficiency and weeks abroad were continuous variables. Examining the interaction between these two variables was important to gain a more robust understanding of the process of acquisition of APs among Spanish learners.

The GLMM revealed that the number of weeks abroad was a significant predictor for the responses ($\beta = 1.94$, $SE = 0.77$, $z = 2.65$, $p = 0.008$). When taking L2 proficiency level into consideration, the model showed that the Int L2 were significantly more likely to increase their use of APs when exposed to Spanish abroad than the Adv L2 ($\beta = 0.20$, $SE = 0.09$, $z = 2.16$, $p = 0.026$). The GLMM also showed an interaction between L2 proficiency and weeks abroad ($\beta = -0.20$, $SE = 0.09$, $z = -2.02$, $p = 0.037$). More specifically, the effect of weeks abroad was stronger for the Int L2 than for Adv L2. No significant random effects were found for participant or item.

A more concrete interpretation of the interaction is presented in Figure 3, which illustrates the participants' responses (the ones containing an AP were coded as 1 and are located at the top of the y -axis, while the responses containing other markers of numeric imprecision were coded as 0 and are located at the bottom of the y -axis) based on their cumulative length of exposure abroad (x -axis) and their L2 proficiency level.

From Figure 3, we gather that while the Int L2 had significantly less experience abroad in comparison to the Adv L2, they benefitted greatly even from a short exposure. Int L2 learners with as little as one or two weeks abroad showed an increased use of APs than those with no exposure abroad at all. Figure 3 also shows that the cumulative length of exposure abroad was not a decisive factor in the use of APs for the Adv L2, as even the learners with very little exposure showed knowledge of these lexical items.

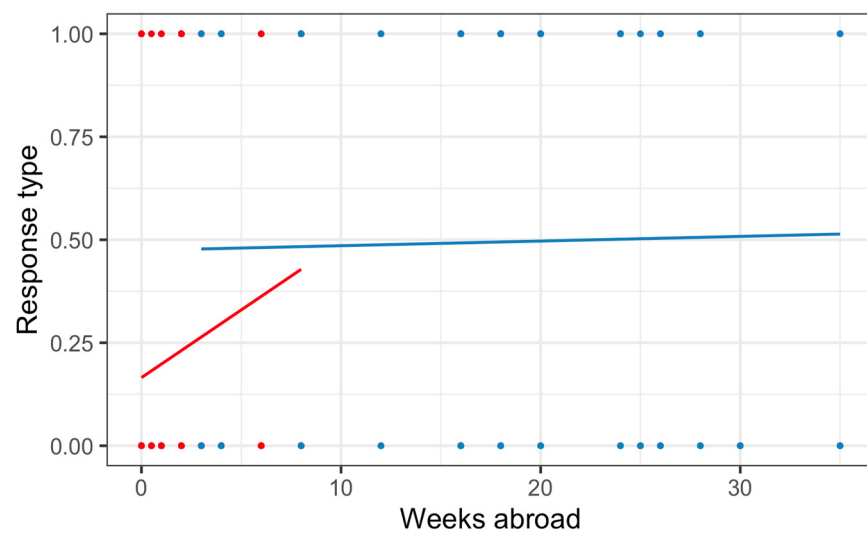


Figure 3. Distribution of responses containing approximators (at the top) and other markers of numeric imprecision (at the bottom) according to L2 proficiency and number of weeks abroad.

Next, the analysis focused on the role of proficiency and weeks abroad (both set as continuous variables) in the use of defective versus neutral APs (a categorical variable). A GLMM showed that both L2 proficiency ($\beta = 4.49$, $SE = 1.57$, $z = 2.86$, $p = 0.004$) and the number of weeks abroad ($\beta = 0.42$, $SE = 0.16$, $z = 2.62$, $p = 0.009$) conditioned the use of neutral versus defective APs. More specifically, there was an increased use of neutral APs with increased proficiency and increased length of stay abroad. The GLMM also revealed a significant interaction between L2 proficiency and weeks abroad ($\beta = -0.35$, $SE = 0.17$, $z = -2.05$, $p = 0.041$). No significant random effects were found for participant or item. Figure 4 shows the distribution of responses containing defective APs (coded as 0 and located at the bottom part of the y-axis) and neutral APs (coded as 1 and located at the top part of the y-axis) based on their cumulative length of exposure abroad (x-axis) and their L2 proficiency level.

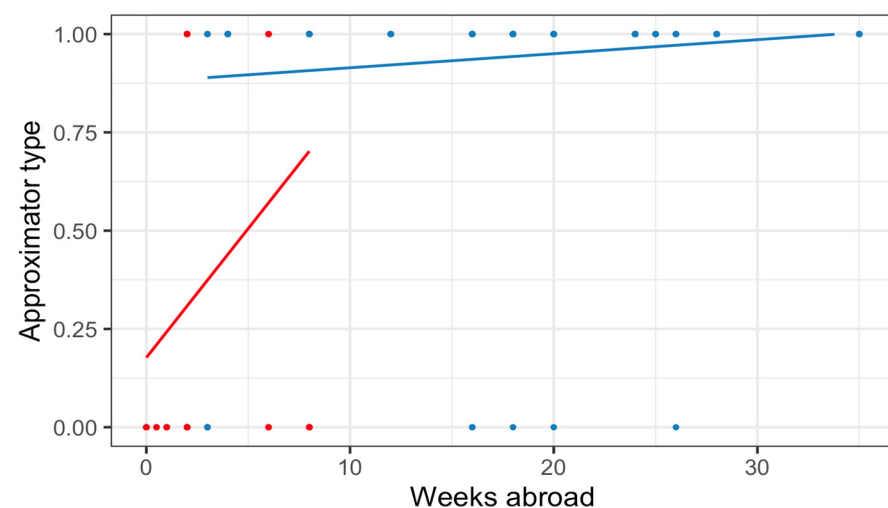


Figure 4. Distribution of responses containing defective (at the bottom) and neutral approximators (at the top) according to the level of L2 proficiency and the number of weeks abroad.

Figure 4 shows that learners with more exposure abroad produced more neutral APs. The Int L2 benefitted greatly from exposure to Spanish abroad, as even learners who had spent a short period of time abroad exhibited a preference for neutral APs instead of defectives.

In sum, the results uncovered that the use of APs (as opposed to other markers of numeric imprecision) increased in tandem with L2 proficiency. Proficiency also mediated the selection of APs, as the Int L2 produced defective APs (*casi* ‘almost’, *cerca de* ‘close to’) frequently, while Adv L2 strongly favored neutral APs (e.g., *como* ‘like’, *unos* ‘some’). Cumulative length of exposure abroad was also found to interact with L2 proficiency, and the findings showed that the Int L2 experienced significant lexical gains even when they had only spent a short time abroad. The lexical gains manifested in an increased use of APs, especially neutral APs.

6. Discussion

The first RQ identified how the participants in the study, intermediate L2 learners, advanced L2 learners, and a group of native speakers (Int L2, Adv L2, NS), indicated numeric imprecision when they answered money-related questions. The study uncovered several ways, both lexical and prosodic, in which speakers made imprecise references to quantities, including APs (e.g., *como* 30 dólares), parenthetical verbs (e.g., *pienso que* 30 dólares), adverbs of doubt (e.g., *probablemente* 30 dólares), *n* or *m* structures (e.g., 30 o 40 dólares), and up-stepping (e.g., 30 dólares?). The results also showed that the NS strongly favored the use of APs and that an increased L2 proficiency correlated with a preference for APs as opposed to the other markers of numeric imprecision mentioned above.

This finding resonates with previous research that has suggested that native Spanish speakers (of different varieties) typically mark numeric imprecision using APs (e.g., Grasso 2012; Jimenez 2019; Jimenez and Flores-Ferrán 2018; Kern 2012; Mihatsch 2009, 2010; Said-Mohand 2006). The results also showed that the Adv L2 behaved more similarly to the NS, as they favored APs over other forms, while the Int L2 produced APs, parenthetical verbs, adverbs of doubt, and up-stepping with comparable frequencies. This finding points to how resourceful the Int L2 were, as they demonstrated that they had multiple ways of responding to the interview even when they were uncertain about a quantity. However, this tendency might be suggestive of a developing stage in the Int L2’s lexical knowledge, as it seems that the Int L2 had not yet developed the knowledge necessary to consistently mark numeric imprecision in a way that patterned with highly proficient speakers and with the control group of NS. Although epistemic devices, such as parenthetical verbs and adverbs of doubt, are used in Spanish to signal lack of certainty at the time of speaking, when communicating a lack of certainty regarding quantities and numeric values, native Spanish speakers strongly prefer APs.

Another interesting finding concerns the use of prosody in the form of up-stepping (raising pitch in declarative sentences), which was only found among the Int L2. Up-stepping is a strategy commonly used in English (the learners’ L1) that uses prosody with a pragmatic value that signals a lack of certainty (e.g., Ward and Hirschberg 1985; Yang and Esposito 2000). Replicating pragmatic behavior from the L1 in the L2 can be taken as evidence of pragmatic transfer, which, as defined by Kasper (1992), occurs when the comprehension and production of linguistic action of a non-native speaker are influenced by their L1 pragmatic knowledge. This finding aligns with Rasier and Hiligsmann (2007) and Ramírez Verdugo (2005), who suggested that L2 learners are susceptible to transferring prosodic cues from their L1, which can lead to pragmatic differences that might affect the expression of (un)certainty in the L2.

The second RQ focused on the use of APs and inquired about the role of Spanish proficiency with respect to the range and frequency of APs produced in the responses. The findings revealed that the level of L2 proficiency modulated the type of AP that participants produced. That is, the Int L2 favored the use of defective APs (e.g., *cerca de* ‘close to’ and *casi* ‘almost’), while the Adv L2 resembled the NSs in that they favored the use of neutral APs (e.g., *como* ‘like’ and *más o menos* ‘more or less’). Neutral APs signal values that are both slightly above or below the exemplar number and thus do not establish a limit regarding the direction of the interpretation. On the other hand, defective APs establish only an upper limit and therefore pose more restrictions on the interpretation of approximated

quantities. Examples 1–3 in the Background section illustrate each kind of AP and the inferences they activate.

Inherently, neutral APs do not set strict semantic boundaries around exemplar numbers. Since these APs mark proximity in two directions, they introduce more vagueness and induce the hearer to interpret these quantities more easily than when compared to defective and excessive APs, which only delimit one margin of vagueness (either upper or lower). It is possible that the strong preference for neutral APs in the responses provided by the Adv L2 and NS was motivated by the low level of precision that the study task required, as well as for practical reasons. When speakers are not able to easily retrieve precise quantities, they can rely on vagueness to maintain fluency in the conversation and avoid spending unnecessary time and cognitive resources. Being unable to make the semantic distinction between APs can have communicative implications, as the appropriate selection of these lexical items is crucial in guiding the process of utterance interpretation. Neutral APs establish a wider range of possible interpretations than defective APs; understanding the difference allows speakers to convey the right amount of vagueness.

The strong preference for defective APs among the Int L2 is worth discussing, because the evidence suggests that neutral APs should be more frequent in their input. Jiang's (2000) proposal for L2 lexical development might be helpful in explaining the uniqueness of these learners' output. Jiang (2000) suggested that while, in the L1, all the specifications (i.e., type of information) are integrated within each lexical entry and are activated automatically, in the L2, learners acquire the specifications of lexical items gradually. According to this proposal, the lexical entry with formal specifications is established first. Then, the lemma information of the L1 counterpart is copied into the L2 lexical entry and mediates L2 word use. Lastly, the specifications of the lexical are integrated. Therefore, it is not until the third stage when L2 learners acquire a robust knowledge of the meaning of a lexical item.

Jiang's (2000) proposal can suggest that the specifications of the semantic meaning of *cerca de* and *casi* have not yet been fully integrated. More specifically, while the Int L2 know that APs make references to quantity imprecision, they seem to have integrated the specifications of the meaning of *cerca de* and *casi* differently, perhaps as neutral APs. The incomplete integration of specifications, as explained by Jiang (2000, p. 47), is part of the "practical constraints imposed on L2 learning," and is associated with the lexical development of L2 learners.

The third RQ investigated whether an increased cumulative length of exposure to naturally occurring Spanish (calculated based on self-reported data about the number of weeks spent in a Spanish-speaking country) correlated with an increased use of APs, as well as a more target-like use of these forms. The findings showed that the number of weeks the L2 learners spent abroad significantly impacted their use of APs, specifically in the case of the Int L2, as the learners with more cumulative length of exposure used APs more than other markers of numeric imprecision. In addition, longer stays abroad correlated with a more frequent use of neutral APs as opposed to defective APs, a behavior that resembled that of the Adv L2 and the NSs.

Increased opportunities to interact in the target language have often been considered as a catalyst for facilitating oral production development (Llanes 2011). Regarding lexical gains, it has been shown that increased L2 contact can result in more native-like lexical use (Foster 2009) and that even short term intensive L2 immersion can be beneficial for lexical and semantic acquisition (e.g., Cubillos et al. 2008; Issa et al. 2020; Llanes 2011; Llanes and Muñoz 2009; Pliatsikas and Chondrogianni 2015).

In this study, lexical gains were strongly evidenced among the Int L2, even among the learners who had a cumulative length of exposure of only a week or two. This might indicate that the learners encountered plenty of opportunities to listen to and produce APs in their daily communicative interactions, which facilitated the acquisition of these lexical items. Interestingly, the effect of cumulative length of exposure abroad was significantly stronger for the Int L2 than the Adv L2.

Short-term stays abroad have been found to benefit more proficient learners. They might be better prepared to experience rapid growth in grammar domains, in part because they often voluntarily exposed themselves to the target language (Segalowitz and Freed 2004). However, research has also shown that, in lexical domains, lower-level learners sometimes benefit more from immersion exposure than their advanced counterparts (Freed 1990; Klapper and Rees 2003; Zalbidea et al. 2021). Initially, Freed (1990, p. 473) suggested that lower-level learners have more room to demonstrate growth, while higher-level students might “have more or less mastered the language of daily activities [and] profit less in a general way from oral/social interaction.” However, more recently, DeKeyser (2007) suggested that it is possible that weaker students may progress faster at the beginning (e.g., learning conversational routines) but that advanced learners might benefit greater in the long run. Similarly, DeKeyser (2014) noted that while progress can be maintained throughout a long period of time, it is difficult to consistently maintain a fast pace. According to the author, this might be the reason why most advanced learners may not improve much in short periods of time abroad.

In sum, the study uncovered that the use of APs (as opposed to other markers of numeric imprecision) increased in tandem with L2 proficiency. More specifically, the Int L2 showed resourcefulness when solving a communicative situation that required them to talk about quantities that they could not recall with full precision. However, this group seemed to be in a developing stage, in which their lexical preferences deviated significantly from those of their advanced counterparts and the control group of NS, which is suggestive of a lack of full integration of specifications in meaning. There was also a positive correlation between the reported cumulative length abroad and the frequency and appropriate use of APs among the L2. Together, these findings suggest that increased L2 contact via immersion in a native community potentializes lexical gains, specifically for lower proficiency learners. APs seem to be acquired quickly if a learner is exposed to naturalistic language use, while it might take longer if the exposure is limited to the classroom setting.

7. Conclusions

This study generated empirical evidence on how Spanish L2 learners communicate numeric imprecision, taking into consideration their level of L2 proficiency (Int L2 and Adv L2) and the amount of self-reported cumulative length of exposure in a Spanish-speaking country. Looking at the effect of immersion and increased L2 exposure is specifically relevant to the topic under investigation, because numeric approximation is typically not taught in language classrooms. Immersion exposure through short visits or longer stays in a Spanish-speaking country enhanced L2 contact through informal, out-of-class interaction, which was found to be highly beneficial to Int L2 learners. It is important to highlight that this study was not specifically designed to investigate study abroad effects. The study only gathered data on the amount of time spent abroad but did not control or measure the amount of exposure the learners had to both formal and informal language while abroad (e.g., some learners had only vacationed in a Spanish-speaking country for a few days, while others were enrolled in study abroad programs). This limitation restricts the type of conclusions that can be drawn from the data.

Conducting more research on the acquisition of different aspects of vague language and the effect of immersion exposure could inform decisions on how to potentialize L2 contact opportunities during study abroad or how to incorporate materials and activities for classroom instruction that resemble language use in natural settings. Future investigations could also examine in-classroom learning and conduct pedagogical interventions that use pretest, instruction, and posttest sequences to determine which specific instructional practices could positively impact the acquisition of vague language. This type of research can generate information that can be used by language teachers and content creators to incorporate vague language, an important feature of daily language use, into their teaching practices and materials.

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Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board of Rutgers University (protocol number 17-120M, approved on 28 September 2016).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The full list of experimental items is contained in Appendix A.

Conflicts of Interest: The author declares no conflict of interest.

Appendix A

Full list of experimental items in the interview.

1. *¿Cuánto dinero gastas cuando sales los fines de semana con tus amigos?* ‘How much money do you spend on the weekends with friends?’
2. *¿Cuánto cuesta un almuerzo en tu restaurante favorito?* ‘How much money does lunch cost at your favorite restaurant?’
3. *¿Cuánto gastas al mes comiendo fuera de casa?* ‘How much do you spend a month eating out?’
4. *¿Cuánto gastas por semana en el supermercado?* ‘How much do you spend every week on groceries?’
5. *¿Cuánto gastas en libros para tus clases por semestre?* ‘How much do you spend on books every semester?’
6. *¿Cuánto gastas otros materiales escolares para tus clases por semestre?* ‘How much do you spend on other school materials every semester?’
7. *¿Cuánto cuesta un boleto para el cine entre semana?* ‘How much does a movie ticket cost on a weekday?’
8. *¿Cuánto gastas en ropa al año?* ‘How much do you spend on clothes every year?’
9. *¿Cuánto cuestan unas palomitas chicas y una soda en el cine?* ‘How much does a small popcorn and soda cost at the theaters?’
10. *¿Cuánto cuesta una pizza chica en la pizzería más cercana?* ‘How much does a small pizza at the nearest pizzeria cost?’
11. *¿Cuánto cuesta un café grande en las cafeterías cerca de la universidad?* ‘How much does a large coffee at the local cafeteria cost?’
12. *¿Cuánto gastas al mes en transporte?* ‘How much do you spend on transportation per month?’
13. *¿Cuánto pagas de renta y de servicios al mes?* ‘How much do you spend on rent and services per month?’
14. *¿Cuánto gastas al semestre en actividades locales para entretenimiento?* ‘How much do you spend on local activities for entertainment?’
15. *¿Cuánto gastas en viajes o paseos al semestre?* ‘How much do you spend on trips every semester?’

Notes

- ¹ Vagueness has received different names in the literature, including *fuzziness* (Lakoff 1973), *imprecise language* (Crystal et al. 1975), *looseness* (Sperber and Wilson 1986), and *vague expressions* (Carter and McCarthy 1997).
- ² Scalar APs have also been referred to as *rounders* (Prince et al. 1982) and *approximatives* (Wierzbicka 1986).
- ³ The symbol ? represents rising intonation, following Jefferson’s (2004) transcription conventions.

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