

VERB PHRASE ELLIPSIS AND REFLEXIVE ANAPHORA RESOLUTION IN SECOND LANGUAGE ACQUISITION: A STUDY OF SPANISH LEARNERS OF ENGLISH

LA ELIPSIS VERBAL Y LA RESOLUCIÓN DE LA ANÁFORA REFLEXIVA EN LA ADQUISICIÓN DE SEGUNDAS LENGUAS: UN ESTUDIO CON APRENDICES ESPAÑOLES DE INGLÉS

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Abstract

This paper analyses the choice of sloppy and strict interpretations of reflexive anaphora in verb phrase ellipsis from the perspective of Relevance Theory (RT) (Sperber and Wilson 1986, 1995, 2002, 2008; Wilson and Sperber 2002, 2004). Forty-four Spanish learners of English and 29 native speakers of English were administered two judgement tasks designed to gauge the effect of the Communicative Principle of Relevance on their interpretation of reflexive anaphora in bare, referential and non-referential contexts. Results showed that, in accordance with this principle, the sloppy interpretation is favoured in bare and non-referential contexts, while strict readings prevail in referential contexts, these preferences being less marked for L2 learners than for native speakers. Moreover, the sloppy interpretation is chosen more frequently when native speakers are given a non-referential context, whereas it decreases when L2 learners are provided with the very same context, indicating that the syntax-pragmatics interface makes up an information processing load and acts as a distractor for L2 English learners.

Keywords: VP-ellipsis, L2 English, reflexive anaphora, strict reading, sloppy reading, Relevance Theory.

Resumen

Este artículo analiza la elección de interpretaciones laxas y estrictas de la anáfora reflexiva en contextos de elipsis verbal desde la perspectiva de la Teoría de la Relevancia (Sperber y Wilson 1986, 1995, 2002, 2008; Wilson y Sperber 2002, 2004). Cuarenta y cuatro estudiantes de inglés españoles y veintinueve hablantes nativos de inglés realizaron dos tareas de juicio diseñadas para investigar el efecto del Principio Comunicativo de la Relevancia en su interpretación de la anáfora reflexiva en contextos simples, referenciales y no referenciales. Los resultados mostraron que, de acuerdo con este principio, la interpretación laxa se ve favorecida en los contextos simples y no referenciales, mientras que la interpretación estricta prevalece en los contextos referenciales, siendo estas preferencias menos marcadas en el caso de los hablantes no nativos. Además, la interpretación laxa aumenta cuando se presenta un contexto no referencial a los hablantes nativos, mientras que disminuye cuando se da ese mismo contexto a los estudiantes de L2, lo que parece indicar que la interfaz sintaxis-pragmática constituye una carga de procesamiento de información y actúa como un elemento que distrae en el caso de los estudiantes de inglés como L2.

Palabras clave: elipsis verbal, inglés como L2, anáfora reflexiva, interpretación estricta, interpretación laxa, Teoría de la Relevancia.

1. Introduction

Over the past fifty years, researchers have tried to decipher the different characteristics of ellipsis, i.e. the omission of subcategorised linguistic material when there is a linguistic or extralinguistic antecedent. This syntactic phenomenon has been approached not only from the perspective of diverse theoretical frameworks, namely Generative Grammar and Relevance Theory (RT henceforth), but also from that of applied linguistics, such as first and Second Language Acquisition (SLA henceforth). The present paper offers an analysis of the interplay between reflexive anaphora and verb phrase ellipsis (VP-ellipsis henceforth) in SLA from a relevance-theoretic perspective. More specifically, since this phenomenon, present in ambiguous sentences like *John defended himself and Bill did too*, has only been studied concerning L2 English learners whose mother tongues are Chinese (Ying 2003, 2005), Korean (Park 2016) and Cameroon English (Epoge 2012), we investigate the interpretations of reflexive anaphora in VP-ellipsis made by Spanish learners of English. These participants were administered two judgement tasks designed to gauge the effect of the Communicative Principle of Relevance on their interpretation of reflexive anaphora in various contextual situations.

In this paper we will first introduce the concept of ‘ellipsis’, and then describe the characteristics of VP-ellipsis and its interaction with reflexive anaphora (Section 2), which will be the focus of this study. In Section 3, we will offer a general description of the studies that have broached this interaction of VP-ellipsis with reflexive pronouns in the field of SLA, with a particular interest in research from the perspective of RT. In Section 4, we will present the research questions that have been object of this study. In Section 5, we will describe the methods used to gather the data. Sections 6 and 7 provide the analysis and discussion of the data respectively. Section 8 offers a summary of main findings, concluding remarks and issues for further research.

2. VP-ellipsis and Reflexive Anaphora

Ellipsis can be defined as a linguistic phenomenon in which expected, that is, subcategorised elements, have been omitted thanks to a linguistic or extralinguistic context that acts as the antecedent. Hence, in elliptical constructions there is a mismatch between meaning (the message one tries to convey) and sound (what is actually uttered) (Aelbrecht 2010). In other words, there is meaning without form: *significatio ex nihilo* (‘meaning out of nothing’) (Merchant 2013a: 1). Ellipsis is illustrated in (1):

- (1) I wanted to go to Eve’s birthday party but I couldn’t ~~go to Eve’s birthday party~~.

Example (1) is an instance of so-called VP-ellipsis in which the elided VP (*go to Eve’s birthday party*) in the second conjunct can be retrieved from the first one, which serves as the antecedent (i.e. there is a linguistic context that permits the occurrence of ellipsis). This type of elliptical construction and its interaction with reflexive pronouns will be the focus of this paper, as will be explained in the remainder of this section.

VP-ellipsis has been the most widely discussed type of ellipsis in the Generative Grammar framework (see Hankamer and Sag 1976; Sag 1976; Williams 1977; Hardt 1993; Lobeck 1995; Johnson 2001; Carlson 2002; Aelbrecht 2009, 2010; Thoms 2011; Aelbrecht and Haegeman 2012; Merchant 2008, 2013a, 2013b). Its main characteristics are the following: (i) it involves the omission of a VP (examples (2)-(4) below) after the following licensors (those elements that allow for the omission of linguistic material): modal auxiliaries, auxiliaries *be*, *have* and *do*, and infinitival marker *to*; (ii) it is possible in contexts of subordination (as in (2)-(3)); and (iii) it can apply across sentence boundaries (examples (3) and (4)):

- (2) Zeltia likes coffee and I think Yolanda does ~~like coffee~~ too.
 (3) A: Can’t you feel it?

B: Yes, I think I can feel it.

(4) A: Have you phoned Donatella yesterday to tell her the good news?

B: No, I haven't phoned Donatella yesterday to tell her the good news. Sorry, I forgot.

The literature on ellipsis has mainly dealt with two types of contexts where ambiguity seems to arise systematically: the interpretation of unmarked nominal expressions and the interpretation of pronouns (Bilbúe 2011: 133). The first type of ambiguity reported in the literature can be instantiated by the following example taken from Carlson (2002: 204-205), which contains an object/subject ambiguity:

(5) Tasha called him more often than Sonya.

The remnant *Sonya* in (5) could be either the subject of the elliptical sentence (*Sonya called him more often*) or its object (*Tasha called him more often than she called Sonya*). Ambiguity lies in what type of interpretation will be chosen depending on the context where this sentence is uttered. These ambiguities have been reported for English but, according to Bilbúe (2011: 133), they would pose fewer problems in languages which possess more morphosyntactic, lexical or prosodic marking. For example, she mentions Romanian, a language where, on the one hand, the interpretation of the pronouns in ellipsis is facilitated thanks to the use of different pronominal forms and, on the other, subjects and objects receive different case markings.

The second context in which ambiguity has been reported to arise systematically in English involves cases such as (6)-(7), where the omission of possessive and reflexive pronouns respectively offers the possibility of interpreting the second conjunct in a strict (examples (6)a and (7)a) or in a sloppy way (examples (6)b and (7)b):

(6) Mary_i kissed her_i children goodbye and Anne_j did too.

(a) Anne_j kissed her_i children goodbye [strict interpretation]

(b) Anne_j kissed her_j children goodbye [sloppy interpretation]

(7) John_i defended himself_i and Bill_j did too.

(a) Bill_j defended John_i [strict interpretation]

(b) Bill_j defended Bill_j [sloppy interpretation]

In example (6)a, the possessive pronoun *her* co-refers with Mary, that is, Anne kissed Mary's children, thus the possessive pronoun is interpreted strictly. In other words, it is as if one copied the material in the antecedent into the ellipsis site. However, in example (6)b, the possessive pronoun is interpreted sloppily, i.e. as a bound variable, because it would co-refer with Anne, meaning that Anne kissed her own children, and not Mary's. The very same ambiguity arises in example (7),

where the reflexive pronoun can be interpreted either strictly (*Bill defended John*) or sloppily (*Bill defended Bill*). On the one hand, the strict interpretation is set by Principle B of the Binding Theory (Radford 2009: 89): A (non-anaphoric) pronominal (expression) must be free within its local domain. On the other hand, the sloppy interpretation is set by principle A of the Binding Theory (Radford 2009: 89): An anaphor must be bound within its local domain.

Over the past thirty years, the interpretations of reflexive anaphora in cases of VP-ellipsis have been extensively studied from a theoretical point of view, especially in Generative Grammar (Dalrymple et al. 1991; Kitagawa 1991; Fiengo and May 1994; Johnson 2001; Murguía 2004; Dalrymple 2005). As pointed out by Ying (2005: 552), “it is relatively uncontroversial that reflexives have a sloppy reading, on the assumption that they function obligatorily as bound variables”. However, the centre of the debate has been on the status of the strict reading. There have been mainly two approaches to the issue: a semantic approach and a syntactic one. As representatives of the former, Dalrymple et al. (1991) contend that a strict reading is possible depending on the semantic property of individual verbs. For instance, they drew a distinction between verbs such as *lock* and *defend* and claimed that whereas the former does not permit a strict reading, the latter does (Ying 2005: 552):

- (8) Bill defended himself against the accusation, and John did, too.
- (9) John locked himself in the bathroom when bad news arrived, but Bill would never do so.

Under Dalrymple et al.’s analysis, the verb *defend* allows for both a sloppy and a strict interpretation because this type of verb does not require co-reference between its subject and object. However, the verb *lock* does not permit a strict reading because it requires its subject and object to be co-referential. This semantic approach was confronted by Hestvik (1995), who maintained that it is not the semantic properties of lexical items that make strict readings available. This fact is instantiated in the following example, in which, as will be shown, the verb *locked* does allow for a strict interpretation (*before Bill could lock John in the bathroom*):

- (10) John locked himself in the bathroom before Bill could.

Thus, a semantic approach to the issue based on the semantic properties of the different verbs was shown to fail to account for the data. This issue was also broached by Kitagawa (1991), who proposed a reconstruction of reflexive pronouns at LF.¹ She maintained that a feature [+anaphor] could be eliminated when copying into the ellipsis site the VP that acts as the antecedent. This way, the reflexive that acts as the antecedent could be reconstructed as a pronoun. In (11) the LF of (11)a would be (11)b under her analysis:

- (11) a. John_i likes himself_i, and Bill does too.
 b. John_i likes [_{+a}] himself_i, and Bill likes [_{-a}] him_i too.

This idea was captured by Fiengo and May (1994), who developed a syntactic account of the phenomenon, known as “vehicle change”. The main idea behind this proposal is very well summarised by Ying (2005: 553): “A reflexive, when copied from the first to the second clause, is allowed to change to a pronoun. Thus, vehicle change allows the strict reading by reconstructing the reflexive as a pronoun, which, as set by Principle B of Binding Theory, cannot be locally bound”. Therefore, this offers an explanation as to why the reflexive *himself*, present in the overt VP in (11)a, can be reconstructed as the pronoun *him* in the ellipsis site in (11)b, co-referring with the nonlocal subject *John*.

In sum, theoretical linguistics has tried to provide an analysis that accounts for the existence of both strict and sloppy readings in cases of VP-ellipsis which contain reflexive pronouns, but, as pointed out by Ying (2005: 553): “neither account tells us how readers would interpret this strict-sloppy ambiguity”. In consequence, examples like the ones instantiated in (7)-(11) and the interpretation they receive at the hands of native and non-native speakers of English have been objects of the present study, as will be shown from Section 4 onwards in detail. In the following section, we will offer a general overview of the studies that have dealt with VP-ellipsis, reflexive anaphora and their interaction in the field of SLA, paying particular attention to the relevance-theoretic approach.

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3. VP-ellipsis and Reflexive Anaphora in SLA

VP-ellipsis has been approached from the perspective of both first language acquisition (FLA) and SLA. However, one could state that it is an understudied syntactic phenomenon within these fields of linguistics. Regarding FLA studies on VP-ellipsis, most research has been carried out from an experimental perspective and focused on children’s early production and comprehension of VP-ellipsis in English² (Postman et al. 1997; Foley et al. 1997, 2003; Thornton and Wexler 1999; Matsuo and Duffield 2001). Still, some works have tackled the acquisition of the constraints of VP-ellipsis constructions versus those of VP-anaphora, namely, instances of pronominalisation, as in *John wanted someone to kiss him, but Mary didn’t want to do it* (see Matsuo and Duffield 2001; Duffield and Matsuo 2009; Duffield et al. 2009).

As for SLA research on VP-ellipsis, some works have tested the interpretability of both the syntax-lexicon interface (**John is here, and Mary will too* vs. *John slept, and Mary will too*) and the syntax-semantics interface (**John slept, and Mary was*

too vs. *Peter saw your parents last week, but he hasn't since*) to check in which interface learners of different L2 proficiencies are more target-like (see Hawkins 2012 for L1 Arabic and Chinese learners of English and Al-Thubaiti 2009, 2010, 2018 for L1 Saudi Arabic).

Some L2 studies have investigated anaphora resolution at the syntax-discourse interface (Lozano 2002, 2016, 2018). In these studies, Greek and English learners of Spanish interpreted how overt/null pronouns and NP subjects refer to their antecedents in discourse, as in the following example:

- (12) *El niño_i vio a su hermano_j mientras Ø_{i/ni} / él_{ni/j} jugaba en el jardín.*
 “The boy saw his brother while Ø_{i/ni} / he_{ni/j} was playing in the garden”

Within the realm of anaphora studies, the acquisition of L2 reflexives has also been broached from the perspective of Generative Grammar (see Finer and Broselow 1986; Finer 1990; Hirakawa 1990; Thomas 1989, 1995; Yuan 1994, 1998; Bennett 1994; Lee and Schachter 1997; MacLaughlin 1998; Al Kafri 2013). More specifically, these works have tried to verify whether, in accordance with the principles of the Binding Theory, parameter resetting is possible and Universal Grammar (UG henceforth) is accessible in SLA. This research has provided contradictory results regarding the interpretation of reflexives by adult L2 learners and their access to UG in sentences like *John thought that Bill praised himself* (Yip and Tang 1998: 175), *Pinocchio is telling Donald Duck to point at himself/him* (Lee and Schachter 1997: 362) or *Simon says Jack should point to himself* (Al Kafri 2013: 118). Some authors support the Full Access Hypothesis³ (Bennett 1994; Thomas 1995; Yip and Tang 1998; Al Kafri 2013). Others (Yuan 1998; Al Kafri 2013) believe that UG is accessible only via the first language (Indirect Access Hypothesis⁴). A third group (Finer and Broselow 1986; Hirakawa 1990; MacLaughlin 1998) claim that there can be an intermediate binding which is neither L1-like nor L2-like but it is still UG-constrained. Their works have also tried to elucidate the role of certain learner variables such as age and L2 proficiency. The former variable was used to verify potential critical period effects (Lee and Schachter 1997; Al Kafri 2013), whereas research on the latter confirmed that the acquisition of reflexives gradually improved with increased proficiency (Yip and Tang 1998).

Finally, there are studies that have approached VP-ellipsis from the perspective of its interaction with reflexive pronouns based on RT (Ying 2003, 2005; Epoge 2012; Park 2016). But before reporting on the results of these studies, of paramount importance for the present work, we will offer a brief account of the tenets of RT. This cognitive theory of communication was proposed by Sperber and Wilson in 1986 and updated in later revisions (see Sperber and Wilson 1995, 2002, 2008; Wilson and Sperber 2002, 2004). The key notion to this theory is

based on the cognitive construct of *relevance*, which has been defined as follows (Wilson and Sperber 2004: 608):

[R]elevance is a potential property not only of utterances and other observable phenomena, but of thoughts, memories and conclusions of inferences. In relevance-theoretic terms, any external stimulus or internal representation which provides an input to cognitive processes may be relevant to an individual at some time. According to relevance theory, utterances raise expectations of relevance [...] because the search for relevance is a basic feature of human cognition, which communicators may exploit.

RT proposes that an input is relevant providing that its processing results in *positive cognitive effects*, that is, “a worthwhile difference to the individual’s representation of the world—a true conclusion, for example” (Wilson and Sperber 2004: 608). However, it should be noted that it is not only positive cognitive effects that make an input relevant, but also how easy or difficult it is to derive such cognitive effects, i.e. the *processing effort* required. Thus, as noted by Sperber and Wilson (2008: 89), there are two degrees of relevance:

- a. The greater the cognitive effects achieved by processing an input, the greater its relevance.
- b. The smaller the processing effort required to achieve these effects, the greater the relevance.

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This universal tendency of human perceptual mechanisms to maximise relevance, that is, to automatically pick out potential relevant input, is the basis for the *First, or Cognitive Principle of Relevance*: “Human cognition tends to be geared to the maximisation of relevance” (Wilson and Sperber 2004: 610).

Additionally, RT is also based on a more specific *Second, or Communicative Principle of Relevance*, since human communication is inferential and guided by relevance. This principle states that “every ostensive stimulus conveys a presumption of its own optimal relevance” (Wilson and Sperber 2004: 612). An ostensive stimulus provides the addressee with overt information about the speaker’s intention. This amounts to saying that the speaker offers some evidence of his or her meaning and the hearer infers this meaning taking into account this evidence as well as the context. In other words, “the use of an ostensive stimulus raises expectations of relevance not raised by other inputs, and [...] these expectations guide the comprehension process” (Sperber and Wilson 2008: 89). The conditions under which optimal relevance takes place are the following (Wilson and Sperber 2004: 612):

- An ostensive stimulus is optimally relevant to an audience iff:
- a. it is relevant enough to be worth the audience’s processing effort;
 - b. it is the most relevant one compatible with communicator’s abilities and preferences.

In consequence, from a relevance-theoretic approach, communication involves the hearer's inference of the communicator's intention. In previous works, Sperber (1994, 2000) contended that there were three different comprehension strategies. These three strategies are defined as follows. The first, known as *naïve optimism*, proposes that hearers tend to choose an interpretation that seems to be relevant enough. The second comprehension strategy is called *cautious optimism* and claims that hearers opt for an interpretation that the speaker might have thought would be relevant enough. Finally, the *sophisticated understanding* strategy states that hearers should select an interpretation that the speaker might have thought the addressee would think was relevant enough.

Coming back to those L2 studies focusing on reflexive anaphora in VP-ellipsis from the perspective of RT, it is worth noting that they have centred their attention on L2 English learners whose mother tongues are Chinese (Ying 2003, 2005), Korean (Park 2016) and Cameroon English (Epoqe 2012). In these studies, learners were asked to carry out a sentence judgement task that included reflexive anaphora and VP-ellipsis constructions in bare (13), referential (14) and non-referential contexts (15), as seen in examples below:

- (13) John defended himself and Bill did too.
- (14) John defended himself and Bill did too. Bill was a good friend of John.
- (15) John defended himself and Bill did too. Bill went to the restaurant afterwards.

As can be observed, examples (13) and (15) are ambiguous as to whether the VP-ellipsis is interpreted strictly (Bill defended John) or sloppily (Bill defended Bill). Yet, in the case of (14), the contextual information provided biases the interpretation towards a strict reading.

The findings gathered from these investigations (Ying 2003, 2005; Epoqe 2012; Park 2016) concluded that L2 learners tend to interpret reflexives in VP-ellipsis sentences in a bare context sloppily. However, L2 learners' reading of reflexives in referential contexts seemed to lead them to a strict interpretation. In Ying (2003, 2005) and Park (2016) it was also found that (L1 Chinese and Korean respectively) intermediate and advanced English learners' behaviour mirrored that of their control group of English-native speakers, and that the greater their proficiency in English, the more native-like their behaviour. In the case of Epoqe (2012), there was no control group for the Cameroon learners of English, but these university students were grouped into three different proficiency levels of English. Again, results indicated that the greater their English proficiency in English, the more they favoured the sloppy interpretation in bare contexts, and the strict reading in the referential contexts.

These authors claimed that the results gathered “were constrained by the minimal processing cost and contextual [cognitive] effects of Relevance Theory” (Ying 2005: 551). According to them, since L2 learners interpreted reflexives in VP-ellipsis sentences in a bare context sloppily, the minimal processing effort of RT was operative. On the other hand, they were guided by the contextual (cognitive) effects of RT when the presence of reflexives in referential contexts led them to a strict interpretation. Moreover, these authors concluded that these results could be explained in terms of the three comprehension strategies mentioned above (Sperber 1994, 2000). They contended that lower proficiency learners seemed to opt for sloppy readings in bare and non-referential contexts more often following the simplest and least effortful strategy of naïve optimism. In contrast, higher proficiency learners tended to choose strict interpretations more frequently in referential contexts as they were more adept at using the more complex strategies of cautious optimism and sophisticated understanding.

It should be noted, however, that Rosales Sequeiros (2004) correctly argues against four claims made in Ying’s (2003) study (and, by extension, in his 2005 work, as the same results are reported). To begin with, Ying (2003) confuses the First, or Cognitive, and the Second, or Communicative, principles of Relevance because Ying’s account “is based on the claim that a theory of communication aims at maximal relevance” (Rosales Sequeiros 2004: 260) by making use of both the cognitive effects and processing effort factors of cognition. However, as Rosales Sequeiros (2004: 260) contends, “maximization of relevance is not associated with verbal communication, but rather with cognition”. A second problem derived from this confusion has to do with the fact that the processing effort would be insufficient in order to explain reflexive anaphora interpretation in VP-ellipsis. He contends that “an account of the contextual [cognitive] effects derived must also be provided” because “it is theoretically impossible to achieve an optimally relevant interpretation by looking just at the processing effort side of the interpretation to the exclusion of the effect side” (Rosales Sequeiros 2004: 262). This amounts to saying that it is optimal relevance, which includes both processing effort and contextual (cognitive) effects, that accounts for verbal communication. Thirdly, Ying (2003) argues that processing cost guides anaphoric interpretation preferences, as the sentences followed by referential contexts imply procedural constraints, whilst those followed by non-referential ones do not. Nevertheless, Rosales Sequeiros (2004: 256) states that “the role of contextual assumptions in anaphora resolution is to enable L2 learners to derive enough contextual effects to make it worth their effort and, in doing so, identifying (as a side effect) what they take to have been the intended referent”. Lastly, Rosales Sequeiros (2004) is critical of the interpretation of Ying’s (2003) results regarding the use of different comprehension strategies (naïve optimism, cautious optimism and sophisticated

understanding) by the various proficiency level groups reported. Concretely, Ying (2003) “only refers to processing cost in justifying the use of these comprehension strategies” (Rosales Sequeiros 2004: 265). For instance, naïve optimism is equated with the lowest processing cost in deriving sloppy readings, but in fact, “the interpretation with lowest cost can also be a pronominal [strict] reading” (Rosales Sequeiros 2004: 265). Once more, processing effort on its own cannot account for the derivation of an optimally relevant interpretation, since, as mentioned above, contextual effects are also part of the equation. In fact, Ying’s (2003) results concerning sentences with non-referential contexts would have had to yield a more marked preference for sloppy readings, contrary to fact, as intermediate learners show similar numbers in both strict and sloppy interpretations.

The present paper will also follow the relevance-theoretic approach. In an attempt to extend L2 literature, we investigate Spanish speakers’ interpretations of L2 English reflexives in VP-ellipsis as either strict or sloppy in the aforementioned contexts in comparison with those of native speakers of English.

4. Research Questions

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Following from the literature review in the previous sections, we entertain these three research questions:

- RQ1. What kind of interpretation of English reflexive anaphora in VP-ellipsis do L2 learners prefer: strict or sloppy? How does native behaviour compare?
- RQ2. Are L2 learners’ interpretations of VP-ellipsis with reflexive anaphora affected by the presence of referential contexts? How does native behaviour compare?
- RQ3. Are L2 learners’ interpretations of VP-ellipsis with reflexive anaphora affected by the presence of non-referential contexts? How does native behaviour compare?

5. Method

5.1. Participants

Forty-four Spanish-speaking University of Cantabria students learning English (gender: 35 female, 9 male; average age: 23.5) and 29 native speakers of American English from North Carolina, USA (gender: 24 female, 5 male; average age: 20.1) who acted as the control group participated in this study. The non-native participants were taking BA degrees in *Early Childhood* and *Primary Education*

Teacher Training, as well as MA degrees in *Second Language Teaching and Learning*. The results of an English proficiency test (Quick Placement Test, Oxford University Press) indicated that their level of English ranged between B1 and B2 levels according to the Common European Framework of Reference (CEFR).

5.2. Instruments

Based on previous works by Ying (2003, 2005), Epoge (2012) and Park (2016), two judgement tasks were administered to test the participants' interpretation of reflexive pronouns in cases of VP-ellipsis. The first judgement task addressed the research question of whether L2 learners and native speakers prefer strict or sloppy interpretations of reflexive anaphora in cases of VP-ellipsis with bare contexts. This task contained 10 experimental sentences and 20 distractors. See example (16) as an illustration of an experimental sentence where the participants are asked to indicate their understanding of the underlined part of the sentence by choosing one of the options given immediately below.

- (16) Scott has voted for himself and Jeff has too.
_____ Jeff has voted for Jeff.
_____ Jeff has voted for Scott.

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The second task was devised to answer the second and third research questions mentioned above, that is, whether the presence of a referential or non-referential context (see examples (17) and (18) respectively) affects the participants' interpretations of cases of VP-ellipsis with reflexive anaphora as either strict or sloppy. This second task included 20 experimental sentences and 20 distractors. It is important to note that these 20 experimental sentences contain the very same experimental sentences as in the first judgement task, but with additional referential and non-referential contexts.

- (17) Scott has voted for himself and Jeff has too. Jeff has always supported Scott.
_____ Jeff has voted for Jeff.
_____ Jeff has voted for Scott.
(18) Scott has voted for himself and Jeff has too. Jeff met his friends at a pub later.
_____ Jeff has voted for Jeff.
_____ Jeff has voted for Scott.

As can be observed, in example (17) the sentence "Jeff has always supported Scott" acts as a referential context favouring a strict reading of the underlined part of the sentence, that is, "Jeff has voted for Scott". In contrast, in the case of example (18) the context given ("Jeff met his friends at a pub later") should not, in principle, affect the subject's understanding of the underlined part of the sentence. Therefore, the expectation would be that respondents should provide the same answer as in experiment 1, where there was no context given.

5.3. Data Gathering Procedure

The data were collected in two sessions during the students' regular class time in Spring, 2017. In the first session, students were asked to complete a short biographical and linguistic survey containing questions related to their age, gender, years of English learning, and other languages known. Participants were subsequently presented with the Quick Placement Test (OUP), which would inform us about their command of the English language. They completed the 40 multiple-choice questions in this test in 30 minutes approximately. Immediately afterwards, students were administered the first judgement task, which took them about 10 minutes to complete. After a week's interval, in the second session, students took part in the second judgement task, which lasted around 20 minutes. As in previous research (Frazier and Clifton 2000; Ying 2003, 2005), both judgement tasks asked participants to choose one of the two interpretations offered which matched their initial understanding of the underlined part of the sentence. That is to say, the students were required to select the answer that first came to their mind, following their initial intuition without going back or making any changes after their initial choice.

6. Results and Data Analysis

Mean scores and standard deviations were calculated for both L2 learners and native speakers' interpretations of the English reflexive pronouns presented in the 30 experimental sentences which the two judgement tasks contained: 10 bare context sentences, 10 referential context sentences and 10 non-referential context sentences. A preliminary analysis explored the distribution of the samples, which were not normally distributed except for non-referential contexts in the case of L2 learners, as indicated by the results of the Kolmogorov-Smirnov tests. Consequently, we performed non-parametric procedures for both intra-group and inter-group comparisons. As for the former, Friedman tests of differences among repeated measures were computed to discover whether there were any significant differences among the three different contexts (bare, referential and non-referential). As significant differences were found for both the L2 and L1 samples (significant Chi-square values of 47,526 and 47,145 respectively; $p < .001$), post-hoc Wilcoxon tests were used for any binary comparisons (i.e. bare versus referential contexts and bare versus non-referential contexts). With regard to inter-group comparisons, Mann-Whitney tests were the inferential statistical analyses computed to find out whether there existed statistical differences between L2 learners and native speakers. As far as statistical probability is concerned, alpha levels of .05(*), .01(**) and .001(***) were used.

Table 1 displays the mean scores and standard deviations of sloppy and strict interpretations of reflexive anaphora in examples of VP-ellipsis in bare contexts (see Figure 1 for a graphical representation). In both Spanish-speaking learners of English and native speakers of American English, the sloppy interpretation is chosen more frequently than the strict one, though this preference is stronger in native speakers. However, there were no statistically significant differences when the sloppy readings and the strict readings were compared between the two groups, as indicated by the Mann-Whitney test results ($z = -1,437$; $p > .05$).

| BARE CONTEXT | L2 LEARNERS | | NATIVE SPEAKERS | |
|-------------------------|-------------|--------------------|-----------------|--------------------|
| | Mean | Standard Deviation | Mean | Standard Deviation |
| Sloppy reading (max=10) | 6.93 | 2.26 | 7.76 | 1.33 |
| Strict reading (max=10) | 3.07 | 2.26 | 2.24 | 1.33 |

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Table 1. VP-ellipsis reflexive anaphora interpretation in bare contexts by L2 learners and native speakers

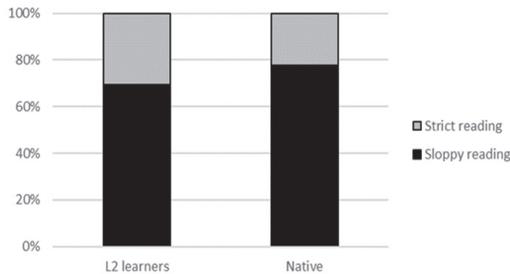


Figure 1. VP-ellipsis reflexive anaphora interpretation in bare contexts by L2 learners and native speakers

Table 2 shows the mean scores and standard deviations of sloppy and strict interpretations of reflexive pronouns in instances of VP-ellipsis in both bare and referential contexts (see Figure 2 for a graphical representation). As far as L2 learners are concerned, we observe that whereas in bare contexts they show a preference for sloppy interpretations, when a referential context is provided, strict readings prevail. Wilcoxon tests indicated that these context preference differences were statistically significant ($z = -5,394$; $p < .001$). With regard to native speakers,

the very same tendency is observed, context preference differences being also statistically significant ($z = -4,646$; $p < .001$). The inter-group analysis reveals that when a referential context is provided, native speakers' strict readings are superior to those of L2 learners. In fact, Mann-Whitney tests indicated that there were highly significant differences between the two groups as regards their choice of sloppy or strict readings in referential contexts ($z = -3,833$; $p < .001$).

| | L2 LEARNERS | | | | NATIVE SPEAKERS | | | |
|-------------------------|--------------|--------------------|---------------------|--------------------|-----------------|--------------------|---------------------|--------------------|
| | Bare context | | Referential context | | Bare context | | Referential context | |
| | Mean | Standard Deviation | Mean | Standard Deviation | Mean | Standard Deviation | Mean | Standard Deviation |
| Sloppy reading (max=10) | 6.93 | 2.26 | 2.73 | 2.41 | 7.76 | 1.33 | 0.90 | 1.57 |
| Strict reading (max=10) | 3.07 | 2.26 | 7.27 | 2.41 | 2.24 | 1.33 | 9.10 | 1.57 |

Table 2. VP-ellipsis reflexive anaphora interpretation in bare vs. referential contexts by L2 learners and native speakers

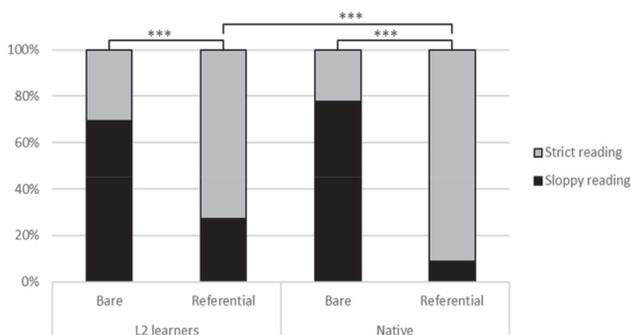


Figure 2. VP-ellipsis reflexive anaphora interpretation in bare vs. referential contexts by L2 learners and native speakers

Table 3 presents the mean scores and standard deviations of sloppy and strict interpretations of reflexive anaphora in cases of VP-ellipsis in both bare and non-

referential contexts (see Figure 3 for a graphical representation). Regarding the latter, the two speaker groups agree in their interpretation of reflexive pronouns in VP-ellipsis. They both choose more sloppy than strict interpretations, but the gap between the two readings is more obvious in the case of native speakers. Besides, the inferential statistical procedures indicated that the inter-group differences were highly significant ($z = -3,612$; $p < .001$).

As for intra-group comparisons between bare and non-referential contexts, the attested differences indicate a dissimilar behaviour in each speaker sample. In the learner sample, Wilcoxon tests revealed that the sloppy readings significantly decreased from bare to non-referential contexts whereas strict readings significantly increased ($z = -2,183$; $p < .05$). Nevertheless, in the native group sample, the opposite tendency is observed: while the sloppy interpretation mean is significantly superior in non-referential as compared to bare contexts, the strict interpretation mean is significantly superior in bare contexts as compared to non-referential ones ($z = -2,315$; $p < .05$).

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| | L2 LEARNERS | | | | NATIVE SPEAKERS | | | |
|-------------------------|--------------|--------------------|-------------------------|--------------------|-----------------|--------------------|-------------------------|--------------------|
| | Bare context | | Non-referential context | | Bare context | | Non-referential context | |
| | Mean | Standard Deviation | Mean | Standard Deviation | Mean | Standard Deviation | Mean | Standard Deviation |
| Sloppy reading (max=10) | 6.93 | 2.26 | 6.20 | 2.64 | 7.76 | 1.33 | 8.38 | 2.06 |
| Strict reading (max=10) | 3.07 | 2.26 | 3.80 | 2.64 | 2.24 | 1.33 | 1.62 | 2.06 |

Table 3. VP-ellipsis reflexive anaphora interpretation in bare vs. non-referential contexts by L2 learners and native speakers

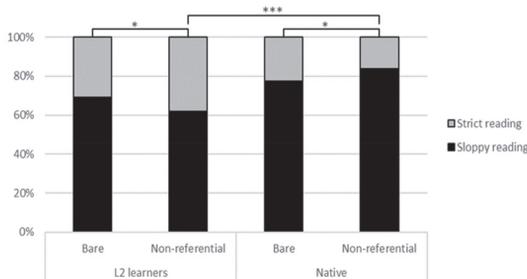


Figure 3. VP-ellipsis reflexive anaphora interpretation in bare vs. non-referential contexts by L2 learners and native speakers

7. Discussion

Having presented the results, we proceed to discuss the three research questions mentioned in Section 4. The first research question (*What kind of interpretation of English reflexive anaphora in VP-ellipsis do L2 learners prefer: strict or sloppy? How does native behaviour compare?*) aimed at answering what kind of interpretation of English reflexive pronouns (strict or sloppy) L2 learners prefer in cases of VP-ellipsis and whether learners' behaviour mirrors that of native speakers. Results showed a fluctuation between sloppy and strict readings of English reflexives in bare contexts, which implies that both readings were attested in the data, even if the sloppy one was preferred (meaning that this preference is not absolute and there is variability), as attested in previous studies (Ying 2003, 2005; Epoge 2012; Park 2016). Both native and non-native speakers favoured sloppy interpretations in bare contexts similarly, as no statistically significant differences were observed between the two groups of speakers. These results are in line with the Communicative Principle of Relevance, which predicts that both a sloppy and a strict interpretation are possible in bare contexts. However, the existence of a clearer preference for a sloppy reading in both our study and previous literature could be explained on the basis of the fact that "processing effort becomes more important in the processing of utterances when there is little information to go by" (Rosales Sequeiros 2004: 262), as is the case of bare contexts. This amounts to saying that it seems to be simpler to copy the antecedent VP into the ellipsis site (e.g. *John_i defended himself_i and Bill_j defended himself_j*) than inserting a pronoun in the ellipsis site making reference to the subject in the first conjunct (e.g. *John_i defended himself_i and Bill_j defended him_i*). Crucially, this preference for the reflexive reading of the second conjunct will also need to be the most relevant one compatible with communicator's abilities and preferences.

The second research question (*Are L2 learners' interpretations of VP-ellipsis with reflexive anaphora affected by the presence of referential contexts? How does native behaviour compare?*) inquired about whether the presence of a referential context affected L2 learners' readings of reflexive pronouns in examples of VP-ellipsis, to then check whether that potential context effect is also observed in native speakers. The analysis of the data has revealed that in referential contexts strict interpretations prevailed in both L2 learners and native speakers, a finding which agrees with the Communicative Principle of Relevance. The presence of the referential context biased the addressees' processing of the ostensive stimulus towards a pronominal reading in the ellipsis site, given that the referential sentence provides contextual information that creates a presumption of optimal relevance. However, English native speakers' choice of strict readings significantly surpassed that of non-natives, as evinced in previous research conducted with L2 English learners with a different

language background (Ying 2003, 2005). This seems to show that the native audience considered that the ostensive stimulus was more optimally relevant than the non-native speakers did.

The third research question (*Are L2 learners' interpretations of VP-ellipsis with reflexive anaphora affected by the presence of non-referential contexts? How does native behaviour compare?*) investigated the influence of the presence of a non-referential context when L2 learners need to interpret reflexive anaphora in VP-ellipsis. Subsequently, L2 learners behaviour was compared to that of native speakers of American English under the same contextual conditions. Results show that, as predicted by the Principle of Communicative Relevance and in line with the reported results above for bare contexts, in non-referential contexts both native and non-native speakers favoured the sloppy interpretation. These results do not fully mirror those reported in Ying (2003, 2005), where the figures for both strict and sloppy interpretation were very similar, particularly in the non-native sample. In our study, if one compares the preference for sloppy readings in non-referential contexts with the one triggered by bare contexts, it can be observed that native speakers' sloppy interpretation was enhanced when given a non-referential context, whereas L2 learners' choice of sloppy readings decreased. That is to say, the presence of a non-referential context seems to have led native speakers to reinforce their sloppy interpretation (a finding which is not corroborated in Ying 2003, 2005), whereas non-native speakers appear to have been misled to a larger extent.⁵ In RT terms, it might well be conceded that native speakers judge the non-referential context as more optimally relevant for VP-ellipsis resolution than L2 learners.

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8. Conclusions and Issues for Further Research

Our study attempted to investigate Spanish speakers' interpretations of L2 English reflexives in VP-ellipsis as either strict or sloppy in bare, referential and non-referential contexts in comparison with those of native speakers of English within the theoretical framework of RT.

As in previous L2 research, results show variability between sloppy and strict readings of English reflexives in the three VP-ellipsis contexts. Both native and non-native speakers favoured sloppy interpretations in bare contexts similarly. As regards referential contexts, strict interpretations prevailed in both L2 learners and native speakers. However, native speakers' choice of strict readings significantly surpassed that of non-natives. With regard to non-referential contexts, both native and non-native speakers favoured the sloppy interpretation. Interestingly, when this preference is compared to the one triggered by bare contexts, native speakers' sloppy interpretation was enhanced when given a non-referential context, whereas

L2 learners' choice of sloppy reading decreased. This seems to indicate that the presence of a non-referential context leads natives to reinforce their sloppy interpretation, whereas non-natives are misled by the presence of such a context. These findings show that added contextual information involving both linguistic and pragmatic parsing makes up an information processing load, acts as a distractor, and makes VP-ellipsis interpretation less straightforward for L2 learners.

To sum up, irrespective of the participants' group, the sloppy interpretation is favoured in bare and non-referential contexts, while strict readings prevail in referential contexts. These preferences are always more marked for native speakers than for L2 learners, which indicates that the former consider the ostensive stimuli available in the sentences provided as more optimally relevant. That is to say, in order to satisfy the presumption of relevance, natives may have had to draw stronger conclusions.

As for further research, the next step will be to increase the size of our sample so as to better examine the role of certain individual variables in Spanish-native learners of English when confronted with the task of interpreting the anaphoric reference of a reflexive pronoun in VP-elliptical contexts. One of these individual variables would be learners' proficiency in the L2. Previous research (Ying 2003, 2005; Epoge 2012; Park 2016) has shown that L2 proficiency seems to play a role in the interpretation of reflexive pronouns in English, more advanced learners approximating native speakers readings to a larger extent. It would also be interesting to explore the influence of other learner variables such as gender or bilingualism. Regarding the former, it would be interesting to check whether males and females behave differently when interpreting reflexive anaphora in cases of VP-ellipsis, as previous studies in the field of SLA have shown that females tend to outperform males in linguistic tasks (Pavlenko and Piller 2008). With regard to the latter, since research seems to support the idea that bilingual speakers are better additional language learners than monolingual speakers (Cenoz 2003), it would be worth investigating whether this variable has an influence on learners' linguistic behaviour when presented with experiments like the ones carried out in this study.

To finish, we would like to mention some of the methodological limitations of the present study. First, although L2 learners' linguistic behaviour was compared to a control group made up of English native speakers, our study lacks a comparison of these learners' performance in English with their interpretation of reflexives in their own native language, that is, in Spanish, in order to rule out the effect of cognitive processing in the L1. Our second limitation concerns the design of the judgement tasks, which always presented the contextual information after the cases of VP-ellipsis they had to interpret. It would be convenient to check whether presenting this kind of contextual information before the sentence that contains

the VP-ellipsis has an impact on learners' readings of anaphora (e.g., *John defended himself and Bill did too. Bill was a good friend of John* vs. *Bill was a good friend of John. John defended himself and Bill did too*). Additionally, one possible improvement concerning the design of the task would be to explore the "task effect" of the current study. This is due to the fact that all sentences in the two tasks involved the same target sentence (e.g., *Scott has voted for himself and Jeff has too*). This might have caused a "maturation" effect in the participants, which may have possibly biased the results, both for natives and non-natives. In the same vein, it should also be noted that the fact that in Experiment 2 the experimental sentences are followed by a referential and a non-referential context "may have alerted subjects to the fact that the different interpretations were intended and thus made them think that a change of interpretation was necessary" (Rosales Sequeiros 2004: 270). Moreover, we would like to check the influence of gender (dis)agreement between the reflexive pronoun present in the antecedent and the one of the target of ellipsis (e.g., *Bill admires himself and Kate does too* vs. *Bill admires himself and Tom does too*). Finally, our data could be complemented with added qualitative data such as think-aloud protocols, which would provide us with learners' reported reasons why one interpretation of the VP-ellipsis is preferred over the other. This would also allow us to inquire about the three different comprehension strategies (naïve optimism, cautious optimism and sophisticated understanding) followed by the participants.

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Notes

¹. In Generative Grammar, LF stands for 'Logical Form', a level of mental representation of a linguistic expression which is derived from surface structure. LF is the semantic equivalent of Phonetic Form (PF). PF refers to a level of mental representation of a linguistic expression which is derived from surface structure. Therefore, PF is the level of representation in which linguistic elements are assigned a phonetic representation. Then, this phonetic representation is pronounced by the speaker (see Ludlow 2005: 104ff for more details). Relevance-theoretic approaches and most researchers in pragmatics also believe that there is a level of syntactic representation, i.e. LF, which includes "whatever features of sentences structure enter directly into the semantic interpretation of sentences, and are

strictly determined by properties of sentence grammar" (Chomsky 1976: 305). According to Chomsky (1976: 305), these representations at LF become more detailed as they "may involve belief, expectations and so on in addition to properties of LF determined by grammatical rule". These more elaborate representations, known as modified logical forms, are the result of pragmatic processing operating on them, paving the way for syntactic interpretation. Sperber and Wilson (1986) call this resulting syntactic interpretation the utterance's 'propositional form' (see Recanati 2010 for further information on pragmatics and Logical Form).

². See Santos (2009) for an experimental study on the acquisition of VP-ellipsis in European Portuguese.

³. Full Access Hypothesis: “UG is accessed directly in [early and late] L2 acquisition, and L1 and L2 acquisition are basically similar processes, the differences observed being due to the difference in cognitive maturity and in the needs of the learner” (Singleton and Ryan 2004: 190, based on Mitchell and Myles 1998: 61f). See Mitchell and Myles (2004) for further information on the different hypotheses about the grammars of second language learners.

⁴. Indirect Access Hypothesis: “UG is not directly involved in [late] L2 acquisition but it is indirectly accessed via the L1; therefore, there will be just one instantiation (i.e. one working example) of UG which will be

available to the L2 learner, with the parameters already fixed to the settings which apply in the L1” (Singleton and Ryan 2004: 190, based on Mitchell and Myles 1998: 61f). See Mitchell and Myles (2004) for further information on the different hypotheses about the grammars of second language learners.

⁵. This result is supported by the Interface Hypothesis put forward by Sorace and colleagues (Sorace and Filiaci 2006; Belletti, Bennati and Sorace 2007; Wilson, Keller and Sorace 2009; Sorace 2011), which claims that language structures involving an interface between syntax and pragmatics are more difficult to acquire fully than those structures that do not involve such an interface.

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