THE ACQUISITION OF CASE IN SPANISH PRONOMINAL OBJECT CLITICS IN ENGLISH-SPEAKING COLLEGE-LEVEL L2 LEARNERS

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Michael Kevin Olsen, PhD

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The second language acquisition (SLA) of Spanish pronominal object clitics (POCs) has been a topic of research with regards to clitic placement (Houston, 1997; Lee, 1987; LoCoco, 1987; VanPatten, 1984; and VanPatten & Houston 1998), acquiring specific dialectal norms (Geeslin, García-Amaya, Hasler-Barker, Henriksen, & Killam, 2010), and functional usage with datives (Zyzik, 2006). A thorough investigation of how second language (L2) learners acquire Spanish POCs in university-level Spanish classes in the United States including accusative POCs has not yet been carried out. This dissertation extends our knowledge of how these learners acquire Spanish POCs and how instruction impacts the acquisition process.

Zyzik (2006) suggested that L2 learners create a dative POC prototype based on Animacy instead of Case as native speakers do. The first study of this dissertation extends Zyzik's work by investigating L2 learners' processing and use of Spanish pronominal object clitics, including the accusative POCs. A total of 121 L2 learners completed sentence-completion and cloze tasks to investigate how Animacy and Case influenced the way they distinguished Spanish POCs. Results from mixed ANOVAs show that lower proficiency L2 learners base POC distinctions on Animacy. However, more advanced learners show indications of shifting toward a Case-based system.

A second study was conducted in order to test whether instruction was effective in preempting an Animacy-based system (Rutherford, 1989). A second group of 115 L2 learners

from different proficiency levels were divided into two groups (instructed and control). These participants completed similar tasks to the first study at three different times (pre-test, post-test, delayed post-test). Between the pre-test and post-test, learners in the instructed group received instruction on Spanish POCs. Results from mixed ANOVAs indicate that instruction was not more effective than exposure to Spanish POCs through the tasks performed. The finding that both participant groups showed evidence of the preemption of an Animacy-based system is taken as evidence that the tasks themselves effectively led learners to change their POC systems. An explanation of this phenomenon is that the tasks provided a type of computer-mediated processing instruction, forcing learners to process the POCs and notice additional possible contexts, effectuating the change.

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PREFACE

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1.0 INTRODUCTION

Valdés, González, López García, and Márquez (2003) point out that "In spite of the perceptions of many members of the public, the primary business of academic departments of foreign languages in American universities is not the teaching of language, but rather the teaching of literature" (p. 8). This traditional focus on literature that Spanish departments have embraced, along with pressure to help undergraduate students to earn a degree in four years has contributed to a very fast-paced curriculum with regards to Spanish language courses (i.e., courses specifically created to help learners acquire the Spanish language). Another challenge that learners face, is that most of the Spanish instructors at the university level, if the University of Pittsburgh is any indication, have had a few years or less of teaching experience and have only taken one teaching methodologies course because they are graduate students, the majority of whom are focused on cultural or literary studies.

Other factors that contribute to the environment of university-level Spanish language instruction in the United States are the demographics of the learners themselves. Many universities have foreign language requirements for graduation while others have requirements

for particular majors. The Dietrich School of Arts and Sciences at the University of Pittsburgh, for example, requires students to take two terms of a second language (UMC Web Team, 2011). This requirement can be fulfilled by enrolling and passing language courses, testing out of the required courses, or by testing into the second course in the sequence and taking that course. Often, this means that many students are only taking foreign language courses to fulfill this requirement. Others take courses for their personal gain or wish to major in Spanish. Many language learners that decide to become majors, however, already have experience with Spanish in high school and test into upper-level courses or one of the last courses in the language sequence. This mix of learner motivations and experience with Spanish present other challenges for language instructors. Because these challenges exist and will not likely change quickly, understanding the process of acquiring Spanish as a second language (L2) and how instruction impacts second language acquisition (SLA) is imperative in order to provide the best possible situation for students who enroll in university-level Spanish language courses.

In particular, the investigation of linguistic structures that prove difficult for L2 learners is important so that instructors can effectively spend time in class on those structures that require more time and effort to acquire. One of the more difficult aspects of the Spanish language for L1 English speakers is the use of Spanish pronominal object clitics (POCs). Evidence of this assertion is seen in Zyzik's (2006) study on how learners overgeneralize dative POCs to accusative contexts with animate referents. Studies on the acquisition of POC placement

(Houston, 1997; Lee, 1987; LoCoco, 1987; VanPatten, 1984; VanPatten & Houston, 1998) also indicate the difficulty that learners have in acquiring Spanish POCs.

Textbooks used for university-level classroom-based instruction also provide secondary evidence that POC acquisition is difficult for L2 learners. Authors and editors of mainstream Spanish textbooks in the United States have included POCs in various chapters of their texts so that students normally receive some type of instruction aimed at helping them understand and use Spanish POCs at least once per semester. Not all grammatical structures receive this much attention on the pages of Spanish textbooks. Textbooks such as *Mosaicos* (Castells, Guzmán, Lapuerta, & Liskin-Gasparro, 2010), *Enfoques* (Blanco & Colbert, 2012), and *Repase y escriba* (Dominicis & Reynolds, 2011) all exemplify repeated instruction of Spanish POCs at different levels of proficiency. Pedagogues have also supported this amount of focus on POC instruction by following the outline of these textbooks and continuing to use these textbooks in their classrooms.

The purpose of this dissertation is to investigate the acquisition of Spanish POCs by speakers of English as a first language (L1) as well has the impact of instruction on the acquisition of Spanish POCs. Little research has been carried out on the L2 acquisition of Spanish POCs. The existing research has mainly focused on clitic placement. Two recent studies also looked at L2 acquisition of POCs with respect to functional categories and variation in study abroad contexts (Zyzik, 2006; Geeslin, García-Amaya, Hasler-Barker, Henriksen, & Killam, 2010). This dissertation contributes to our knowledge of L2 acquisition of Spanish POC

distinction by investigating the interlanguage system of university-level instructed L2 learners regarding Spanish 3rd person POCs.

Two studies have been carried out for this dissertation. The first study investigated the existing interlanguage system of university-level instructed L2 learners with respect to Spanish 3rd person POCs. This first study extended Zyzik's (2006) work on dative POCs, including accusative POCs, and tested some of the assumptions made in her study. The second study, based on the results of the first study, investigated whether in-class instruction effectively aided learners in acquiring a native-like POC system.

The rest of this dissertation is organized as follows. Chapter 2 reviews the literature on Instructed SLA at the university level in the United States. Chapter 3 outlines Spanish POC structures and justifies the choice of the structure under investigation. Chapter 4 discusses prior SLA research relevant to this dissertation. Chapters 5 and 6 present the studies conducted as part of the dissertation. Chapter 7 concludes the dissertation by presenting the main findings, discussing the theoretical and pedagogical implications of those findings and suggesting future research endeavors.

2.0 INSTRUCTED SECOND LANGUAGE ACQUISITION

Norris and Ortega (2000) point out that whether instruction actually affects changes in the L2 grammar is a point of debate. Because the second study included in this dissertation addresses questions of whether instruction can change the state of the interlanguage grammar with respect to Spanish POCs, a review of the literature regarding instructed SLA is necessary. Section 2.1 provides a brief overview of the history of instructed SLA. Section 2.2 discusses the possible effects of instruction on SLA. Section 2.3 explains and motivates the teaching methodology chosen for the second study of this dissertation and Section 2.4 summarizes Chapter 2.

2.1 BRIEF HISTORY OF INSTRUCTED SLA

The evolution of instructed SLA in Spanish language courses has generally followed the evolution of instructed SLA at large over the past five decades. For much of this time, although many investigations had used instructed learners as subjects to further knowledge about L2 development and to formulate theory, SLA research did not specifically address questions

directly relevant to foreign or second language pedagogy (Lightbown, 2000; Ortega, 2005). The evolution of teaching methodologies was based more on observations of the outcomes of each method and how pedagogues thought these outcomes could be improved. According to Omaggio-Hadley (2000), before the 1970s, the Grammar-Translation method was used in second and foreign language classrooms. Learners read and translated classic texts. The outcome of this type of language instruction could be an excellent reading knowledge of the language, but a drastic insufficiency in the ability to communicate in the target language. After this point in time, many alternatives began to sprout up. The Audio-Lingual method of instruction provided a stark contrast to Grammar-Translation. Drills and repetitions formed the foundations of this method. The use of drills and repetitions led to language use that was very mechanical because learners were able to produce memorized phrases in limited contexts, but unable to use language creatively.

One of the early attempts at moving away from drills and repetitions was Paulston's (1970) classification of drills into three categories: meaningful, mechanical, and communicative. Communicative drills were included to help learners communicate new information about the real world. This way, learners were not only producing memorized phrases, but also had the opportunity to be more creative with their language use. Another reaction to the Audio-Lingual method and a step towards helping students obtain the ability to use the language in creative ways was the Cognitive-Code method. The tenets of this method are that instruction must have a meaningful context and that a conscious knowledge of grammar was important. The goal was to

form L2 competence first and L2 language "performance will follow once the foundation is laid" (Omaggio Hadley, 2000, p. 115). Learners were also given opportunities to use the target language in meaningful situations so that they could use the language for genuine communication of ideas. Communicative drills and the Cognitive-Code method, with their emphasis on true communication, paved the way for the Communicative Language Teaching.

By the late 1980s Communicative Language Teaching (CLT) had taken over the landscape of foreign or second language pedagogy. This method aimed to introduce language in meaningful contexts and to provide learners the opportunity to interact and use the target language. The practice of CLT followed the introduction of the notion of communicative competence by Hymes (1971) and the subsequent modeling and research on this notion (e.g., Bachman & Palmer, 1981; Canale, 1983; Canale & Swain, 1980; Paulston, 1974). Two other hypotheses influenced language teaching and the CLT approach. Krashen's (1982, 1984) Input Hypothesis was based on evidence from a number of morpheme order studies in the 1970's (Dulay & Burt, 1973, 1974; Baily, Madden, & Krashen, 1974; Larsen-Freeman, 1976; Krashen, Butler, Birnbaum, & Robertson, 1978). Based on the similarities in the order of morpheme acquisition in L1 and L2, Krashen posited that since L2 acquisition parallels L1 acquisition, the best approach to language instruction would be a 'naturalistic' one. This view meant that L2 learners only needed meaningful and comprehensible input that was slightly above their current level and should not receive any explicit feedback. Long's (1983b) Interaction Hypothesis posited that comprehensible input is created is through conversational modifications as learners

interact with each other. This interaction helps learners notice structural deficiencies in their interlanguage as they try to communicate and 'negotiate meaning'.

While CLT produced the best outcome in terms of language use and creativity, there were still problems in producing accurate forms. As Spada (2007) discusses, these problems stem from misconceptions about CLT related to the fact that the Input Hypothesis and Interaction Hypothesis both suggested that meaning-based instruction without the use of corrective feedback or attention to linguistic form. Recently, strategies to help students to focus on linguistic forms while interacting and otherwise using the target language (i.e., the communicative approach) has become more popular.

2.2 EFFECTS OF INSTRUCTION ON SLA

Instruction, at least in this dissertation, is to be thought of as the process by which an instructor introduces material to be learned and implements various practices intended to guide learners towards the mastery of the material. In L2 learning, the intentions of instruction is that learners will not only know about a second language, but will also acquire the ability to effectively use it by reading, writing, listening, and speaking in the second language. Although much of the SLA

¹ A later version of the Interaction Hypothesis (Long, 1996) does accept the notion that form is important in language instruction.

research has included data from instructed L2 learners, questions regarding the effect of instruction on SLA still remain. There are two main arguments with respect to the effect of instruction on SLA. One, argued by Krashen (1981, 1982, 1984, 1992, 1993), is that instruction that provides explicit, metalinguistic rules does not directly affect SLA. Rather, Krashen claims that learning and acquisition are two separate processes and that knowledge gained from instruction, or 'learned' knowledge, can only help L2 learners by helping them monitor their output. Acquired knowledge can only by gained through comprehensible input which can presumably be provided by instruction. Therefore, according to Krashen, outside of a means for comprehensible input, instruction is useful only to supply the monitor and give learners tools to help them acquire language outside of the classroom (Krashen, 1982).

The other argument is that instruction does directly affect SLA. Lightbown and Pienemann (1993), in a response to Krashen's (1992) comments regarding instruction, state that "form-focused instruction can bring about changes in interlanguage and, furthermore, that there may be situations in which learners not only benefit from but require focused instruction to further their language acquisition" (p. 718). Many other researchers have come to the same conclusions (e.g., Bonilla, 2012; Long, 1983a; Morgan-Short, Finger, Grey, & Ullman, 2012; Norris & Ortega, 2000; Pienemann, Johnston, & Brindley, 1988; Porto, 2001; Spada & Lightbown, 1999; Spada & Tomita, 2010).

These two arguments are essentially centered around the epistemology of language and how the implications that theoretical models have on SLA. If, as Schwartz (1986, 1987, 1988,

1999) claims, language is a module on its own right that is informationally encapsulated, instruction will not directly effect acquisition of an L2. This theory does not deny that information about a language cannot be learned; however, it does maintain that this information cannot be integrated into the language module and remains as "encyclopedic knowledge" in the Central System (Schwartz, 1999, p. 650). This proposal is in line with Krashen's distinction between acquisition and learning because learning is essentially gaining encyclopedic knowledge whereas acquisition is gaining knowledge in the language module. If instruction does directly affect SLA, either a non-modular account of language (e.g., emergentist/functionalist models), or a non-encapsulated modular account of language (e.g., interface models). Ellis (1993, 1994) proposed a Weak Interface Model that assumes at least partial modularity between explicit knowledge and implicit knowledge with an interface between the two types of knowledge. This model allows explicit knowledge that is provided by instruction to become a part of the learner's implicit knowledge of language, which can arguably be compared to a learners' competence in the Chomskian sense. In this dissertation, it is assumed that the representation of language is similar to Ellis's proposal—instruction is able to affect SLA because an interface between explicit knowledge and implicit knowledge exists. This, however, is not to say that instruction always affects acquisition. While instruction may lead to the acquisition of explicit knowledge about language usage and grammar rules, this knowledge does not always transfer immediately to the type of knowledge needed for language interpretation and use. The process of consolidating these types of knowledge may take a longer period of time. This process is further modeled and explained in section 4.1.

A number of studies provide evidence that instruction does affect SLA as Ellis (1993, 1994) maintains. Long (1983a) reviewed fifteen studies in order to see if instruction was generally beneficial for L2 learners. He divided the studies according to the specific questions they asked with regards to amounts of L2 exposure and instruction. He found that instruction was generally beneficial for children and adults, and for intermediate and advanced students. Spada and Lightbown (1999) found similar results in a study that investigated different levels of question formation in French-speaking learners of English. Participants were instructed on question formation and were found to have progressed from one stage of question formation proposed by Pienemann, Johnston, and Brindley (1988) to the next. Bonilla (2012) also found a positive effect of instruction in her study that also tested Pienemann's Teachability Hypothesis (TH) in L2 Spanish speakers. Her participants also progressed from one stage to the next in their ability to process the target language. Porto (2001) also reviewed the research on instructed SLA and concluded the instruction is beneficial for L2 learners and that it accelerates the acquisition process. Because Long's study found a positive effect for instruction on SLA, research since has focused on what types of instruction are most effective (Norris & Ortega, 2000).

A seminal meta-analysis by Norris and Ortega (2000) synthesized findings from fortynine experimental and quasi-experimental studies published between 1980 and 1998. These studies were selected and the data reported was analyzed in order to find the effectiveness of L2 instruction in general and what different types of instruction were most effective. The instructional treatments were divided into explicit and implicit categories and whether they could be considered Focus on Form (FonF), where learners' attention is drawn to formal properties of the L2 within a communicative context; Focus on Forms (FonFS), where learners are taught formal properties of the L2 in a sequence starting with the least complex form to the most complex form outside of any communicative context; or focus on meaning (FonM), where learners are not drawn to formal properties of the language.

Findings reported in Norris and Ortega (2000) suggest that instruction that provides some type of grammatical rules is effective compared to a focus on meaning or simple exposure to the L2 and that explicit language instruction was more beneficial than implicit instruction. The large average effect size of these studies for instruction in general (d = 0.96) indicates that instruction in general is significantly more effective than a focus on meaning or simple exposure to the L2. Comparing the types of form-focused instruction, the effect hierarchy in (1) was found (p. 465).

(1) FonF explicit > FonFS explicit > FonF implicit > FonFS implicit

This hierarchy indicates that explicit instruction is more effective that implicit instruction and that providing meaningful, communicative contexts within which the formal properties of language can be focused is more effective than teaching the forms out of context.

Another meta-analysis focusing on the effect that different types of instruction have on SLA also suggest the explicit instruction is beneficial. Spada and Tomita (2010) investigated how explicit and implicit instruction effects SLA and how these effects varied depending on the complexity of the language feature targeted by the instruction. The results of this study indicated that there was no difference between effect sizes of simple and complex language features and that explicit instruction was more beneficial than implicit instruction for both types of features.

2.2.1 Explicit and Implicit Instruction

As may be evident by the recent meta-analyses, one important trend in current instructed SLA research is the investigation of differences between explicit and implicit instruction. As the meta-analyses suggest, explicit instruction is possibly superior to implicit instruction. However, while there is growing evidence that this may be the case, evidence to the contrary has also been provided. This section reviews the current debate between explicit and implicit instruction in SLA. N. Ellis (2002) claims that true second language acquisition can only happen through a great amount of exposure and practice that cannot be replaced by declarative rules; however, he does not reject the usefulness of explicit instruction, citing a body of research that shows that explicit instruction does speed up acquisition and can help the durability of second language acquisition. Culman, Henry, and VanPatten (2009) as well as Henry, Culman, and VanPatten (2009) provide evidence for the usefulness of explicit instruction. They showed that learners of

German who were provided explicit information were able to process OVS word order and German Case marking faster than learners that were not provided explicit information.

As mentioned in section 2.2, Spada and Tomita (2010) provide a meta-analysis that uses data from 41 other studies that looked at explicit and implicit instruction. Spada and Tomita use the data to assess whether effects of explicit and implicit instruction vary with simple and complex features and whether explicit and implicit instruction lead to similar types of language ability for complex and simple forms. The results of this meta-analysis indicate that, although both types of instruction lead to gains, explicit instruction is consistently more effective (larger effect sizes) than implicit instruction for both simple and complex features. Spada and Tomita (2010) also suggest that findings indicate that explicit instruction also contributes to 'controlled knowledge and spontaneous use' of linguistic forms.

More recently, Morgan-Short, Finger, Grey, and Ullman (2012) examined possible differences in processing between implicit and explicit instruction after around six months of no exposure to an artificial language called Brocanto2. Subjects in the explicit instruction condition were taught rules about how Broconto2 worked so that they could describe the moves of an invented board game. The subjects in the implicit group watched game moves and listened to sentences that described what was happening in the game. Grammaticality judgments showed no difference between the two instruction types. ERP measures showed native-like processing after the period of no exposure for both groups. The explicit group, however, only showed native-like processing after the gap while the implicit group showed native-like processing directly after

instruction. This suggests that explicit knowledge can be used directly after training and implicit knowledge is used after a consolidation process. This consolidation process is purportedly the consolidation of declarative to procedural memory.

This study by Morgan-Short, Finger, Grey, and Ullman (2012) indicates that perhaps the utility of explicit and implicit language instruction is the formulation of explicit and implicit knowledge—both of which are important for second language use. While adults do formulate implicit knowledge of a second language over time and through exposure to the target language, they rely on explicit information to function in the second language until they are able to acquire the implicit knowledge. To reach a high level of proficiency quickly, adults need some type of conscious raising or explicit guidance in some areas of language to guide them towards native-like use of the target language (Ellis N., 2008).

2.3 THE PACE MODEL OF INSTRUCTION

Because the combination of implicit and explicit instruction may be beneficial to SLA, a teaching methodology that allows for the combination of both types of instruction may prove superior to other types of teaching methodology. The PACE model of instruction (Adair-Hauck & Donato, 2002a, 2002b; Donato & Adair-Hauck, 1992, 1994) presents an alternative to a choice of either explicit or implicit instruction. In essence, both types of instruction are used to guide

learners in acquiring the target grammar. Instruction at first can be considered implicit. As the instructor and the learners advance through the lesson, the instruction becomes more and more explicit. This section explains the PACE model of instruction and motivates the use of this model in the second study of this dissertation.

PACE is an acronym in which each letter stands for a separate stage in the instructional process. The first stage of instruction is the Presentation stage. During this stage, the instructor presents a text (e.g., stories, video, or other media), which contains instances of the intended grammar target. At the presentation stage, the learner is not meant to be a passive participant. Normally, the instructor involves learners in the presentation of the text. This can be done, depending on the nature of the text, by having students read or act out the text together. Learners may also do listening or viewing activities to engage them in the presentation stage if the form of media used does not allow for a more direct involvement. The Presentation stage exposes learners to target forms and provides natural meaningful contexts for the use of target grammatical forms in an implicit manner. This stage also allows the instructor to manipulate the frequency of the grammar target by selecting a context where the grammar target is more frequently used. This increases the likelihood that learners acquire less frequent forms. While the instructor may choose a text with a particular grammar target in mind, the purpose of the Presentation stage is to focus on meaning.

The second stage of the PACE model is the Attention stage. The purpose of this stage is to draw learner attention to the formal and functional properties of the grammar target. At this

stage, portions of the text that contain prime examples of the formal and functional properties of the grammar target are reviewed. The instructor may point out differences in function or meaning between uses of a particular form and have students discuss why they think the forms are different and how different forms map to different functions. Highlighting important formal distinctions may also help learners attend to the grammar target. The Attention stage allows the instructor to direct students from an overall understanding of the meaning of the text to grammar target. This step is necessary because, as VanPatten (1990, 1996, 2004, 2007) points out, L2 learners do not always process all formal aspects of the language in the input, but attending to the target linguistic structure is important for uptake (Schmidt, 1994, 2001). Although most of this stage is conducted without using meta-linguistic terms, pointing out the meta-linguistic terms for the grammar target may be helpful, especially when students are exposed to these terms in textbooks and other instructional materials.

The third stage of the PACE model is called the Co-construction stage. After learners are directed to pay attention to the formal and functional properties of the grammar target, the instructor and learners work together to explain the patterns found among linguistic forms, meanings, and functions. At this stage, the instructor guides students to make hypothesis about how different forms have different meanings and serve different functions. This stage is generally a conversation among the learners and the instructor and usually entails the instructor asking questions about the grammar target focused on in the Attention stage. As Adair-Hauck and Donato (2010) point out:

Questions are powerful tools in the hands of teachers who can adjust their questioning "in flight" to meet the emergent understandings of learners.... These assisting questions... help learners discover regular grammatical patterns, sound systems, word order, unique cultural meanings of words, and grammatical functions. (pp. 225-226)

Learners may make correct hypotheses about the grammar target at first; however, normally there are incorrect hypotheses that arise during the Co-construction stage. As learners incorrectly hypothesize about the language, instructors should point out evidence that falsifies such hypotheses in order to help the learner re-think their incorrect assumptions about the language and eventually formulate correct form-meaning-function mappings. This process is beneficial to learners because it causes them to use cognitive resources to process the target grammar. It forces learners to process the input (VanPatten, 1990, 1996; VanPatten & Cadierno, 1993). This process is also a means by which learners are introduced to negative evidence, argued to be important for adult L2 learners (White, 1987, 1991).

The fourth and final stage of the PACE model is the Extension stage. During the extension stage, the instructor provides activities to learners that will help them extend their newly-gained knowledge of the grammar target to new and meaningful contexts. Activities should not be tightly structured worksheets, but should be more open-ended, such as "information-gap activities, role-play situations, dramatizations, games, authentic writing projects, paired interviews, class surveys, out-of-class projects, or simulations of real-life situations" (Adair-Hauck & Donato, 2010, p. 229). The purpose of the Extension phase is to

allow students time to practice and to interact in the target language so that they gain the ability to use the target language as opposed to only learning about the target language. This type of opportunity for output has also been argued to be very beneficial in SLA (Muranoi, 2007; Swain, 1985; 2005) and it allows instructors to assess learners and check for learner comprehension and mastery of the grammar target. Extension activities also provide another opportunity to integrate culture into language instruction.

The question of interest to the second study of this dissertation is not whether a specific type of instruction is more beneficial than another type; rather, it is whether instruction in general can accelerate the acquisition process of Spanish POCs with respect to their semantic and syntactic properties. Although L2 acquisition of Spanish POCs has been the topic of a number of studies, the literature on the effect of instruction on Spanish POCs is limited. The only studies of which I am aware are those conducted by VanPatten and his colleagues on the effect of Processing Instruction (see VanPatten & Cadierno, 1993; VanPatten & Oikkenon, 1996; VanPatten & Sanz, 1995). These studies show that Processing instruction can be effective in helping learners overcome processing the first noun in a sentence or utterance as the subject. In other words, this instruction helps learners to understand Spanish clitic placement but does not address correct morphological realization.

One last consideration of instructed SLA relevant to this dissertation is at what point instruction is the most beneficial to the learner. Pienemann's (1998, 2005) Processability Theory claims that grammar acquisition follows a specific sequence based on learners' ability to process

grammatical structures. In other words, learners acquire procedures for processing language. The order of acquisition is based on "a universal hierarchy of processing resources" (Pienemann, 2005, p. 3) that follows from Levelt's (1983, 1993, 1999) Speech Processing model. The important point here is that in this model, processing is thought of as a linear procedure that proceeds incrementally. First, the lemma is activated, followed by the category procedure, phrase procedure, S-procedure (word order rules), and subordinate clause procedure. Applied to L2 learners, PT maintains that learners are not able to process a grammatical structure that requires a processing procedure above that which they possess on this processing hierarchy. If learners are not yet able to process lexical categories of words, they will not be able to correctly interpret and use subordinate clauses.

Based on PT, Pienemann (1984, 1989) proposed the Teachability Hypothesis (TH) which sought to test whether instruction can overcome the natural order of acquisition proposed by PT. Pienemann (1984) found that L1 Italian children learning German were not able to advance to a higher processing stage unless they were at the immediate lower stage. Other researchers have found similar results (e.g., Farley & McCollam, 2004; Mansouri & Duffy, 2005; Spada & Lightbown, 1999); however, Bonilla (2012) found that instructed L2 Spanish learners were able to benefit from instruction at higher stages. These general results in support of the TH do not negate the usefulness of instruction; they only point out that instructed SLA may be constrained by the hierarchy of natural processing in some cases. Pienemann suggests that instruction is useful when learners are ready for the grammar target in questions and states that "teaching can

only promote acquisition by presenting what is learnable at a given point in time" (Pienemann, 1989, p. 63).

2.4 SUMMARY

Research in the field of SLA has not always informed pedagogical practices in university-level Spanish classes. More recently, however, instructed SLA has gained ground as more researchers agree that SLA is "open to the influence of instruction" (Housen & Pierrard, 2005, p. 2). In the past twenty years, many researchers have investigated the effect of instruction on SLA.

Pienemann's (1984, 1989, 1998, 2005) PT and TH have motivated empirical studies that have provided evidence for natural processing constraints on the order of acquisition of procedures required for various grammatical structures. While these constraints may affect SLA, they do not weaken the usefulness of instruction. In fact there are many studies that point to the usefulness of a focus on linguistic form in instruction, evidenced by the results of Long's (1983a) review and the meta-analyses by Norris and Ortega (2000) and Spada and Tomita (2010). The results provided by these studies seem to suggest that explicit instruction is more beneficial than implicit instruction; however, evidence by Morgan-Short, Finger, Grey, and Ullman (2012) indicates that implicit instruction may also be important for L2 learners. In order to transcend the debate between the exclusive use of explicit or implicit instruction pointed out in section 2.2.1

and combine the benefits of both methods, the PACE model of instruction was selected for the instructional intervention directed at accelerating Spanish POC acquisition. The PACE model lends itself to presenting ample instances of less-frequent uses of Spanish POCs as well as incorporating explicit language instruction together in order to catalyze a native-like POC system in the L2 learner if possible.

Although instructed SLA research has begun to answer questions regarding how and the degree to which instruction affects SLA, the effect of instruction on the acquisition of an abstract representation of language continues to be debated and requires further empirical evidence. The contribution that this dissertation makes with respect to the effect of instruction on the acquisition of a native-like Spanish POC system adds empirical evidence to the debate. In addition to the general instructional contribution this dissertation makes, because the second study includes participants from different levels of L2 Spanish, it also tests the TH. A functioning native-like system of Spanish POCs requires a high level of processing and if instruction leads lower proficiency learners as well as higher proficiency learners towards a native-like system, the TH is attenuated.

3.0 SPANISH POCS

This chapter presents the linguistic structure of Spanish POCs and discusses the factors that influence the SLA of Spanish POCs. Section 3.1 discusses linguistic structure and theory regarding Spanish POCs. Section 3.2 discusses the difficulties that L2 learners have acquiring Spanish POCs, the research that has been conducted on L2 Spanish POCs, and the influence of Animacy on SLA. Section 3.3 summarizes Chapter 3.

3.1 LINGUISTIC STRUCTURE OF SPANISH POCS

Spanish POCs replace referents which would otherwise exist in the discourse as full noun phrases. Although there are other grammatical markers involved with object noun phrases, POC doubling, and double POC structures, these are not relevant to this dissertation and are therefore excluded from this discussion. As Penny (2006) discusses, 3rd person accusative POCs exist in modern Spanish as vestiges of the accusative marked pronouns ILLUM and ILLAM in Latin. These Latin pronouns, through diachronic phonological changes became *lo* and *la* respectively in

modern Spanish. The meaning of the accusative pronouns have not change from their original Latin accusative meaning and refer to the direct object of the verb as shown in (2-3). The 3rd person dative POC exists in modern Spanish as a vestige of the dative marked pronoun ILLĪ in Latin. This pronoun also underwent diachronic phonological changes and became *le* in modern Spanish. Although the dative pronoun prototypically refers to indirect objects as shown in (4), it also conveys a few other meanings as discussed below.

- (2) (a) Juan pasó la **pelota**.

 Juan pass-pa.3rd.sg. the ball(Fem.).

 "Juan passed the ball."
 - (b) Juan **la** pasó. Juan POC(3rd.sg.Fem.Acc.) pass-pa.3rd.sg. "Juan passed it."
- (3) (a) Juan vio el **gato**.

 Juan see-pa.3rd.sg. the cat(Masc.).

 "Juan saw the cat."
 - (b) Juan **lo** vio. Juan POC(3rd.sg.Masc.Acc.) see-pa.3rd.sg. "Juan saw it."
- (4) (a) Juan pasó la pelota a **Marcos**. Juan pass-pa.3rd.sg. the ball(Fem.) to Marcos. "Juan passed the ball to Marcos."
 - (c) Juan **le** pasó la pelota. Juan POC(3rd.sg.Dat.) pass-pa.3rd.sg. the ball. "Juan passed him the ball."

Spanish POCs pre-pose the finite verbs (main and auxiliary) and negative imperatives to which they are attached and follow positive imperatives, infinitives, and gerunds (Zagona, 2002). The pre-verbal position of finite main verbs is shown in (2)-(4) and the other positions are shown in (5)-(9). Although these examples mostly show accusative POCs, dative POCs are also realized in the same positions.

- (5) Juan **la** está pasando. Juan POC(3rd.sg.Fem.Acc.) is pass-prt. "Juan is passing it."
- (6) No **la** pase. Neg. POC(3rd.sg.Fem.Acc.) pass-3rd.sg.I. "Don't pass it!"
- (7) Páse**la** ahora. pass-3rd.sg.I.+ POC(3rd.sg.Fem.Acc.) now. "Pass it now!"
- (8) Quiero pasar**la**. want.1st.sg. pass-3rd.sg.inf.+POC(3rd.sg.Fem.Acc.) "I want to pass it."
- (9) Juan está pasándo**la**. Juan is pass-prt.+POC(3rd.sg.Fem.Acc.) "Juan is passing it."

The function of Spanish POCs is also relevant to this dissertation. POCs that realize accusative Case marking have not received as much attention as dative POCs because their

functions are fairly straightforward. Accusative POCs function as the direct object of transitive verbs and have been analyzed in research investigating clitic doubling (Lipski, 1994; Torrego, 1995). Dative POCs have also been the subject of investigation in clitic doubling constructions. Weissenrieder (1995) analyzes dative object clitic doubling as a type of object-verb agreement that is used to maintain topicality throughout discourse. Aside from functions of dative POCs in clitic doubling, unlike accusative POCs, dative POCs have been analyzed to serve many other functions. Maldonado (2002) and Zyzik (2006) adopt a cognitive grammar approach to classifying the different functions of dative POCs in Spanish. They view dative constructions as being central or peripheral to a dative prototype that involves the transfer of a theme along a path from an agent to a participant experiencer. In other words, the prototypical dative argument is the indirect object.

Zyzik (2006) lists eight functional categories for dative POCs, including three categories that are attested in learner language and are limited to certain Spanish dialects (categories 5f-h). The functional categories that dative POCs fill in Zyzik's list are replicated in (10) with examples for each category.

(10) (a) Recipient

Le di una computadora para su cumpleaños.

'I gave *him/her* a computer for his/her birthday.'

(b) Source

Le quitaron el libro.

'They took the book from him/her.'

(c) Experiencer

Le gusta correr.

'He/she likes running.'

(d) Beneficiary

Le llegó un paquete.

'He/she got a package.'

(e) Possessor

Le duele la cabeza.

'His/her head hurts.'

(f) Patient (m.)

*Su novia le besó.

'His girlfriend kissed him'

(g) Patient (f.)

*Su novio le besó.

'Her boyfriend kissed her.'2

(h) Other

*La muchacha *le* está viéndose en el espejo.

'The girl *le* is looking at herself in the mirror.'³

In addition to these functional categories, it is important to mention that the dative POC *le* also realizes a locative meaning as in (11). The reason that Spanish dative POCs serve so many functions is that Proto-Indo-European and Latin pronominal forms that realized different Cases (e.g., locative and ablative) underwent stages of syncretism with the dative form (Sihler, 1995).

² The Patient category (10f-g) is split to differentiate Gender in Zyzik's list because leista dialects only use le for masculine patients and not feminine patients while learners may or may not distinguish Gender.

³ This example is taken from Zyzik (2006, p. 125) and is included in her analysis to account for learner language that does not fit her other categories.

Because only one form conveys various meanings and could technically be said to mark various cases in modern Spanish, the term 'dative' is used exclusively with *le*.

(11) Juan **le** puso azúcar. Juan POC(3rd.sg.Dat.) put.pa.3rd.sg. sugar. "Juan put sugar in it."

The system of Spanish POCs varies across different Spanish dialects. Most dialects employ a case-based paradigm, as presented in this section while other dialects employ a referential paradigm that differentiates forms based on Animacy and Gender of the referents, using *le* for animate masculine objects and *lo/la* for inanimate objects regardless of the case they realize (Heap, 2000). According to the Real Academia Española (2005), the dialects of the north-central region of Castile and Cantabria exhibit a referential system (known as *leismo* in Spanish). Other regions exhibit a referential system reportedly due to contact with either indigenous Amerindian languages or Euskera. These dialects include dialects in Ecuador, Peru, Bolivia, Northern Argentina, Paraguay, Basque Country, and Northern Navarra.

According to the Real Academia Española (2005), the standard pronominal paradigm in Spanish shows diverging forms only for number (singular and plural) for first and second person. For third person, forms also diverge depending on Gender and Case (accusative and dative) in addition to number. Because first and second person POCs vary only in number, they do not pose the same magnitude of difficulty for L2 learners as do third person POCs. Number distinction in

third person POCs does not pose the same amount of difficulty for L2 learners either. For these reasons, the focus of this dissertation is only on third person singular POCs. Although the focus of this dissertation is on third person singular POCs, the instructional intervention will include first and second person POCs as well. Although dialectal variations in third person POCs exist (see Heap, 2000), Table 1 displays what is considered to be the standard paradigm in Spanish and what L2 learners are taught in Spanish language classes in the United States.⁴

Table 1. Spanish POC paradigm

Person	_	Singular		Plural	
First		me		nos	
Second		te		OS	
	Case	Masculine	Feminine	Masculine	Feminine
Third	Accusative	lo	la	los	las
	Dative	le		les	

Because the Case-based paradigm is taught in university-level Spanish language classes in the United States, a description of the Case theory adopted in this dissertation is necessary. Woolford (2006) distinguishes structural from nonstructural Case based on where different types of Case are licensed. She argues, along with what is generally accepted in generative Case theory, that accusative case is licensed in the sentence structure by the head of the verb phrase.

⁴ When both direct object and indirect object clitics are present, the indirect object realizes as *se* instead of *le*. This realization of the dative clitic is outside of the scope of this paper because it expones the same semantic and syntactic functions as *le* and is only realized in the presence of the direct object clitic.

This type of Case licensing is known as *structural licensing* because Case is licensed by the verb that c-commands its argument. In Figure 1, *la pelota* is assigned accusative case by the head of the verb phrase before any movement occurs. By extension the POC that replaces *la pelota* would by marked by case in the same syntactic position.

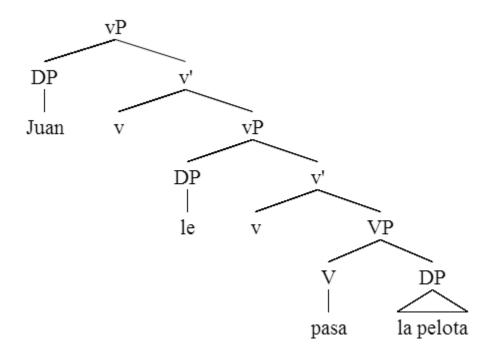


Figure 1. Simple tree illustrating where Case is assigned

Dative case, however, is non-structural and is licensed outside of the VP proper. This nonstructural licensing takes place at a level prior to structural licensing in the vP structure (Chomsky, 2000). As illustrated in Figure 1, le is generated in the specifier of the vP, where θ -marking and nonstructural case assignment take place. The external argument Juan is assigned

nominative case in the specifier of the top vP. The important concept here is that, although accusative and dative cases are licensed in different levels of syntactic structure, both types of Case marking happen at an abstract syntactic level.

3.2 L2 ACQUISITION OF SPANISH POCS

Spanish POC research in second language acquisition has touched on a variety of phenomena regarding how learners process and use POCs (Lee, 2003). Clitic placement has been one phenomenon common to processing and usage investigations. Learners first process pre-verbal clitics based on the First Noun Principle and later acquire other acceptable word orders involving POCs (see Houston, 1997; Lee, 1987; LoCoco, 1987; VanPatten, 1984; and VanPatten & Houston 1998). There has been less research involving learner usage from production data. VanPatten (1990) compared a naturalistic learner to a classroom-based learner and suggested (among other hypotheses) that learners use a one-form to one-function strategy and that classroom learners first acquire third-person dative POCs as part of verbs that prototypically have three arguments and are common in classroom discourse. An example of this type of verb is dar 'to give' as in Juan le da el dinero 'Juan gives him/her the money'. In this example dar has three arguments: a subject, a direct object and an indirect object.

The use of dative clitics indicating the function of experiencer (e.g., *le gusta* 'he/she likes') has also been the subject of investigation (e.g., Montrul, 1998). More recently, Montrul (2010) investigated differences between heritage speakers and adult L2 learners on their use and knowledge of Spanish POCs with respect to clitic placement and word order. Results from this study showed that heritage speakers were closer to monolingual Spanish speakers on all measures than proficiency-matched L2 learners. Geeslin, García-Amaya, Hasler-Barker, Henriksen, and Killam (2010) investigated the acquisition of Spanish POCs of L2 learners in a study abroad context where a *leísta* dialect is spoken. They found that the learners eventually approximated native-speaker usage of *le* with respect to the predictor variables measured (Gender, Animacy, Telicity).

The function of Spanish POCs is also important when considering L2 acquisition. Although L2 learners are probably exposed to all of the types of dative POCs shown in (10), as Zyzik's data show, they use dative POCs that realize the functional of categories of Recipient, Experiencer, and Patient much more than the other categories. Furthermore, the Experiencer category is somewhat problematic for investigating L2 acquisition of dative POCs since learners tend to learn clitic-verb combinations such as *le gusta* as chunks (Zyzik, 2006). Because of this evidence regarding L2 learner usage of dative POCs, only POCs fulfilling the function of

⁵ Leísta dialects substitute an accusative pronoun with the dative pronoun; usually when the referent is masculine.

Recipient and Patient as well as the locative meaning as shown in (11) are included in this dissertation.

Zyzik (2006) elicited oral production data from L2 Spanish learners with different levels of proficiency by means of a picture book narration, a structured interview, and two video narrations to analyze how learners use dative POCs with the different functions. The data from these elicitation tasks indicate that while usage increases with proficiency, beginners hardly use dative POCs (*M*= .42) and advanced learners use a considerably higher number (*M*= 10.21). Zyzik also reports learners start by overgeneralizing dative POCs to accusative contexts (e.g., **le vi ayer* 'I saw to him/her yesterday') in the intermediate levels. This overgeneralization increases with proficiency and is stronger when the referent of the POC is animate. Zyzik explains this phenomenon by claiming that learners do not use Case as a basis for formulating a prototype for dative POCs, rather they are using Animacy as the determining factor for which POC form to use. Zyzik claims that two factors combine to explain L2 learner dative POC use—the *frequency* of animate referents in dative contexts and the conceptual saliency of Animacy.

That learners whose L1 is English overgeneralize dative POCs to accusative contexts constitutes evidence that pronominal Case distinction is difficult for these learners even though they may have been explicitly taught these distinctions. This difficulty may stem from the lack of distinctions between dative and accusative Cases in English object pronouns. Learners' use of Animacy as a cue for dative POC usage in Spanish may stem from Animacy distinctions in English pronouns (him/her vs. it). However, influence from L1 Animacy distinctions is not as

straightforward as the influence from the lack of dative and accusative Case distinctions. English distinguishes Gender with animate referents and L2 learners are distinguishing Gender with inanimate referents (Zyzik, 2006). If L1 Animacy distinctions directly influence L2 POC distribution, one might expect *lo* and *la* to be used with animate referents and *le* to be used with inanimate referents, which is neither what Zyzik's data indicate nor is it a documented phenomenon in any Spanish dialect.

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3.2.1 Animacy

Because L1 Animacy distinctions do not seem to directly influence L2 POC distribution, learners must be using a strategy other than relying on L1 pronominal form. Zyzik (2006, p. 131) mentions two factors that contribute to L2 learner dative POC distribution—frequency of animate referents in dative contexts and conceptual saliency of Animacy. She states that "although inanimate referents are not excluded from dative Case marking, the overwhelming majority of dative participants in Spanish are animate and human". This statement embodies the natural daily events in which humans participate. Inanimate objects are more frequently direct objects that subjects transfer to indirect objects and are not usually indirect objects themselves to which a direct object is transferred in everyday life and therefore do not usually enter into

communication about everyday life. Evidence from L1 Spanish corpora also suggests these same frequency patterns (Silva-Corvalán, 1981; Vázquez Rozas, 1995).

Animacy is also a salient concept that exists outside of linguistic forms. Slobin (1996) discussed the idea that concepts (e.g., spatial and temporal relationships between entities, inherent characteristics of entities or groups of entities such as Animacy and plurality, etc.) exist outside of the realm of language and that grammatical forms are used to communicate these concepts. Many researchers have shown that Animacy affects linguistic forms in many different aspects of language (e.g., Demuth, Machobane, Moloi, & Odato, 2005; Mak, Vonk, & Schriefers, 2002; Ormazabal & Romero, 2007; Silverstein, 1986; Weckerly & Kutas, 1999; and Woolford, 1999). Silverstein (1986) demonstrates how Chinook and Dyirbal have Case systems that are affected by a lexical hierarchy. In some contexts Case marking distinctions are dependent on the Animacy hierarchy in (12) where pronouns with human referents receive one Case-marking and pronouns with animate or inanimate referents receive a different Case-marking regardless of its syntactic position.

(12) Human > Animate > Inanimate

Woolford (1999) examines object agreement in the African languages Ruwund, KiRimi, Maasai, and Swahili. To account for differences in agreement along the Animacy hierarchy (along with other agreement differences in topicality and specificity) she posits that *exclusion*

principles prohibit objects with certain features from remaining in the verb phrase. Objects with these features are excluded from the verb phrase and must move into the specifier of the agreement phrase for agreement to be realized. An example of this type of agreement is in Ruwund, where agreement morphology is only realized with objects that have one of the following sets of features: animate and specific, animate and benefactive/malefactive, animate and goal, or focused and specific. Animacy plays a role in determining whether the object moves out of the verb phrase and agreement morphology is realized or not in Ruwund. Along the same lines as Woolford (1999), Ormazabal and Romero (2007) discuss the effect of Animacy on object agreement. They claim that the *Person-Case Constraint* posited by Bonet (1991); which states that when dative agreement or a dative pronoun is present, accusative pronouns or agreement can only occur if they are third person; should be generalized to state that if an object pronoun or agreement encodes Animacy, no other object-verb agreement can be realized. They argue that this modification accounts for the differences in object agreement such as those examined by Woolford. The point that Ormazabal and Romero make regarding the role of Animacy in object agreement exemplifies how Animacy can affect linguistic form.

Animacy has also been shown to affect processing of relative clauses. Weckerly and Kutas (1999) used event-related potentials to measure how adult English speakers processed object relative clauses. They manipulated the Animacy of the subjects of the relative clauses to see whether inanimate subjects would produce lower negativities (indicating a semantic incongruity). Results showed that inanimate subjects produced significantly lower negativities

than animate subjects, indicating that Animacy affects the processing of object relative clauses. Mak, Vonk, and Schiefers (2002) found similar Animacy effects in their study investigating relative clause processing in Dutch speakers. Using self-paced reading and eye-tracking experiments, they showed that Animacy of the object predicted reading times.

Another study that demonstrates Animacy effects on language is Demuth, Machobane, Moloi, and Odato (2005). They investigated how children acquire postverbal word order in Sesotho double object applicative constructions, which is determined by Animacy. Objects that that refer to an entity higher on the Animacy hierarchy will be positioned directly after the verb. When objects are both animate, either object is allowed directly after the verb; when both objects are inanimate, the benefactive argument directly follows the verb. Demuth, Machobane, Moloi, and Odato found that children were using Animacy quite early to determine word order with high frequency items and that by age four they were able to robustly generalize Animacy hierarchy effects to lower frequency items. Later, children are able to start ordering inanimate objects with the benefactive argument first. They posit an acquisition path that children follow in double object applicative word order starting with Animacy, moving to the Animacy hierarchy, and finally picking up on Case of the objects.

The examples above provide evidence that Animacy is clearly a cue that strongly influences how children acquire language. Since this is the case, the notion that learners may be using Animacy as a cue for POC distinction seems logical from the viewpoint of universal influences on language acquisition. The influence of Animacy in the case of POC distinction

would predict that L2 learners would wrongly create the hypothesis that POC distinction is based on Animacy and not on Case because indirect objects are more frequently human (or at least animate) and direct objects are more frequently inanimate in natural daily speech (i.e., the input). This would happen even though a POC distinction based on Case is what is taught and is undoubtedly existent in the input L2 learners receive.

3.3 SUMMARY

While some dialects have referential paradigms with respect to POC distinction, the majority of modern Spanish speakers have an etymological paradigm—the paradigm taught to university-level L2 learners of Spanish in the United States. Spanish POCs can appear in a variety of locations in the surface structure of sentences and a number of studies have investigated the L2 acquisition of POC placement. Less research has investigated L2 learner distinctions of morphological forms of POCs. Zyzik (2006) found that learners overgeneralize the dative POC to accusative contexts when the referent was animate. This finding may be due to the high frequency with which dative POCs refer to animate objects and accusative POCs refer to inanimate objects in the input. Learners may also be influenced by the saliency of Animacy in language at large as evidenced by a number of studies showing that Animacy has been grammaticized in some languages and influences L1 acquisition in others.

4.0 EXPLANITORY FRAMEWORKS IN SLA RESEARCH

That Animacy appears to influence L2 Spanish POC distinctions begs the question of why this may be. The literature regarding L2 learner sentence processing has provided evidence the L2 learners may rely too much on lexical-semantic and pragmatic information for parsing, rather than the more abstract morpho-syntactic information of the target language or even the L1. This dependency on semantics and heuristics has been addressed by various researchers in SLA, including Ullman (2001b, 2005), Clahsen and Felser (2006a, 2006b, 2006c), VanPatten and Cadierno (1993), and VanPatten (2004). Ullman has posited that, unlike native speaker processing which operates as a dual mechanism consisting of a lexical store and a procedural memory system that combines lexical items according to rules, L2 learners rely much more heavily on declarative memory. This assertion follows the predictions made by the Declarative/Procedural (DP) model of language processing (Ullman, 2001a, 2001b, 2001c).

Clahsen and Felser (2006a, 2006b, 2006c) have also addressed L2 learners' dependence on semantic information and posited the Shallow Structure Hypothesis (SSH) to explain the lack of reliance on syntactic information for L2 learners. In a review of sentence processing studies,

they suggest that differences between child and adult L1 speakers are due to cognitive developmental issues (e.g., lower capacity working memory in children) while differences between adult L1 and L2 speakers are due to differences in processing strategies. Clahsen and Felser clarify that L1 processing involves two parsing routes; one, a full parsing route, provides a full morpho-syntactic representation from the grammar while the other, a shallow parsing route, is based on lexical-semantic and pragmatic information. The difference for L2 learners is that they depend much more heavily, if not exclusively, on the shallow parsing route since "the representations adult L2 learners compute during processing contain less syntactic detail than those of child and adult native speakers" (Clahsen & Felser, 2006a, p. 2).

This chapter discusses the DP model (Ullman, 2001a, 2001b, 2001c) and the SSH (Clahsen & Felser, 2006a, 2006b, 2006c) and how these models may explain why L2 learners of Spanish defer to Animacy instead of Case in POC distinctions in Sections 4.1 and 4.2. In Section 4.3, the Competition Model is presented as a theoretical framework useful for explaining how L2 learners treat Animacy and Case cues in the input. Section 4.4 summarizes Chapter 4.

4.1 THE DECLARATIVE/PROCEDURAL MODEL

The DP model may explain why L2 learners base POC distinctions on Animacy instead of Case because it posits two separate storage and processing systems, one of which is less accessible in

L2 learners. Because Case-based POC distinctions are based on syntactic relations, these relations are computed in what Ullman calls the procedural system. Because Animacy distinction may not rely on the same type of computation, this type of referential relationship exists in what Ullman calls the declarative system. This section further explains the DP model and how informs L2 Spanish POC distinctions.

The DP model is based on a body of research claiming that language storage and processing is explained by a *dual-mechanism* where morphology is stored and processed in two different components (Marcus, et al., 1992; Pinker, 1991, 1999; Pinker & Prince, 1988, 1991; Prasada & Pinker, 1993; Ullman, 1993, 1999). One module posited by the DP model is an associative memory system that stores morpho-phonological forms and the semantic information that maps onto each form. This module stores monomorphemic words and affixes as well as words that have irregular morphology (e.g., sing-sang) and essentially contains the mental lexicon. The other module is a system of rules and constraints that computes regular morphological transformations (e.g., walk-walked) based on the rules and constraints existent in the system. This module essentially can be thought of as the grammar since it carries out morpho-syntactic computations using symbols stored in the lexicon.

Ullman (2001a) argues that these modules are not exclusively dedicated to language. He claims that the first module mentioned also encompasses the learning and representation of knowledge in general while the second module mentioned involves the "learning and expression of motor and cognitive skills and habits" (p. 45). Because of the non-exclusivity of these

modules regarding language, Ullman refers to the associative memory system as the declarative memory system and the rules and constraints module as the procedural system. There is also some evidence that these two systems are connected to neurological components. The declarative system is associated with the temporal-lobe structures in the brain whereas the procedural system is associated with the frontal/basal-ganglia structures in the brain (Ullman, et al., 1997; Ullman, 2001a, 2001c). These two systems work in parallel to each other and in a sense compete with each other for processing morpho-syntax. When computing morphologically complex forms, each system is activated. Because the declarative system stores words with irregular morphology, when the system successfully retrieves an irregular form, it blocks the application of a rule from the procedural system.

4.1.1 Evidence for the DP model

Evidence for DP model has been provided by a number of psycholinguistic and neurolinguistic studies. The psycholinguistic studies that have supported the DP model are based on frequency effects and neighborhood effects. The studies investigating frequency effects for regular and irregular verbs are based on the assumption that memorized forms that are highly frequent are memorized better than low-frequency forms. Thus, the DP predicts that irregular verbs should

⁶ Ullman may not agree with the term 'compete' because it is generally used in the context of single-mechanism models of language.

show frequency effects because they are stored in the declarative memory system while regular forms should not show frequency effects because the computation of a rule, once memorized, applies equally regardless of the frequency of the base. There have been a number of studies that affirm the predictions made with regards to frequency effects (e.g., Bowden, Gelfand, Sanz, & Ullman, 2010; Prasada, Pinker, & Snyder, 1990; Ullman, 1993, 1999; Van der Lely & Ullman, 2001).

In addition to the frequency effects evidence, studies investigating neighborhood effects have also supported the DP model. These studies assume that stem-past mappings with similar phonological forms (e.g., sing-sang, ring-rang) are strengthened when one stem-past mapping is heard. The DP model predicts that irregular stem-past mappings should show neighborhood effects because they are stored in an associative memory while regular stem-past mappings with phonologically similar forms (e.g., slip-slipped, skip-skipped) should not show neighborhood effects because they are products of rule computation regardless of their phonological form. Evidence supporting these predictions has been presented in research by Prasada and Pinker (1993) as well as Ullman (1993, 1999).

Along with the psycholinguistic studies mentioned, many neurolinguistic studies have also provided evidence for the DP model. Ullman (2001a, 2001c) provides an overview of the neurolinguistic studies that show supportive evidence for the DP model. Studies investigating language use by aphasics have shown that patients that have suffered damage to left posterior regions of the brain have difficulty with morphologically regular forms while patients that have

suffered damage to left anterior regions of the brain have difficulty with morphologically irregular forms. Studies involving patients with Alzheimer's, Parkinson's, and Huntington's disease have also revealed similar disassociations with respect to regular and irregular forms. These neurological diseases each target a different part of the brain and lead to different types of language impairment. Similarly, different developmental disorders indicate different language impairments with respect to regular and irregular forms. People with Specific Language Impairment with syntactic processing deficits fail to produce forms regular forms in novel contexts and show frequency effects with irregular and regular forms. The opposite patterns are true in people with William's syndrome.

Besides the evidence from cerebral impairments, other neurolinguistic studies using a variety of methods to view cerebral functions provide support for the DP model. These methodologies include using Electroencephalography to measure electrical waves related to linguistics events, Positron Emission Tomography and Functional Magnetic Resonance Imaging scans to measure electronic activations and blood flow to specific cerebral regions during language tasks, and Magnetoencephalography to measure magnetic fields produced by cerebral electronic currents during language tasks. A variety of studies using these methodologies have provided evidence that supports the DP model—different regions of the brain are activated when completing tasks requiring the use of irregular verbal forms and lexical information than when completing tasks requiring the use of regular verbal forms.

4.1.2 The DP Model and Second Language Acquisition

While the DP model describes general linguistic processes for all languages that one might speak, Ullman (2001b, 2005) has discussed the application of this model to L2 processing. For L1 acquisition, the declarative and the procedural systems are both very active in the acquisition process. As the age of exposure to a language increases, procedural memory declines and the role of the procedural system becomes less and less prominent. Declarative memory functions, on the other hand, improve with age until early adulthood, at which point it begins to decline as well. This change in the relative roles of the declarative and procedural systems may explain the inability for children that are not exposed to languages until after puberty to acquire the grammar of their L1.

Due to these maturational changes in general cognitive processing with respect to language, the DP model predicts that adult L2 learners must rely heavily on the declarative system in the language acquisition process. Based on this prediction, the DP model also predicts that grammar that is computed in the L1 will not be computed in the L2. These grammatical relations are memorized and stored in the declarative system much like idioms. Ullman (2001b) does not claim that these forms are totally unanalyzed, but that computed forms in the L1 are treated the same as the lexical representations found in the associative memory of the declarative system. He describes a number of studies similar to those mentioned in section 2.2.1 (involving different aphasias, PET and fMRI scans, as well as event-related potentials, ERPs) that provide

evidence supporting the predictions made by the DP model for L2 speakers. In general, late L2 learners rely more heavily on the declarative system that the procedural system.

Relating the DP model for L2 acquisition of Spanish POCs, learners may be unable to make POC distinctions based on Case because they are not able to perform the grammatical computations required for Case assignment. Because learners are able to use the declarative system, where lexical-semantic features are stored, POC distinctions become based on Animacy. L2 learners use Animacy instead of Case for POC distinctions because Animacy arguably does not require the same procedural computations as Case and because of the frequency biases in the input.

While the evidence discussed in this section shows that learners rely more heavily on the declarative system, it does not negate the use of the procedural system in the L2. In fact, Ullman (2005) states that "...practice should lead to procedural learning and improved performance. Thus with sufficient experience with L2, the language is expected to become L1-like in its grammatical dependence on the procedural system, with the potential for a high degree of proficiency" (p. 152). Although grammatical impairment for L2 learners in general compared to native speakers is predicted, the DP model does not deny that very advanced L2 learners can eventually process the L2 grammar in a native-like way. Therefore, it may not be impossible for L2 learners to eventually distinguish Spanish POCs based on Case.

4.2 THE SHALLOW STRUCTURE HYPOTHESIS

Another model that makes similar claims as the DP model with respect to L2 learners' abilities to process a non-native grammar (i.e., deficiency in computing syntactic relations), and is therefore relevant to Spanish POC distinction, is the Shallow Structure Hypothesis. Clahsen and Felser (2006a) assert that humans process language via two routes that work in parallel. One route, a full parsing route, is directed by the grammar. The other route, a shallow parsing route, is guided by lexical-semantic and pragmatic information. The shallow parsing route allows the quick determination of the likely meaning of language while the full parsing route allows the confirmation of the interpretation. Assuming that these basic processing mechanisms are universal, L2 learners are able to use both processing routes. Clahsen and Felser claim that both parsing routes are available to the L2 learner and that the difficulty in using the full parsing route is due to an incomplete grammatical representation of the target language.

Inherent in Clahsen and Felser's (2006a, 2006b, 2006c) claim is that differences in processing between native speakers and L2 learners are found because of the lack of an abstract representation of language upon which L2 learners could rely in sentence processing. An example of the differences in processing between L1 and L2 speakers is provided in (13) and (14a-c).

- [13) [DP The worker [CP [who_i] the manager claimed [CP [e_2] that the customer had seen [e_1]]]] ...did not come to work today.
- (14) (a) [The worker] who [AGENT the manager] claimed [THEME that...
 - (b) [The worker] who [the manager] claimed [that... [THEME] the customer] had **seen**...
 - (c) [EXPERIENCER The worker] who [the manager] claimed [that... [the customer] had **seen**] did not come to work today.

The analysis in (13) shows that the L1 speakers process a representation of *who* (the worker) when they reach a complimentizer (*that* in this example) which indicates a new subordinate clause. This reactivation of *who* (the filler) at the beginning of the subordinate clause (the gap) suggests that L1 speakers are using an abstract representation of the syntax they have acquired to interpret the sentence. The analysis in (14) shows that L2 learners rely on semantic information for sentences processing. The L2 learner processes possible semantic representation as soon as possible, indicated by the different thematic roles assigned at different stages of processing. The important difference between these two processing strategies demonstrated in these examples is that the L1 speaker is able to process the sentence relying on an abstract syntactic representation while the L2 learner relies solely on semantic information since they do not process the gap as do L1 speakers.

The examples in (13) and (14) showing different processing strategies between L1 and L2 speakers in relation to filler-gap phenomena is similar to the processing in Spanish POCs.

In order to process Spanish POCs based on Case, a syntactic representation is necessary as shown in Chapter 3 in the same way filler-gap processing relies on syntactic a representation. Native speakers of Spanish rely on an abstract syntactic representation of Case to distinguish POC forms. The SSH, however, predicts that L2 learners would have difficulty processing formal distinctions based on Case since they do not possess the necessary abstract representation, rather learners would continue to base distinctions on other, non-morpho-syntactic information such as Animacy.

Although the SSH and DP model do appear to be very similar (compare the declarative system to the shallow parsing route and the procedural system to full parsing route), Clahsen and Felser (2006a) point out a few differences. They emphasize that the SSH is a psycholinguistic model and makes no claims as to the neuro-biological correlates to sentence processing. Another point that Clahsen and Felser make is that shallow processing is not necessarily restricted to a declarative system and procedural knowledge may as well be used. Also, one critique of the DP model provided by Clahsen and Felser (2006b) is that, while the DP claims that procedural memory is 'less available' to L2 learners and they therefore are 'more dependent' on declarative memory, what is meant by these terms is not clear. They ask the question: What is actually available to L2 learners in terms of the ability to use these two systems? They attempt to avoid the problem by claiming that the difference between L1 and L2 learners is a processing difference rather than dealing with the actual neurocognitive structures available.

4.2.1 Evidence for the SSH

Clahsen and Felser (2006b) rely on results from a number of studies as evidence of these processing differences (e.g., Juffs & Harrington, 1995; Marinis, Roberts, Felser, & Clahsen, 2005; Williams, Möbius, & Kim, 2001). These studies therefore also support the SSH according to Clahsen and Felser. Williams, Möbius, and Kim (2001) showed that L2 learners rely on lexical-semantic information rather than syntactic information. They found differences in plausibility effects between L1 and L2 speakers for the processing of *wh*-questions. Their results can be interpreted to indicate that L2 learners use processing strategies in sentence interpretation that rely on lexical-semantic and pragmatic information rather than syntactic information.

The SSH is also supported in studies by Marinis, Roberts, Felser, and Clahsen (2005) and Felser and Clahsen (2009). The first of these studies employed self-paced reading tasks to see if L1 Chinese, Japanese, German, and Greek learners of English used intermediate syntactic gaps, as in (13), in processing long-distance *wh*-dependencies. Results from this study indicated that none of the L1 groups did so. Results from Felser and Clahsen which used ERPs, eye-tracking, and cross-modal priming also suggest that the L2 learners from different L1s under-used syntactic information in German plural inflection unlike the native speaking group.

Various studies have also provided morphological processing evidence, in addition to the syntactic processing evidence, supporting the SSH. Clahsen, Felser, Neubauer, Sato, and Silva (2010) provided an overview of morphological processing. In this study they asserted that L2

learners are less sensitive to abstract morphological structure and rely on lexical storage for sentence parsing evidence by speeded grammaticality judgment, lexical decision, and priming tasks.

4.3 THE COMPETITION MODEL

Although the DP model and the SSH provide an explanation of why learners may be distinguishing POCs based on Animacy, they do not have specific hypotheses about how learners attend to input and formulate their interlanguage grammar. One model that is particularly useful for discussing how learners process input when the input may be misleading, such as is the case with Spanish POCs, is the *Competition Model* (Bates & MacWhinney, 1981, 1982). The *Competition Model*, in its current iteration, is a subpart of the *Unified Model* of first and second language acquisition (MacWhinney, 2004, 2005, 2008, 2012) which asserts that the same basic mechanisms are involved in L1 and L2 acquisition. MacWhinney does not deny that differences between L1 and L2 acquisition exist; however, those that does mention are differences in the beginning state of acquisition and not in the mechanisms involved. The *Competition Model* is conceived as the processor that learners use to interpret language. As the learner receives input, this competitive processor compares the input with the current interlanguage grammar and

allows the learners to make grammaticality decisions.⁷ Because the *Competition Model* is useful for the type of form-meaning relationships under investigation, only this subpart of the *Unified Model* will be considered and described.

The Competition Model assumes that speakers' acoustic-articulatory channels are limited by constraints on memory constraints and on the ability to perceive everything that could possibly be perceived at one time. This assumption means that different functional cues compete with each other for control over grammatical surface forms. Certain functional cues that have higher cue strength for a given language will claim acoustic-articulatory resources over other, weaker cues. The function-to-form mapping between functional cues and surface forms are not one-to-one and surface categories are governed jointly by functions that naturally occur together (e.g., agentivity and topicality naturally coalesce to create the category of 'subject'). By extension, cues may also compete with each other creating a preferred surface form for the realization of certain functions in each language. As Bates and MacWhinney (1981) state, "in comprehension, the process works in reverse" (p. 197). That is to say, surface forms serve as cues to functional coalitions. Bates and MacWhinney provided evidence for the competition model by testing how native speakers of English and Italian interpreted sentences differently when four formal cues; word order, Animacy, contrastive stress, and topicalization; were

⁷ Although MacWhinney might object to the use of the term grammar in explaining the competitive processor, I use the term to be consistent. As part of the *Unified Model*, MacWhinney posits self-organizing maps that store form-meaning mappings as well as relationships between similar forms and meanings for what would traditionally be called a grammar.

manipulated to see which cues were more important for each language. They found that English speakers relied most heavily on word order for sentence interpretation while Italian speakers relied more heavily on Animacy. Contrastive stress and topicalization cues were not as strong in either language.

Harrington (1987) examined the sentence-interpretation of L1 Japanese speakers learning English and found that they transferred L1 processing strategies. Japanese speakers relied on Animacy cues while English speakers relied on word order cues; however, there was a subgroup of L1 English speakers that relied more heavily on Animacy cues for sentence interpretation. This last finding is relevant to the current study, indicating the possibility that Animacy is a universally weighty cue that commonly competes for control of surface form regardless of overall language preferences and that L1 English speakers are able to access Animacy features when interpreting language even when it may not be an important cue for L1 interpretation.

Gass (1989, p. 194) shares the idea that "Animacy cues may have a universal prepotency in second language learning". She investigated L2 learners' resolution strategies when functional cues compete within a competition model framework. L2 learners of English with a variety of L1s used semantics (Animacy) to interpret sentences at lower levels of proficiency and switched to syntax (the stronger cue in English) at higher proficiencies. In another experiment she tested L1 English speakers learning L2 Italian and L1 Italian speakers learning L2 English. While the L2 English learners showed L 1influence, using semantics for interpreting sentences, the L2 Italian learners did not show an L1 English influence, using semantics for interpreting sentences

and not word order as their L1 prefers. The results of these studies suggest that when Animacy is a valid competing cue, it tends to be stronger than other cues until learners realize that another cue may be stronger in the target language (e.g., word order in English). These results also fall in line with the proposition in Demuth, Machobane, Moloi, and Odato (2005) that learners move from using semantic to syntactic cues for interpreting sentences.

With regards to the L2 acquisition of Spanish POCs by L1 English speakers within the competition model framework, Animacy and Case are competing cues for formal POC distinctions. Animacy comes into play because, as Zyzik (2006) points out, dative POCs more frequently refer to animate referents. This bias in the input increases the cue availability (i.e., the cue that is most frequently in the input) which is what L2 learners rely on at first "because beginning learners are only familiar with cues that are moderately frequent in the language input" (MacWhinney, 2012, p. 7). Case competes because it is the Spanish language preference for formally distinguishing third person POCs and is therefore a more reliable cue (i.e., the cue that most reliably predicts POC distinctions). As MacWhinney asserts, "in adult native speakers, cue strength depends entirely on cue reliability" (p. 7). Given that Animacy and Case compete for Spanish POC distinctions, learners might use Animacy (the more available cue in the input) first, moving towards Case (the more reliable cue in the input) with an increase in proficiency.

4.4 SUMMARY

This dissertation focuses on the L2 acquisition of Spanish POCs. Ullman's (2001a, 2001b, 2001c) DP model suggests that L1 speakers rely more heavily on a procedural system to process language than a declarative system. In contrast, L2 learners must rely heavily on the declarative system because age affects the ability to use the procedural system for language acquisition and because of the relatively short amount of exposure to the target language. Because of these fundamental neurological differences, L2 learners are not able to process morphological complexities the same way as L1 speakers. The SSH (Clahsen & Felser, 2006a, 2006b, 2006c) similarly claims that L2 speakers do not process morphology in a native-like way. This claim is based on the assumption that L2 speakers do not possess an abstract representation of language in order to use deep processing strategies and therefore must rely on lexical-semantic information for processing, which Clahsen and Felser call *shallow processing*.

With regards to the L2 acquisition of Spanish POCs, these models predict that L2 learners will at first not be able to base POC distinctions on Case since the may lack the detailed syntactic representation needed to process Case in the target language. This leads learners to base POC distinctions on lexical-semantic properties found in the input. Animacy is a candidate for POC distinctions due to the cue availability of Animacy in the input (i.e., frequency of dative POCs with human referents and accusative POCs with inanimate referents). Another detail that allows Animacy and Case to compete as cues for POC distinction is that they lie at the syntax-

semantics interface since they realize Case marking and refer to real-world entities that have semantic properties.

The *Competition Model* (Bates & MacWhinney, 1981, 1982) is a useful framework for understanding how L2 learners make Spanish POC distinctions and formulate their grammar based on the input they receive. Since, as Zyzik (2006) attests, Animacy influences POC distinctions and Case drives POC distinction in L1 Spanish speakers, these two cues compete for learners' processing resources and influence the formation of the interlanguage grammar. The first study in this dissertation, described in Chapter 5, was designed to address the ability of L2 learners to acquire a Case-based POC system and to investigate the cue strength of Animacy on the interlanguage POC system.

Aside from examining the possible influences on L2 grammar formation regarding Spanish POCs, the investigation of the usefulness of instructional methods intended to aid acquisition is also needed. One reason for investigating the usefulness of instruction to help L2 learners acquire Spanish POCs is that, as mentioned in the introduction, Spanish POCs are difficult for learners to acquire. The PACE model of instruction used in study 2 may be useful for students in the acquisition process of Spanish POCs. Study 2 addresses this question and also attempts to discover when instruction may make the most difference in this process. Does instruction, as the TH suggests, only aid learners when they are ready to process the linguistic structures in question, or is it helpful at any stage?

5.0 STUDY 1: INTERLANGUAGE GRAMMAR OF INSTRUCTED L2 LEARNERS

One goal of the study in this chapter is to investigate the interlanguage system regarding POCs of learners split into four levels of proficiency (intermediate low through advanced high) with respect to the influences of Animacy and Case. A second goal is to observe how L2 Spanish interlanguage develops as proficiency increases. The research questions are presented in Section 5.1, followed by a description of the methodology used in Section 5.2, the results of the study in Section 5.3, and a discussion of the results in Section 5.4.

5.1 RESEARCH QUESTIONS

Study 1 aims to examine the effect of Animacy on the acquisition of Spanish POCs and observe how L2 Spanish interlanguage regarding the POC system develops. In order to test this proposition, production data and perception data were elicited from five groups.

The specific research questions posed in this study are:

- 1. Do English-speaking learners of Spanish process POCs based on an Animacy hierarchy (human > animate > inanimate) or based on Case?
- 2. Are there differences among proficiency levels regarding Animacy and Case on the realization of POCs?
- 3. If English-speaking learners process POCs based on Animacy, do they use *le* for humans and animate entities or do they only use *le* with humans?

Evidence of Animacy as a competing cue for POC distinction for learners is evident if they process POCs based on an Animacy hierarchy. However, if there no effect of Animacy is found, Animacy is not a competing cue for distinction and learners do use Case to make POC distinctions. It is possible that the relationship between Animacy and Case with POC realization changes with proficiency level. If Animacy is a prevalent cue at the lower proficiency levels, leading to a Case preference among higher proficiency learners, this constitutes evidence that learners do begin noticing the more reliably cue that Case provides.

5.2 METHODOLOGY

5.2.1 Participants

Participants in this study were split into four different learner groups depending on their score on the web-based Spanish version of the Brigham Young University Computer Adaptive Placement Exam (Larson, 1996). This test is used by the University of Pittsburgh (as well as many other Universities in the United States) to place students in courses adequate for their proficiency level. The majority of the participants in the lowest three proficiency levels were recruited from Spanish classes at the University of Pittsburgh. Participants were recruited from a third-semester Spanish class (Level 1), a fourth-semester Spanish class (Level 2), and advanced courses for Spanish majors and minors (Level 3). Learners were asked to participate in a study that sought to investigate Spanish pronouns and that they would be completing a few tasks described in section 5.2.2. A small amount of extra credit was offered to the learners as an incentive for their participation. Most of participants in the highest learner proficiency level were either graduate students in Spanish or had spent at least two years living in Spanish speaking countries after having studied Spanish in a classroom setting (Level 4). Data from a group of native Spanish speaking participants (Native) was also elicited. Each group in this study consisted of thirty

⁸ Based on the proficiency test, three participants that were taken from the grad-student/living abroad pool were placed in the Level 3 group whereas seven participants taken from the advanced courses were placed in the Level 4 group.

participants except for the Level 2 group (thirty-one participants) and the Native group (17 participants) making the total number of participants one hundred thirty-eight. The age of participants ranged from 18 years to 47 years old with a mean of 22.58 years old.

5.2.2 Materials

All participants completed the general proficiency test mentioned above as well as a language history questionnaire adapted from Tokowicz (2004) used to divide participants into proficiency levels. Participants also completed a sentence-completion task similar to Tanenhaus and Carlson (1990), Matsuo and Duffield (2001), and Duffield and Matsuo (2009) which was used to investigate verb phrase anaphora and verb ellipsis. The sentence-completion task consisted of one hundred eighty sentence pairs (one context sentence and one completion sentence) which manipulated the Animacy (human/animate/inanimate), Case (accusative/dative), and Gender (masculine/feminine) of the referents to which POCs referred. The Case of the referent, which describes the referent function in the sentence (direct object vs. indirect object), was manipulated in the context sentence. Although Gender is not the focus of this study, it was included because accusative objects differentiate Gender. This design produced twelve different conditions where the referents differed according to the competing cues. A list of example sentences with differing referents in each condition is provided in (15).

(15) (a) Human/Dative/Masculine

Rosa compró un paquete para Juan. Rosa le trajo el paquete. 'Rosa bought a package for Juan. Rosa brought him the package.'

(b) Human/Dative/Feminine

Juan trajo flores para Rosa. Juan le dio las flores. 'Juan brought flowers for Rosa. Juan gave her the flowers.'

(c) Animate/Dative/Masculine

Juan compró comida para el perro. Juan le dio la comida. 'Juan bought food for the dog. Juan gave it the food.'

(d) Animate/Dative/Feminine

Juan traía la comida para la vaca. Juan le dio la comida. 'Juan brought food for the cow. Juan gave it the food.'

(e) Inanimate/Dative/Masculine

Juan tenía una nueva llanta para el carro. Juan le puso la llanta. 'Juan had a new tire for the car. Juan put the tire on it.'

(f) Inanimate/Dative/Feminine

Rosa compró un nuevo foco para la lámpara. Rosa le reemplazó el foco. 'Rosa bought a new light bulb for the lamp. Rosa replaced the light bulb for it.'

(g) Human/Accusative/Masculine

Rosa buscaba a Juan en el parque. Rosa lo encontró en el parque. 'Rosa was looking for Juan in the park. Rosa found him in the park.'

(h) Human/Accusative/Feminine

Rosa peleaba con María. Rosa la pateó en la pierna. 'Rosa was fighting with María. Rosa kicked her in the leg.'

(i) Animate/Accusative/Masculine

Juan buscaba el perro. Juan lo vio en la calle.

'Juan was looking for the dog. Juan saw it in the street.'

(j) Animate/Accusative/Feminine

Juan tenía que ordeñar la vaca. Juan la ordeñó afuera.

'Juan had to milk the cow. Juan milked it outside.'

(k) Inanimate/Accusative/Masculine

Juan necesitaba leer un libro. Juan lo leyó en el cuarto.

'Juan needed to read a book. Juan read it in the bedroom.'

(1) Inanimate/ Accusative /Feminine

Rosa tenía la llave en su mano. Rosa la puso en la mesa.

'Rosa had the key in her hand. Rosa put it on the table.'

Five grammatical sentence pairs in each condition (sixty pairs) and ten ungrammatical sentence pairs in each condition that replaced the correct pronoun with another pronoun in the completion sentence (one hundred and twenty pairs) were presented to each participant (one hundred eighty pairs in total). The reason for doubling the number of ungrammatical sentences is that if use of the pronoun *le* were grammatical, there would be two ungrammatical options based on Case and Gender—*lo* and *la*. An attempt was made to balance the completion sentences between conditions so that each sentence had the same number of words and thus not affect Reaction times (RTs); however, because of differences between accusative and dative structures, there were some differences. All dative completion sentences (grammatical and ungrammatical) consisted of five words: subject-POC-verb-article-direct object. Example dative completion sentences are shown in (15 a-f). Most of the accusative completion sentences (grammatical and ungrammatical) consisted of six words: subject-POC-verb-preposition-article-object of prepositional phrase. Example accusative completion sentences of this type are shown in (15 g-i,

k-l). Other accusative completion sentences consisted of 4 words: subject-POC-verb-adverb as shown in (15j). The reason for the differences is that dative structures require an explicit direct object so that the intended referent for the dative POC would not be confused with the direct object in the context sentence. In order to balance sentence length for accusative completion sentences, prepositional phrases (usually with the preposition *en* 'in/on') or adverbs were added. As can be seen below, these slight differences in sentence length did not affect the overall results (no main effect for Case in the RT data).

Another seventy-two sentence pairs were included as distractors in which the completion sentences did not sensibly complete the situation presented in the first sentence regardless of the pronoun used. An example of a distractor sentence is provided in (16). The total number of sentence pairs presented to each participant in the sentence-completion task was two-hundred fifty-two. All sentences used can be seen in Appendix A.

(16) Juan trajo flores para Rosa. Juan come empanadas. 'Juan brought flowers for Rosa. Juan eats empanadas.'

Participants also completed a cloze task which consisted of seventy-two experimental sentences that manipulated the Animacy (human/animate/inanimate), Case (accusative/dative), and Gender (masculine/feminine) of the referents to which POCs referred Referents were given in parenthesis after each sentence. An example sentence is provided in (17). The cloze task used can be seen in Appendix B.

(17) Él ___ compra la comida. (gato) 'He buys the food.' (cat)

5.2.3 Procedure

Before completing the tasks, L2 learner participants were given a vocabulary list to look at to make sure that they knew all vocabulary items that they would encounter in the tasks. If there was a doubt, they were able to ask the investigator the meaning of the word and were given a definition in English. Participants completed the sentence-completion task on an HP mini netbook using e-prime (Psychology Software Tools, 2001). Before being presented any experiment sentence pairs, they were given five practice sentence pairs to familiarize them with the task. A sentence that presented a situation as well as the context and referents that participants would use to interpret the second sentence would appear. Upon pressing a button, participants were then presented the completion sentence. The task was to decide whether the completion sentence was a sensible completion of the situation provided in the first sentence as quickly as possible by pressing either a green "Sí" button for a positive response or a red "No" button for a negative response. All experiment sentences were randomized so as to avoid any affect from the possible reoccurrence of equivalent conditions. Reaction times were obtained for the completion sentences. The onset of each completion sentence started a timer that ended when participants hit either the "Sí" or "No" button.

If learners base their interpretations of POCs on an Animacy hierarchy, accuracy scores are predicted to be higher with POC referents higher on the hierarchy in dative contexts than accusative contexts. Also, accuracy scores are predicted to be higher for POCs with referents lower on the Animacy hierarchy in accusative contexts than dative contexts. RTs should also pattern the same way, being faster for POCs referents higher on the Animacy hierarchy in dative contexts than accusative contexts and for POCs with referents lower on the Animacy hierarchy in accusative contexts than dative contexts. These predictions are based on the assumption that is made with processing data—that grammatical items are processed faster and more accurately than ungrammatical items.

For the cloze test, participants were instructed to fill in the blanks with the object pronoun (*le*, *lo*, *la*) that referred to the entity in parenthesis. They were also instructed to only choose one of these three options. Half of the participants in each group completed the sentence-completion task before the cloze task while the other half completed the cloze task before the sentence-completion task to control for any possible task order effect.

Predictions for this task are that if learners base POC distinction on Animacy, the dative POC *le* will show a higher percentage of use with referents higher on the Animacy hierarchy and the accusative POCs lo/la will show a higher percentage of use with referents lower on the Animacy hierarchy regardless of Case contexts.

5.3 RESULTS

The results of this study are presented in this section. The results from the sentence-completion Task are presented first, followed by the results from the cloze task. The proficiency scores ranged from 272.00 to 949.00 with a mean of 511.13. Table 2 shows the means, minimum scores and maximum scores for each learner group. The Native speakers did not take the proficiency test.

Table 2. Mean, minimum, and maximum scores of proficiency test by group

Group	Mean	SD	Minimum	Maximum
1	349.53	27.84	272.00	387.00
2	432.68	29.02	387.00	478.00
3	521.70	27.41	481.00	565.00
4	735.77	109.46	571.00	949.00

5.3.1 Sentence-Completion Task

5.3.1.1 Accuracy

(a) Learner Group

Accuracy scores were coded for the Animacy of the referent and the Case of the POC. Accuracy was calculated by dividing the total number of accurate responses from the total number of

possible responses for each participant. The means and standard errors for response accuracy for each Case within the three Animacy types by Level are shown in Table 3. Figure 2 shows the mean accuracy scores by Level, Animacy type, and Case. The numbers on the X-axis represent each proficiency level. Also on the X-axis, 'H' represents human referents, 'An' represents animate referents, and 'In' represents inanimate referents. These results show that learners are generally more accurate with dative POCs when they refer to human referents than with animate or inanimate referents. Learners are also more accurate with accusative POCs when they refer to animate or inanimate referents than with human referents. These results are attested by the higher means for these categories compared to human referents in accusative contexts and non-human referents in dative contexts as seen in Table 3 and Figure 2.

Table 3. Means and standard errors of response accuracy by Animacy, Case, and Level

			Human Anir				imate Inanimate						
		Accu	sative	Da	tive	Accu	Accusative		Dative		Accusative		tive
Level	N	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE
1	30	.506	.036	.703	.039	.664	.035	.526	.040	.694	.037	.490	.038
2	31	.561	.036	.709	.038	.699	.034	.516	.039	.710	.036	.471	.038
3	30	.581	.036	.704	.039	.740	.035	.516	.040	.760	.037	.448	.038
4	30	.654	.036	.806	.039	.753	.035	.726	.040	.809	.037	.650	.038
Native	17	.782	.045	.904	.041	.835	.038	.906	.040	.876	.038	.894	.041

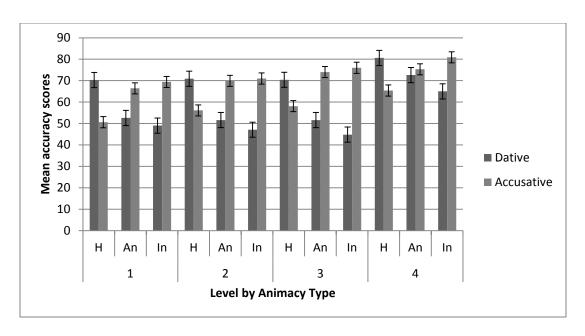


Figure 2. Mean Accuracy scores by Level, Animacy type, and Case

Because one of the purposes of this study was to see how Animacy and Case interacted at different proficiency levels, mixed ANOVAs were utilized. Mixed ANOVAs are used when at least one independent variable is a within-subjects variable and at least one other independent variable is a between-subjects variable. A $3\times2\times4$ mixed ANOVA was performed on response accuracy as a function of Animacy, Case, and Level. The within-subjects independent variables were Animacy with three levels (human, animate, and inanimate) and Case with two levels (accusative and dative). The between-subjects independent variable was Level with four levels

(1, 2, 3, and 4). If learners process POCs based on Animacy, they should be more accurate when dative POCs refer to entities higher on the Animacy scale and when accusative POCs refer to entities lower on the Animacy scale.

The ANOVA performed showed significant interaction effects of Animacy×Case and Case×Level. The other interactions were not significant (see Table 4 for ANOVA results).

Table 4. ANOVA on Accuracy scores for Animacy x Case x Level

Source	df	F	p	η_p^2
Animacy (A)	(1.853, 216.750)	5.61	.005	.046
Case (C)	(1, 117)	30.78	<.001	.208
Level (L)	(3, 117)	4.31	.006	.100
AxC	(1.436, 168.047)	93.23	<.001	.443
CxL	(3, 117)	4.313	.006	.100
AxL	(5.558, 216.750)	1.228	.295	.031
AxCxL	(4.309, 168.047)	0.984	.421	.025

Because one of the purposes of this study is to find how Animacy and Case influence the use of POCs at different proficiency levels, planned comparisons for interactions of Animacy \times Case were performed for each level. As shown in Table 5, this interaction was significant for all levels. These results were followed up with simple main effects of Case for each Animacy type. These analyses were performed to investigate whether the dative POC le was more accurate for

⁹ Because the assumptions of the mixed ANOVA were not completely met for all of the analyses, a Greenhouse-Geisser adjustment was made to the degrees of freedom.

referents higher on the Animacy hierarchy and the accusative POCs *lo/la* were more accurate for referents lower on the Animacy hierarchy. As the results of the simple main effects for each level indicate in Table 5, the participants' accuracy scores were significantly higher for human referents in dative contexts than accusative contexts and for inanimate referents in accusative contexts than dative contexts for all levels. Accuracy scores were also higher for animate referents in accusative contexts than dative contexts for groups 1-3. This effect was not significant for Level 4. These accuracy results suggest that Animacy is influencing POC distinction for these learners.

Table 5. Simple Interactions and Main effects on Accuracy scores for Animacy x Case per Level

Source	df	F	p	η_p^2
Level 1				
Animacy x Case	(1.480, 42.911)	27.201	<.001	.484
HD x HA	(1,29)	16.104	< .001	.357
AnD x AnA	(1,29)	11.948	.002	.292
ID x IA	(1,29)	48.025	< .001	.623
Level 2				
Animacy x Case	(1.322, 39.657)	23.257	<.001	.437
HD x HA	(1,30)	10.358	.003	.257
AnD x AnA	(1,30)	18.977	< .001	.387
ID x IA	(1,30)	33.678	< .001	.529
Level 3				
Animacy x Case	(1.432, 41.516)	27.13	<.001	.483
HD x HA	(1,29)	7.663	.010	.209
AnD x AnA	(1,29)	21.674	< .001	.428
ID x IA	(1,29)	42.714	< .001	.596
Level 4				
Animacy x Case	(1.505, 43.657)	17.203	<.001	.372
HD x HA	(1,29)	22.938	< .001	.442
AnD x AnA	(1,29)	.403	.531	.014
ID x IA	(1,29)	11.9041	.002	.292
Native group				
Animacy x Case	(1.692, 27.078)	7.158	.005	.309
HD x HA	(1,16)	12.865	.002	.445
AnD x AnA	(1,16)	6.295	.023	.282
ID x IA	(1,16)	.884	.361	.052

Note. H=Human, An=Animate, I=Inanimate, D=Dative, A=Accusative

(b) Native Group

Table 3 shows the means and standard errors for the native speakers. Although there are slight differences between Case and Animacy types, the means in Table 3 show that native speakers are

generally accurate overall. In order to compare the learner results with native speaker patterns, a 3×2 within-subjects ANOVA was performed on accuracy scores as a function of Animacy and Case for the native speaker group. The native group was predicted to be highly accurate overall regardless of Animacy and Case types. The within-subjects independent variables were Animacy with three levels (human, animate, and inanimate) and Case with two levels (accusative and dative).

As shown in Table 5, the ANOVA performed on Native speaker accuracy scores showed a significant interaction effect of Animacy × Case. The participants' accuracy scores were significantly higher for POCs with human referents in dative contexts than accusative contexts and for POCs with animate referents in dative contexts than accusative contexts. Native speaker accuracy scores for POCs with inanimate referents in dative contexts were not significantly higher than accusative contexts. This finding is especially important because it indicates a qualitative difference from the learner results. Learners relate the accusative POC forms with inanimates while the native speakers do not, demonstrating an interlanguage grammar that differs from the native grammar. Figure 3 shows the mean accuracy scores by Animacy type and Case.

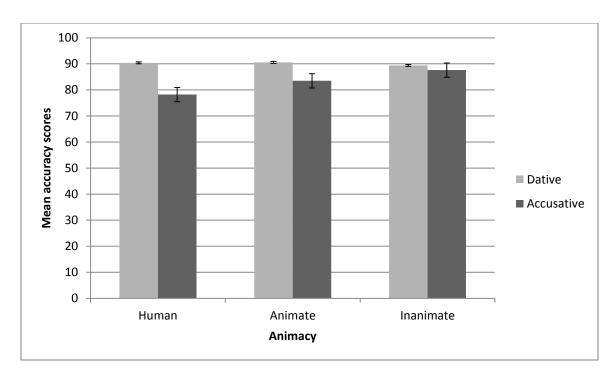


Figure 3. Mean Accuracy scores of Native speakers by Animacy type and Case

These results show that learners are generally more accurate with dative POCs when they refer to human referents than with animate or inanimate referents. Learners are also more accurate with accusative POCs when they refer to animate or inanimate referents than with human referents. As for the native group, results show that participants are generally more accurate when dative POCs and slightly less accurate with accusative POCs that have a human referent. These results pattern along with the predictions made in section 5.2.3.

5.3.1.2 Reaction Time

(a) Learner Group

Reaction times were measured and coded for the Animacy of the referent and the Case of the POC. All raw RTs (measured in milliseconds) were logged which is the normal practice with RT data in cognitive psychology and related fields. All statistical analyses were performed on logged RTs as the dependent variable. Means and variances reported are also based on logged RTs. The means and standard errors for logged RTs in Table 6 show that, while there are contradictory patterns within groups, RTs are generally faster (lower logged RT) with dative POCs when they refer to human referents than with animate or inanimate referents. RTs are also faster with accusative POCs when they refer to animate or inanimate referents than with human referents. Figure 4 also shows the mean logged RTs for each Level, Animacy type, and Case. The numbers on the X-axis represent each proficiency level. Also on the X-axis, 'H' represents human referents, 'An' represents animate referents, and 'In' represents inanimate referents.

Table 6. Means and standard errors of logged RTs by Animacy, Case, and Level

			Human			Animate				Inanimate			
		Accu	sative	Da	tive	Accusative		Dative		Accusative		Dative	
Level	N	M	SE	M	SE	M	SE	М	SE	M	SE	М	SE
1	30	7.730	0.058	7.653	0.062	7.860	0.060	7.762	0.064	7.860	0.057	7.855	0.072
2	31	7.795	0.057	7.825	0.061	7.922	0.059	7.904	0.063	7.953	0.056	7.979	0.070
3	30	7.681	0.058	7.673	0.062	7.814	0.060	7.809	0.064	7.826	0.057	7.923	0.072
4	30	7.630	0.058	7.635	0.062	7.739	0.060	7.736	0.064	7.742	0.057	7.864	0.072
Native	17	7.611	0.065	7.450	0.058	7.624	0.065	7.545	0.064	7.554	0.057	7.668	0.074

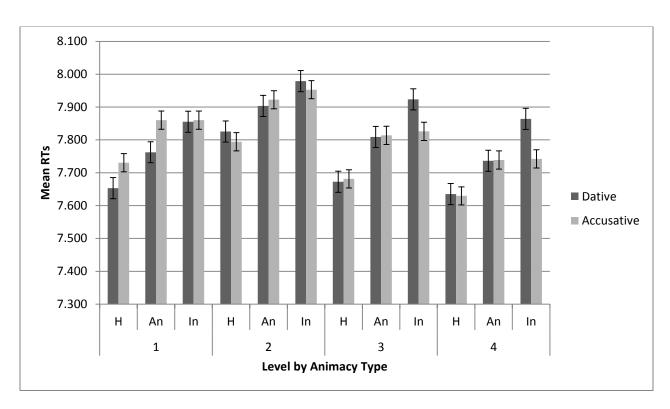


Figure 4. Mean RTs by Level, Animacy type, and Case

Remember that the assumption with RTs is that items that are grammatical to the participant will be processed faster than items that are not grammatical. Therefore, if learners process POCs based on Animacy, RTs should be faster when dative POCs refer to entities higher on the Animacy hierarchy and accusative POCs refer to entities lower on the Animacy hierarchy.

In order to test whether this is the case with the participants in this study, a $3 \times 2 \times 4$ mixed ANOVA was performed on RTs as a function of Animacy, Case, and Level. The within-subjects independent variables were Animacy with three levels (human, animate, and inanimate) and Case with two levels (accusative and dative). The between-subjects independent variable was Level with four levels (1, 2, 3, and 4).

Table 7. ANOVA on logged RTs for Animacy x Case x Level

Source	df	F	p	η_p^2
Animacy (A)	(1.716, 200.743)	122.807	< .001	.512
Case (C)	(1, 117)	.180	.672	.002
Level (L)	(3, 117)	1.422	.240	.035
AxC	(1.957, 228.940)	13.700	< .001	.105
CxL	(3, 117)	2.937	.036	.070
AxL	(5.147, 200.743)	.404	.851	.010
AxCxL	(5.870, 228.940)	1.162	.328	.029

¹⁰ Because the assumptions of the mixed ANOVA were not completely met for all of the analyses, a Greenhouse-Geisser adjustment was made to the degrees of freedom

As shown in Table 7, the ANOVA performed showed significant interaction effects of Animacy × Case and Case × Level as well as a main effect of Animacy. The other interactions and main effects were not significant. These results mean that Animacy did affect learners responses and this differed according to the Case of the POC.

As with the accuracy scores, in order to explain how the influence of Animacy and Case patterned for each proficiency level, planned comparisons for interactions of Animacy × Case were performed for each level. As shown in Table 8, the interaction effects of Animacy × Case were significant for Levels 3 and 4 but not for Levels 1 and 2. These results means that RT patterns with respect to Case did not significantly differ across the three Animacy types for the first two levels. The significant interactions for Levels 3 and 4 were followed up with simple main effects of Case for each Animacy type. Also shown in Table 8, these participants' RTs were significantly faster for POCs with inanimate referents in accusative contexts than dative contexts. There was no significant difference among the other Animacy types. These results suggest that upper-level participants may at least accept accusative POCs referring to inanimate entities while rejecting that dative POCs can also refer to inanimate entities.

Table 8. Simple Interactions and Main Effects on Logged RTs for Animacy x Case per Level

Source	df	F	p	η_p^2
Level 1				
Animacy x Case	(1.852, 53.696)	3.224	.051	.100
Level 2				
Animacy x Case	(1.806, 54.172)	1.077	.342	.035
Level 3				
Animacy x Case	(1.678, 48.660)	5.884	.008	.169
HD x HA	(1, 29)	.069	.795	.002
AnD x AnA	(1, 29)	.019	.891	.001
ID x IA	(1, 29)	6.453	.017	.182
Level 4				
Animacy x Case	(1.521, 44.101)	7.383	.004	.203
HD x HA	(1, 29)	.028	.868	.001
AnD x AnA	(1, 29)	.007	.935	<.001
ID x IA	(1, 29)	7.823	.009	.212
Native group				
Animacy x Case	(1.221, 19.535)	17.311	<.001	.520
HD x HA	(1,16)	19.267	<.001	.546
AnD x AnA	(1,16)	12.574	.003	.440
ID x IA	(1,16)	6.878	.018	.301

Note. H=Human, An=Animate, I=Inanimate, D=Dative, A=Accusative

(b) Native Group

Table 6 shows the means and standard errors for the native speakers. Although there are slight differences between Case and Animacy types, the means in Table 6 show that native speakers are generally accurate overall. In order to compare the learner results with native speaker patterns, a 3×2 within-subjects ANOVA was performed on RTs as a function of Animacy and Case for the

native speaker group. The within-subjects independent variables were Animacy with three levels (human, animate, and inanimate) and Case with two levels (accusative and dative).

As shown in Table 8, the ANOVA performed on native speaker RTs showed a significant interaction effect of Animacy × Case. Simple main effects revealed that the participants' RTs were significantly faster for POCs with human and animate referents in dative contexts than accusative contexts as well as for POCs with inanimate referents in accusative contexts than dative contexts. Figure 5 shows the mean RTs by Animacy type and Case.

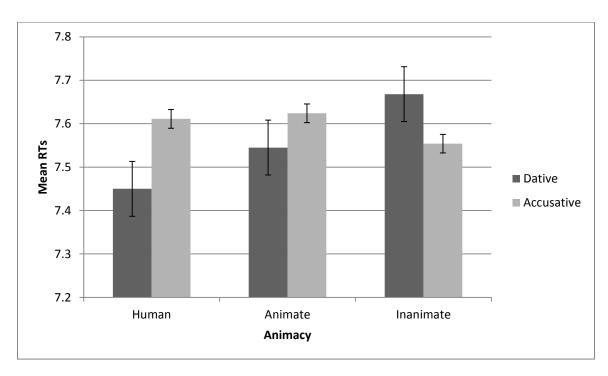


Figure 5. Mean RTs of Native speakers by Animacy type and Case

The results presented in this section pattern loosely along the predictions made in section 5.2.3—that, overall, RTs are faster for referents higher on the Animacy hierarchy with the dative POC than the accusative POCs and faster with referents lower on the Animacy hierarchy with the accusative POCs than the dative POC because of the cue availability of Animacy in the input. These differences in the pattern of RTs by Animacy and Case become significant as proficiency increases. The significant results from the simple main effects of Case for inanimate referents in Levels 3 and 4 support this hypothesis. Learner interlanguage grammar at this level of proficiency appears to by at least partially based on Animacy distinctions as opposed to Case distinctions. That the native group patterns along the predictions made is an artifact of frequency. That is, because dative POCs more frequently have animate referents (including humans and non-human animate referents) and accusative POCs more frequently have inanimate referents, native RTs pattern along the same lines. The production data, however, do show that the native grammar is based on Case and not Animacy.

5.3.2 Cloze task

Because the purpose of this task was to investigate learners' uses of Spanish POCs with respect to the Animacy and Type of referent (direct/indirect object), the cloze task is be described in terms of the percentage of times that participants used each POC with respect to the features of the referents (i.e., whether the POC referred to a human, animate, or inanimate NP in the

sentence). Thus avoiding the Comparative Fallacy (Bley-Vroman, 1983) by looking at how the learners' grammar is developing independently of the target language norms. Bley-Vroman (1983) introduced the Comparative Fallacy in a seminal article discussing how only comparing L2 learners' interlanguage to target language norms failed to recognize that the interlanguage was systematic in its own right. This assertion led SLA researchers to begin viewing learner language as its own system instead of a deficient target language system and opened the door to understanding interlanguage development.

With respect to Spanish POCs, whether learners are 'correct' or 'accurate' in their POC usage would only be investigating whether learners accurately use POCs based on Case alone. Considering whether learners are 'correct' in their responses would only partly represent learners' uses of POCs with respect to Animacy because, for example, the use of *le* for human accusative referents is technically incorrect; however, if learners base their responses more on the Animacy than the Type of referent, this response would be expected in the beginning stages. Without including 'incorrect' responses in the data, this possible phenomenon would go unseen.

Percentages were calculated for each POC form used per condition for each participant by dividing the number of times each participant used a particular POC form (le, lo, or la) by the total possible uses in a particular condition (6 sentences per condition). For example, if a participant used le with five sentences and lo with one sentence in the condition human/indirect object/masculine, the percentages would be le = .83 (5/6), lo = .17 (1/6), and la = 0 (0/6). Because Gender is not of focal interest in this study, the percentages for lo and la were collapsed

by adding the percentages together to create an accusative POC category. For many of the native speakers, *le* was used with the verb *tocar* 'to touch' which, in the contexts given in the task, requires an accusative pronoun. This verb is most commonly used in the context where *le* with the thematic role of possessor of the body part or garment being touched as in (18). Because of this use of *le* in the data, the occurrences of the verb *tocar* were excluded from the analysis of the native group.

(18) A Juan, le toca el brazo.

DOM Juan 3.POS touch.1.S the arm.

'(He/she) touches Juan's arm.'11

5.3.2.1 Mean Percent Uses of *le*

(a) Learner Group

The means and standard errors for the percent uses of *le* for each Type of referent (direct, indirect object) within each Animacy type separated by Level are shown in Table 9. Figure 6 shows the mean percent uses of *le* by learner group and Animacy type averaged across Type of referent (direct/indirect object). As the lighter colored bars indicate, in general, the data clearly shows a preference for the use of *le* for human referents and not for other referents evidenced by higher mean uses of *le* in with human referents in both indirect and direct contexts in Table 9. While this general pattern holds for the highest proficiency level, it appears that theses learners

¹¹ DOM = differential object marker, POS = possessive

have begun to use le more often with animate and inanimate referents than the other proficiency levels.

Table 9. Means and standard errors of percent uses of le by Animacy, Type of referent, and Level

			Hu	man	nan A			mate		Inanimate			
	•	Dir	ect	Indi	rect	Dir	ect	Indirect		Direct		Indirect	
Level	N	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE
1	30	.672	.070	.872	.039	.070	.030	.275	.067	.008	.013	.165	.062
2	31	.667	.069	.884	.038	.086	.030	.310	.066	.024	.012	.207	.061
3	30	.559	.070	.859	.039	.070	.030	.331	.067	.006	.013	.200	.062
4	30	.367	.070	.911	.039	.092	.030	.683	.067	.004	.013	.544	.062
Native	17	.049	.019	1.000	0.000	.015	.008	1.000	0.000	.005	.005	.975	.010

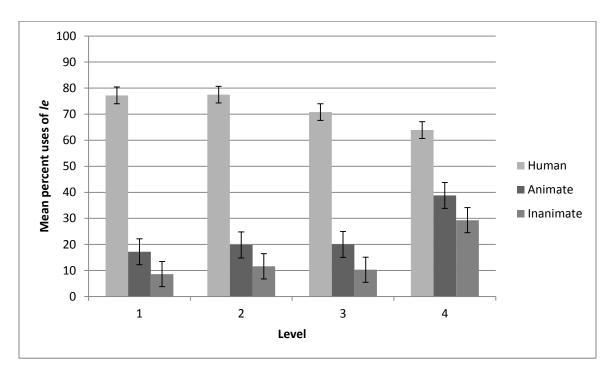


Figure 6. Mean percent uses of le by Level and Animacy type averaged across Type of referent

In order to test whether learners used le for referents higher on the Animacy hierarchy, a $3 \times 2 \times 4$ mixed ANOVA was performed on percent uses of le as a function of Animacy, Type of referent, and Level. The within-subjects independent variables were Animacy with three levels (human, animate, and inanimate) and Type of referent with two levels (direct and indirect). The between-subjects independent variable was Level with four levels (1, 2, 3, and 4). If learners use Animacy to distinguish POC forms, le will be used a higher percent of the time to refer to entities higher on the Animacy scale and lo/la will be used a higher percent of the time to refer to entities lower on the Animacy scale.

Table 10. ANOVA on mean percent usage of le for Animacy x Type of referent x Level

Source	df	F	p	η_p^2
Animacy (A)	(1.252, 146.445)	232.224	< .001	.665
Type (T)	(1, 117)	94.640	< .001	.447
Level (L)	(3, 117)	5.209	.002	.118
AxT	(1.601, 187.364)	4.596	.017	.038
TxL	(3, 117)	7.437	< .001	.160
AxL	(3.755, 146.445)	5.040	.001	.114
AxTxL	(4.804, 187.364)	.450	.806	.011

Table 10 shows the results of the ANOVA performed. As indicated in Table 10, significant interaction effects of Animacy \times Level, Type \times Level, and Animacy \times Type as well

¹² Because the assumptions of the mixed ANOVA were not completely met for all of the analyses, a Greenhouse-Geisser adjustment was made to the degrees of freedom.

as significant main effects of Animacy, Type, and Level were found. The Animacy \times Type \times Level interaction effect was not significant. These results indicate that the use of le with different Animacy levels and Types of referent changed between the proficiency levels, but that the pattern of how Animacy and Type of referent interacted was consistent across proficiency levels.

In order to find the pattern of difference on mean percent uses of *le* among Animacy type by groups, simple main effects of Animacy were performed for each level averaged across Type of referent. A significant difference among Animacy types was found for all levels, indicating that animacy was an important cue for the use of *le* regardles of whether the referent was a direct or indirect object. These results were followed up by simple comparisons. For all levels, the mean percent uses of *le* was significantly higher for human referents than for animate referents, as well as for inanimate referents. The mean percent uses of le was also significantly higher for animate referents than for inanimate referents (see Table 11 for means and standard errors for the comparisons and Table 12 for ANOVA results).

Table 11. Means and Standard Errors of Percent Use of le for Animacy per Level

Source	n	M	SE
Level 1	30		
Human		.772	.048
Animate		.172	.040
Inanimate		.086	.028
Level 2	31		
Human		.775	.046
Animate		.198	.038
Inanimate		.116	.028
Level 3	30		
Human		.708	.041
Animate		.200	.040
Inanimate		.103	.030
Level 4	30		
Human		.639	.038
Animate		.388	.044
Inanimate		.293	.041

Table 12. Simple Main Effects and Comparisons on Mean Percent Use of le for Animacy per Level

Source	df	F	p	η_p^{2}
Level 1				
Animacy	(1.354, 39.266)	84.918	< .001	.745
H x An	(1, 29)	73.769	< .001	.718
ΗxΙ	(1, 29)	120.643	< .001	.806
An x I	(1, 29)	6.827	.014	.191
Level 2				
Animacy	(1.199, 35.957)	76.424	< .001	.718
H x An	(1, 30)	64.927	< .001	.684
ΗxΙ	(1, 30)	99.838	< .001	.679
An x I	(1, 30)	10.426	.003	.258
Level 3				
Animacy	(1.146, 33.243)	67.58	< .001	.700
H x An	(1, 29)	51.321	< .001	.639
ΗxΙ	(1, 29)	95.529	< .001	.767
An x I	(1, 29)	18.365	< .001	.388
Level 4				
Animacy	(1.280, 37.131)	19.184	< .001	.398
H x An	(1, 29)	14.337	.001	.331
ΗxΙ	(1, 29)	25.208	< .001	.465
An x I	(1, 29)	10.603	.003	.268

Note. H=Human, An=Animate, I=Inanimate

(b) Native Group

In order to compare the learner results with native speaker patterns, a 3×2 within-subjects ANOVA was performed on percent uses of le as a function of Animacy and Type of referent for the native speaker group. The within-subjects independent variables were Animacy with three levels (human, animate, and inanimate) and Type of referent with two levels (direct and indirect).

The ANOVA performed showed that the interaction effect of Animacy \times Type was not significant, F(2, 32) = 2.150, p = .133, $\eta_p^2 = .118$. This indicates that the native grammar is dependent upon Case for POC distinction. Figures 7 and 8 show that the native speakers used le with dative referents across Animacy types.

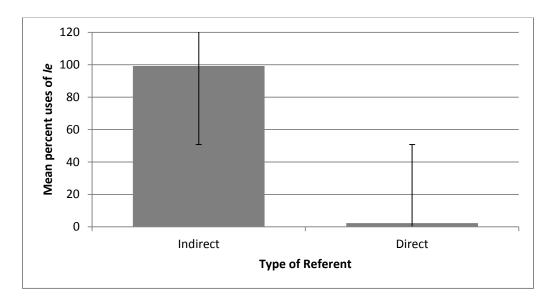


Figure 7. Mean percent uses of *le* with indirect and direct object referents

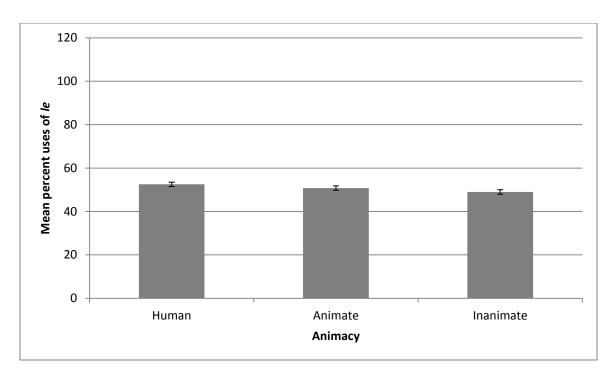


Figure 8. Mean percent uses of le by Animacy type

The results presented in this section show a clear influence of Animacy on POC choice used. Overall, learners are using le a significantly higher percent of the time with human referents than animate and inanimate referents and a significantly higher percent of the time with animate referents than inanimate referents. While these differences in the pattern of percent uses of le by Animacy and Type of referent are significant at all levels of proficiency, it appears that the level 4 learners are beginning to also us le with animate and inanimate indirect object referents more than the lower proficiency level groups. The level 4 pattern begins to approach the native pattern with respect to the percent uses of le. As seen with the native speakers, le is

used roughly half of the time with all Animacy types; indicating that *le* is only used to indirect object referents in these types and not direct object referents. These results also indicate that for production, learners are using Animacy to determine which POC to use rather than Type of referent.

5.3.2.2 Mean Percent Uses of lo/la

(a) Learner Group

The means and standard errors for the percent uses of *lo/la* for each Type of referent (direct, indirect object) within each Animacy type separated by Level are shown in Table 13. Figure 9 shows the mean percent uses of *lo/la* by learner group and Animacy type averaged across Type of referent (direct/indirect object). In general, the data clearly shows a preference for the use of *lo/la* for animate and inanimate referents and not for human referents. While this general pattern also holds for the highest proficiency level, it appears that theses learners have begun to use *lo/la* more often with human referents than the other proficiency levels.

Table 13. Means and standard errors of percent uses of *lo/la* by Animacy, Type of referent, and Level

		Human				Animate				Inanimate			
		Dir	ect	Indi	ndirect Dir		rect Indirect		Direct		Indirect		
Level	N	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE
1	30	.328	.071	.128	.039	.930	.030	.725	.067	.992	.013	.836	.062
2	31	.333	.069	.116	.038	.914	.030	.690	.066	.976	.012	.796	.061
3	30	.442	.071	.142	.039	.930	.030	.670	.067	.994	.013	.800	.062
4	30	.633	.071	.089	.039	.908	.030	.317	.067	.958	.013	.458	.062
Native	17	.951	.019	0.000	0.000	.985	.008	0.000	0.000	.995	.005	.025	.010

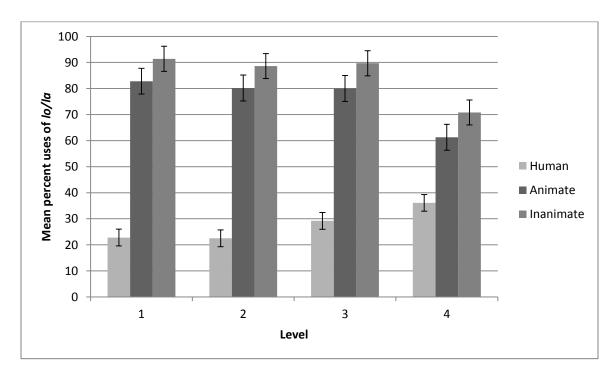


Figure 9. Mean percent uses of *lo/la* by Level and Animacy type averaged across Type of referent

In order to test whether learners used lo/la for referents lower on the Animacy hierarchy, a $3 \times 2 \times 4$ mixed ANOVA was performed on percent uses of lo/la as a function of Animacy, Type of referent, and Level. The within-subjects independent variables were Animacy with three levels (human, animate, and inanimate) and Type of referent with two levels (direct and indirect). The between-subjects independent variable was Level with four levels (1, 2, 3, and 4). If learners use Animacy to distinguish POC forms, lo/la will be used a higher percent of the time to refer to entities lower on the Animacy scale and le will be used a higher percent of the time to refer to entities higher on the Animacy scale.

Table 14. ANOVA on mean percent usage of lo/la for Animacy x Type of referent x Level

Source	df	F	p	η_p^2	
Animacy (A)	(1.256, 146.943)	232.387	< .001	.665	
Type (T)	(1, 117)	94.161	< .001	.446	
Level (L)	(3, 117)	5.170	.002	.117	
AxT	(1.619, 189.425)	4.854	.014	.040	
TxL	(3, 117)	7.398	< .001	.159	
AxL	(3.768, 146.943)	5.021	.001	.114	
AxTxL	(4.857, 189.425)	.455	.811	.011	

¹³ Because the assumptions of the mixed ANOVA were not completely met for all of the analyses, a Greenhouse-Geisser adjustment was made to the degrees of freedom.

Table 14 shows the results of the ANOVA performed. As indicated in Table 14, significant interaction effects of Animacy × Level, Type × Level, and Animacy × Type as well as significant main effects of Animacy, Type, and Level were found. The Animacy × Type × Level interaction effect was not significant (see Table 14 for ANOVA results). These results indicate that the use of *lo/la* with different Animacy levels and Types of referent changed between the proficiency levels, but that the pattern of how Animacy and Type of referent interacted was consistent across proficiency levels.

In order to find the pattern of difference on mean percent uses of *lo/la* among Animacy type by Level, simple main effects of Animacy were performed for each Level averaged across Type of referent. A significant difference among Animacy types was found for all levels, indicating that Animacy was an important cue for the use of *lo/la* regardles of whether the referent was a direct object. These results were followed up by simple comparisons. For all levels, the mean percent uses of *lo/la* was significantly lower for human referents than for animate referents, as well as for inanimate referents. The mean percent uses of *lo/la* was also significantly lower for animate referents than for inanimate referents (see Table 15 for means and standard errors for the comparisons and Table 16 for ANOVA results).

Table 15. Means and Standard Errors of Percent Use of lo/la for Animacy per Level

Source	n	M	SE
Level 1	30		
Human		.228	.048
Animate		.828	.040
Inanimate		.914	.028
Level 2	31		
Human		.225	.046
Animate		.802	.038
Inanimate		.886	.028
Level 3	30		
Human		.292	.041
Animate		.800	.040
Inanimate		.897	.030
Level 4	30		
Human		.361	.038
Animate		.613	.044
Inanimate		.708	.042

Table 16. Simple Main Effects and Comparisons on Mean Percent Use of lo/la for Animacy per Level

Source	df	F	p	η_p^2
Level 1				
Animacy	(1.354, 39.256)	84.880	< .001	.745
H x An	(1, 29)	73.725	< .001	.718
ΗxΙ	(1, 29)	120.562	< .001	.806
An x I	(1, 29)	6.884	.014	.191
Level 2				
Animacy	(1.207, 36.212)	76.534	< .001	.718
H x An	(1, 30)	64.984	< .001	.684
ΗxΙ	(1, 30)	100.483	< .001	.770
An x I	(1, 30)	10.341	.003	.258
Level 3				
Animacy	(1.146, 33.245)	67.631	< .001	.700
H x An	(1, 29)	51.321	< .001	.639
ΗxΙ	(1, 29)	95.671	< .001	.767
An x I	(1, 29)	18.408	< .001	.388
Level 4				
Animacy	(1.288, 37.351)	19.255	< .001	.399
H x An	(1, 29)	14.350	.001	.331
ΗxΙ	(1, 29)	25.383	< .001	.467
An x I	(1, 29)	10.596	.003	.268

Note. H=Human, An=Animate, I=Inanimate

(b) Native Group

In order to compare the learner results with native speaker patterns, a 3×2 within-subjects ANOVA was performed on percent uses of lo/la as a function of Animacy and Type of referent for the native speaker group. The within-subjects independent variables were Animacy with three levels (human, animate, and inanimate) and Type of referent with two levels (direct and indirect).

The ANOVA performed showed that the interaction effect of Animacy \times Type was not significant, F(2, 32) = 2.150, p = .133, $\eta_p^2 = .118$. As with the percent uses of le, this indicates that the native grammar is dependent upon Case for POC distinction. Figures 10 and 11 show that the native speakers used lo/la with dative referents across Animacy types.

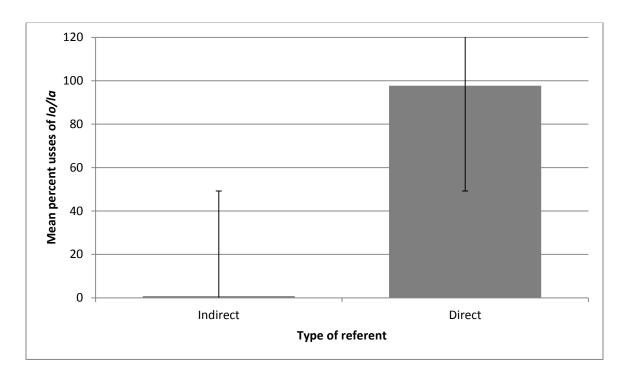


Figure 10. Mean percent uses of lo/la with indirect object and direct object referents

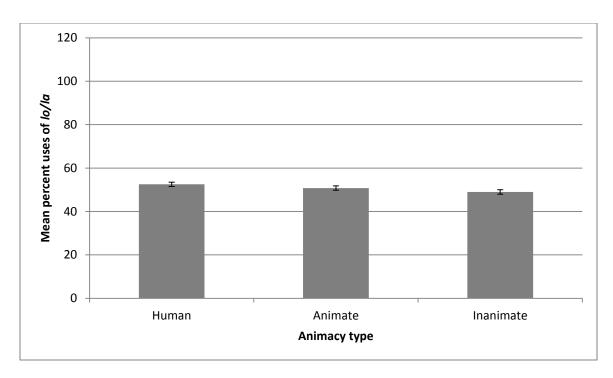


Figure 11. Mean percent uses of lo/la by Animacy type

The results presented in this section show the inverse of the results of the percent uses of le, again indicating a clear influence of Animacy on POC choice used. Overall, learners are using lo and la a significantly higher percent of the time with inanimate referents than animate referents than human referents as well as a significantly higher percent of the time with animate referents than human referents. While these differences in the pattern of percent uses of lo and la by Animacy and Type of referent are significant at all levels of proficiency, it appears that the Level 4 learners are beginning to also use lo and la with human and animate referents more than the lower proficiency levels. The Level 4 pattern again begins to approach the native pattern with

respect to the percent uses of *lo* and *la*. As seen with the native speakers, *lo* and *la* is used roughly half of the time with all Animacy types, indicating that *lo* and *la* are only used to refer to direct object referents in these types and not indirect object referents. These results also indicate that for production, learners are using Animacy to determine which POC to use rather than Type of referent.

5.4 DISCUSSION

Overall, the results of this study suggest that Animacy is an important cue for L2 learners and does compete with Case in Spanish POC distinction. The learners appear to have developed prototypes of le, which is used reserved for human entities, and for lo/la, which is reserved for non-human entities. These results are in line with findings from Harrington (1987), Gass (1989), and Zyzik (2006) because they also found that Animacy was an important cue for at least some groups of L2 learners. Although results suggest that Animacy is involved in POC distinction, they also revealed differences between the offline production task and the online interpretation task. A discussion of how the results answer the research questions is presented in this section. Implications of these results with respect to the SSH are discussed in Chapter 7.

5.4.1 Research Question 1

The first research question explored whether L1 English speakers learning Spanish process POCs based on an Animacy hierarchy or based on Case. The sentence-completion task, which was a comprehension task and the cloze task, which was a production task, provide slightly different perspectives. Each task will be discussed separately.

5.4.1.1 Sentence-Completion Task

The results from the learner accuracy and RT data provide evidence that both Case and Animacy are involved POC processing in online sentence interpretation. The accuracy scores support this result in that learners are more accurate with the dative POC *le* referring to humans and accusative POCs *lo/la* referring to non-humans. While human dative and animate dative referents were not processed significantly faster than their accusative counterparts, the relative speed at which learners are processing human dative and animate dative POCs is faster than the speed at which they are processing the accusative POC counterparts. Inanimate accusative referents were processed faster than inanimate dative referents. This result indicates that, overall, learners are taking longer to process whether *le* accurately refers to inanimate entities than whether *lo/la* accurately refers to inanimate entities.

The results of the native speaker RTs also show Animacy effects for POC processing. The native speakers processed animate (human and animate) referents faster with dative POCs than accusative POCs and inanimate referents faster with accusative POCs than dative POCs. This effect is possibly due to the higher frequency of animate referents requiring dative than accusative POCs and the higher frequency of inanimate referents requiring accusative than dative POCs in daily speech.

5.4.1.2 Cloze Task

The results from the cloze task show a clear difference between learners and native speakers with respect to Animacy and Case influences. While there is some evidence that Case plays a part, evidenced by the significantly higher percent uses of le with dative referents than accusative referents within each Animacy type as well as the significantly higher percent uses of lo/la with accusative referents than dative referents within each Animacy type. The learner groups show a clear pattern of basing their responses on Animacy rather than Case. All proficiency levels used le a higher percent of the time with human referents than with animate or inanimate referents and used le with animate referents a significantly higher percent of the time than with inanimate referents. They also used lo/la a significantly higher percent of the time with inanimate referents than with animate or human referents and used lo/la with animate referents a significantly higher percent of the time than with human referents.

For the native speakers, there was no interaction between Animacy and Case. This result indicates that Case is the main factor that native speakers use to differentiate POCs. While Animacy appears to be playing a small role in how native speakers differentiate POCs. However, because *le* is used a much higher percent of the time with dative referents than accusative referents and *lo/la* are used a much higher percent of the time with accusative referents than dative referents, the Animacy differences evident are largely nested within the two Cases. These results can be seen in Figures 7-8 (for *le*) and 10-11 (for *lo/la*). Although there are slight differences between Animacy types, each POC type (dative and accusative) is used roughly half of the time in each Animacy type because the other POC type is used the other half of the time.

5.4.2 Research Question 2

The second research question explored whether there were differences among proficiency levels regarding the influence of Animacy and Case on the realization of POCs. Again, the sentence-completion task and the cloze task provide slightly different answers and each task will be discussed separately.

5.4.2.1 Sentence-Completion Task

The Accuracy results suggest that Animacy was an important cue for POC interpretation at least for proficiency levels 1-3 because these participants were more accurate with dative POCs referring to humans and animates as well as with accusative POC referring to inanimate objects. Although this result was similar for the Level 4 participants, there was no significant difference between the POC types for animal referents, indicating a shift in how these participants are interpreting POCs.

As for the RTs results, the direction of the results may suggest an effect of Animacy; however, the results were not clear for the first and second levels. There was no significant interaction between Animacy and Case with these levels. These results may indicate that at these lower levels of proficiency, the learners are not yet able to process POC differences while at the higher levels of proficiency, learners are able to process POC differences. The higher proficiency learners process POCs with human and animate referents based on Case; however, they are processing POCs with inanimate referents based on their Animacy feature—inanimate and therefore only accepting *lo/la* as viable POCs. The results could also mean that POC distinction is less important for interpretation and therefore more variable. Formal distinctions may go unattended as long as learners are able to uncover co-referential relationships between POCs and their referents from contextual cues.

These differences between how lower proficiency learners and higher proficiency learners process POCs with respect to Animacy and Case can be explained by Processability Theory (Pienemann, 1989, 1998, 2005). The lower proficiency learners are not at a point in their interlanguage development to be able to process the morphological form distinctions and the grammatical relationships that Case marking indicates whereas the higher-level learners are at such a point. These latter learners show clearer patterns with respect to how they process the POCs. They accept both POC Case markings with animate referents, like the native speakers; however, these learners still do not accept the dative POC with inanimate referents. This may be due to a lower frequency of dative POCs referring to inanimate referents in the input.

Another explanation might be that the locative meaning associated with the dative POCs, is more difficult to acquire than the more prototypical dative meanings. This could be because this use of the dative is more marked than other uses. In French, Italian, Portuguese, a sentence like *Le pone azúcar al café* 'S/he puts sugar in the coffee' could only be interpreted as putting sugar in the coffee for another person and not as simply adding sugar to the coffee or not possible at all. This is evidence that the locative use of the dative POC is marked, at least in modern Romance languages and could therefore take a significantly greater amount of input to acquire.

5.4.2.2 Cloze Task

For the lower three proficiency levels, although the percent uses of *le* and *lo/la* are statistically significant (in opposite directions) between animate and inanimate referents for the learner group, looking at the effect sizes of each comparison, the results clearly show a larger difference between human referents and the other two Animacy types. On average, these learners use *le* with human referents and *lo/la* with animate and inanimate referents.

The results of the cloze task display a slightly different pattern of the influence of Animacy on POC distinction than the sentence-completion task. L1 English speakers distinguish POCs based on the Animacy hierarchy at first. As proficiency increases, Animacy begins to lose ground as a cue for POC distinction and Case becomes more important, evident in a rise in the percent uses of *le* for animate and inanimate referents and *lo/la* for human referents in Level 4. This change from Animacy to Case is an important finding for L2 acquisition. It provides evidence that it is difficult for learners to overcome possible entrenchment effects (Ellis, 2006, 2008) due to the frequent use of Animacy to distinguish POCs. This finding is consistent with the effect of Animacy on relative clause interpretation found by Ozeki and Shirai (2007) with Mandarin Chinese, English, and Korean learners of Japanese. They found that less proficient learners relied on Animacy to interpret relative clauses, but that more proficient learners did not rely on Animacy. The more proficient learners in this study have received an adequate amount of input to at least begin to realize that Case is also important for POC distinction.

5.4.3 Research Question 3

The third research question explored where learners are dividing the Animacy hierarchy in POC distinction; whether learners were using *le* to refer to humans exclusively, or whether they also used *le* to refer to animate entities. Again, the different tasks provide slightly different perspectives and each task will be discussed separately.

5.4.3.1 Sentence-Completion Task

The accuracy data show that learners were more accurate with dative POCs when referring to humans and more accurate with accusatives when referring to non-human entities. These results indicate that learners are reserving *le* for humans. The RT data is not as clear on this point; however, learners appear to be processing POCs differently with animate objects than inanimate objects. They appear to be accepting *le* for animate referents and *lo/la* for inanimate objects.

5.4.3.2 Cloze Task

The results for the cloze task align with the results from the accuracy measure. It is clear that learners are using *le* to refer to humans and using *lo* and *la* to refer to other entities. Although differences between animate and inanimate referents were statistically significant, the differences

in the effect sizes between these categories show that there is a much larger effect size between the percent uses of le with humans and with animate and inanimate entities than the effect size between the percent uses of le with animate and inanimate entities. The same is true with the percent uses of lo/la, only that the direction of the effect sizes is the inverse of the results with le.

5.4.4 Task Differences

Results from this study indicate possible differences between interpretation and production processes. Making POC distinctions is more obligatory for the production task than for the interpretation task in that learners have to be able to encode their message with correct coreferential relationships so that their enunciations can be interpretable by a receptor. Learners also have to make a decision between the three POC forms and have longer to be able to think about which form to use. The results of the cloze task show that learners use the dative POC with human referents and the accusative POCs with other referents. This usage goes against what learners are taught—that le is used to refer to indirect objects and that lo and la are used to refer to direct objects. Learners may have formed this distinction based on Animacy from the frequency of each form-referent relationship in the input. The dative POC le is used more frequently with human referents because indirect objects are more frequently human while lo and la are used more frequently to refer to inanimate entities because they are more frequently direct objects. Learners are receiving these frequencies in the input and, despite having been explicitly

taught differently, use them to build a grammar where POC distinction is based on Animacy rather than Case.

One possible motivation for learners to make POC distinctions based on Animacy is that, along with the frequency effects already mentioned, because third person POCs are the only POCs that distinguish Case in the target language, they overlook Case. Because first and second person do not distinguish Case, learners may look for other cues that are dictating which form to use in different contexts with third person POCs. Learners latch on to Animacy because it has higher cue availability in the input.

An explanation for the differences between the results of the two tasks in this study may be that reaction time is a measure of processing while accuracy and production tasks are measures of grammar. The sentence-completion task, a measure of online processing of sentence interpretation, revealed that lower proficiency L2 learners may not be processing POC distinctions at all while the higher levels of proficiency are processing this information. It is probable that participants are not processing POC distinctions because other semantic cues are more important for understanding sentence meaning (see VanPatten, 1990, 1996, 2007). The higher proficiency levels, however, did show processing effects for Animacy; RTs with accusative POCs were faster than dative POCs for inanimate referents. This suggests that these learners only accept lo/la for inanimate referents and accept all POC forms for human and animate referents, which is more native-like behavior.

A possible explanation for the differences in the patterns between accuracy scores and the POC usage in the cloze task for Levels 3 and 4 is that, for usage, they stick with the Animacy-based grammar they have previously formed. Their interlanguage development has begun to turn towards a Case-based system, but they are still more confident using Animacy when they have to make a decision on which POC to use. While they accept that both POC types can refer to animate entities in interpretation, they still have difficulty producing POCs following this pattern. What these two tasks both show is that these learners still may not accept that datives can refer to inanimate entities because they have not acquired the locative meaning for dative POCs.

Results from this study are in line with Zyzik's (2006) findings, showing that Animacy is an important cue for POC distinction in production tasks. The present study also shows that it is not necessarily animate referents that attract the use of *le*, but that it is specifically human referents. This study also extends our knowledge of online processing of Spanish POCs for L2 learners. The results of the sentence-completion task indicate that L2 learners may not process differences between POCs in interpretation tasks; diverging from what Zyzik found in her production data. Differences between production and interpretation tasks also support Arche and Dominquez's (2010) study which also showed differences between the two modalities. Results also indicate that L2 learners appear to follow the same acquisition path posited by Demuth,

¹⁴ Zyzik (2006) does not make a distinction between animate and human referents.

Machobane, Moloi, and Odato (2005). L2 learners in this study used Animacy to distinguish POCs, using *le* to mark only humans and gradually increased their use of *le* to include other referents as well. The more advanced L2 learners had begun to discover that Case was the preferred cue for distinguishing POCs in native Spanish.

Harrington (1987) and Gass (1989) showed that Animacy may be a cue that is universally strong in L2 acquisition. Results from this study also suggest that Animacy is a cue that L2 learners rely on for formal distinctions even when a different cue is stronger in the target language. Although Case is the stronger cue (i.e., more reliable cue) in Spanish POC distinction (at least for the variety that participants in this study were taught), L2 learners mistakenly use Animacy to distinguish POCs at first which can be explained by the availability of Animacy as a cue in the input. As proficiency increases, the amount of input received increases including less prototypical uses of the dative POC form such as the locative use of *le* with inanimate referents. This increase in less frequent patterns allows learners to begin to reevaluate their Animacy assumptions and start to include Case as an important cue for POC distinction.

6.0 STUDY 2: EFFECTS OF INSTRUCTION

In this chapter, the second study is described. The goal of this study is to investigate the effectiveness of an instructional intervention on the L2 acquisition of Spanish POCs. The research questions are presented in Section 6.1, followed by a description of the methodology used in Section 6.2, the results of the study in Section 6.3, and a discussion of the results in Section 6.4.

6.1 RESEARCH QUESTIONS

The results of Study 1 suggest that higher proficiency L2 learners are able to acquire a Case-based system regarding Spanish POCs but that learners initially develop an Animacy-based grammar due to the cue strength of animate datives in the input they receive. Study 2 addresses whether instruction can accelerate this acquisition process and lead to more accurate acquisition in the longer term. In other words, does instruction make learning robust? Robust learning is learning that lasts, accelerates future learning and transfers to other contexts (Koedinger, Corbett,

& Perfetti, 2012). It will also attempt to discover when instruction may make the most difference in this process, testing the effectiveness of the PACE model of instruction and the TH.

The specific research questions posed in this study are:

- 1. Does instruction lead learners to use a Case-based pronominal object clitic system rather than an Animacy-based pronominal object clitic system?
- 2. At what proficiency level is instruction most beneficial to L2 learners in acquiring Spanish pronominal object clitics?
- 3. If instruction is beneficial, does this have a robust effect?

The predictions for the results of Study 2 are that if instruction does improve overall acquisition of Spanish POCs, learners who receive this instruction will move through the development of an interlanguage POC system at a faster rate than learners that have received what VanPatten and Cadierno (1993) called 'traditional instruction'. Traditional instruction is a vague term, but a basic description of the typical method at the University of Pittsburgh can be provided. Based on conversations with Spanish language teachers, 'traditional instruction' at the University of Pittsburgh usually entails a short metalinguistic lecture on the target structure, minimal input through five to ten examples, and limited in-class opportunities for practice. The lecture part generally consists of presenting what pronouns are and the different forms of the pronominal system along with examples to provide context. This may also consist of interacting with students by referring to objects using pronouns and exaggerated 'teacher talk'. The practice part of the lessons generally consists of two or three structured activities such as fill-in-the-blank

with the appropriate form, and rewriting sentences by replacing full NPs with pronouns that last around five minutes each since hardly more time is available in normal fifty-minute class periods. Specific instruction on Spanish POCs generally happens starting at the end of the first semester of Spanish. At this point, accusative POCs are introduced. At the beginning of the second semester of Spanish, dative POCs are introduced. Near the beginning of the third semester of Spanish, POCs are taught, but the focus is on using accusative and dative POCs together because when this happens, the dative POC realizes as *se*. Other POC instruction depends on the classes that students wish to take. Upper-level applied linguistics courses usually spend some time reviewing Spanish POCs, but this also depends on the instructor. Regardless of when instruction happens throughout the sequence of Spanish courses, the actual class time spent on POC instruction (including lecture and in-class practice) is between 50-100 minutes per semester.

Another prediction is that the instructed L2 learners will also base Spanish POC distinction on Case rather than Animacy, and this effect of instruction will be long lasting. Regarding when instruction is most beneficial, PT and the TH would predict that learners would have had to at least acquire phrasal structures (i.e., verb phrases, determiner phrases, etc.) since dative Case is licensed outside of the verb phrase (Woolford, 2006). Based on the results of Study 1, either the fourth-semester or fifth-semester learners should show greater gains than those of the other proficiency levels because these learners should be closest to acquiring a Casebased POC system and/or be most 'ready' to acquire it.

6.2 METHODOLOGY

6.2.1 Participants

Participants in this study were taken from two second-semester Spanish classes (Level 1), two third-semester Spanish classes (Level 2), two fourth-semester Spanish classes (Level 3), and two advanced courses for Spanish majors and minors (Level 4). Participants were enrolled in each level because they had either placed into the class by taking the general proficiency test described in section 5.2.1 and an oral proficiency exam conducted by the Spanish Language Coordinator or they had taken the prerequisite Spanish classes. One class at each level was part of the instructed group while the other class was part of the control group.

Because this study involved an instructional intervention, these classes remained intact in order to facilitate and coordinate the instruction. The study is hence a quasi-experimental study, because participants were not randomly assigned to a treatment. Due to this factor, the number in each group varied. The Level 1 group consisted of thirty-four participants (17 instruction, 17 control); the Level 2 group consisted of thirty-one participants (14 instruction, 17 control); the Level 3 group consisted of twenty-three participants (10 instruction, 13 control); and the Level 4 group consisted of twenty-seven participants (16 instruction, 11 control). The total number of participants was one hundred fifteen. Participants represented typical adult L2 learners in classes at four-year universities (18-25 years of age) with sixty-six females and forty-nine males.

6.2.2 Materials

6.2.2.1 Testing

All participants completed a pre-test, a post-test, and a delayed post-test which were designed to assess the state of the interlanguage grammar at each point. Each test was created using LiveCode 5.5.3 (RunRev, 2012), a computer programming environment, and constituted computer programs specifically designed to collect data for this dissertation. All of these tests consisted in three separate tasks, two of which were based on the tasks in Study 1. The sentencecompletion task in each test was similar to the sentence-completion task in Study 1. The differences in this study were that the sentence-completion task only consisted of one hundred forty-four sentence pairs because participants were presented with four grammatical sentence pairs and eight ungrammatical sentence pairs per condition. Only fifty-eight distractor sentences were included in the sentence-completion task of Study 2 due to the smaller number of experimental sentences. These changes were made in order to be more accommodating to the participants with the total amount of time it would take them to perform each test while still presenting enough stimuli in each condition to find systematic patterns. The total number of sentence pairs presented to each participant in each test was two hundred and two. The sentence pairs were randomized for each test in order to minimize possible effects of repeating the exact same task. Participants also completed a cloze task in each test similar to the task in Study 1. Because the Native speakers' responses to the verb tocar in Study 1, some items in the close task

were changed and a new version of the cloze task was piloted with a small group of native Spanish speakers. All sentences used in the sentence-completion task are included in Appendix C and all sentences used in the cloze task are included in Appendix D.

In addition to these two tasks participants also completed an interpretation strategy task in order to rule out any other possible cue or metalinguistic strategy (besides Animacy or Case) that participants may have used to make POC distinctions such as the existence of a direct object with dative POCs and the lack thereof with accusative POCs as in (19).

- (19) (a) Juan le dio *el dinero*. 'Juan gave him/her the money.'
 - (b) Juan lo vio.
 'Juan saw him/her'

This task consisted of twelve multiple-choice items, one for each category, which was then followed up by a question to assess the cues that participants were using to process Spanish POCs item. Each multiple-choice item presented a sentence similar to the context sentences in the sentence-completion task. The choices were sentences that were possible completions of the situation presented in the first sentence only differing in the POC used (dative, accusative masculine and accusative feminine). The follow-up question asked: Why did you make that choice? Six possible reasons were provided, with the last option to provide a reason in the participant's own words. A sample multiple-choice item is shown in (20) and a sample follow-up

question is shown in (21). Appendix E contains the sentences used in the interpretation strategy task.

(20) Juan quería más azúcar para el café.

'Juan wanted more sugar for the coffee.'

Juan le puso azúcar.

'Juan DATPOC put sugar.'

Juan lo puso azúcar.

'Juan ACC.MASCPOC put sugar.'

Juan la puso azúcar.

'Juan ACC.FEMPOC put sugar.'

(21) Why did you make that choice?

The pronoun matched the word it referred to in gender.

The pronoun referred to a human.

The pronoun referred to an animal.

The pronoun referred to an inanimate thing.

□ A sentence can only have one noun or pronoun that refers to the same thing.

6.2.2.2 Instructional Intervention

□ Another reason:

The instructional intervention also contained a variety of materials prepared with help from Dr. Heather Hendry, who has been trained in the PACE model of instruction by Dr. Richard Donato, and Dr. Donato himself. The text for the Presentation part of the instruction for the instructed group was a video taken from a cooking show called *Delicioso* (Hoffman, 2012). This video

If you chose 'another reason', what was your reason?

showed a host describing recipes intended to be used for cooking a Mother's Day meal. In the sections viewed as part of the instruction, the host described the ingredients and explained the process of making a typical Peruvian soup and a passion fruit cheesecake while going through the process herself. This particular video was chosen because cooking shows provide a context where object pronouns are used to refer to a variety of entities (animate and inanimate) in dative and accusative contexts. It also provided sufficient cultural material to add to more meaning to the lesson. Participants were also given vocabulary worksheets to complete so that they could familiarize themselves with important vocabulary items in the video. Participants in the instructed group also completed a viewing activity where they noted the order of the steps in making the soup and listened for and wrote down the host's comments on Mother's Day.

PowerPoint slides were used during the Attention and Co-construction phases of the instruction. These slides provided excerpts from the video presentation exemplifying use of the target grammar. They also provided questions that were to guide the students in identifying Spanish POC forms and functions. Figure 12 is an example of a PowerPoint slide used in the Co-construction phase of the instruction involving dative POCs. Each bullet point is an excerpt from the video. The dative POCs are highlighted because learners have already attended to them in the attention phase. This slide was used for reference as the learners and the instructor worked together to explain the patterns of form, meaning, and function of these POCs.

- <u>Les</u> mando a todas las mamás del universo un abrazo...que ojalá que mañana <u>me</u> las consienten mucho. <u>Les</u> cuento que para mi, mamá, solo hay una en la vida.
- ...el glaseado que va a ser parte de la base de nuestro cheesecake. Vamos a poner<u>le</u> tres cuartos de taza de pulpa de maracuyá, o fruta de la pasión a como <u>le</u> dicen mis amigos los chamos <u>les</u> digo yo a los venezolanos con todo cariño, <u>le</u> dicen parchita. Así ya saben que nosotros todos <u>les</u> decimos a diferentes ingredientes por diferentes nombres.
- A [la mezcla] <u>le</u> vamos a agregar ahora, media taza de azúcar...
 A esto <u>le</u> vamos a poner cuatro huevos y vamos a empezar a mezclar antes de que <u>le</u> agreguemos...la leche condensada.
 Ahora vamos a agregarle la lata de leche condensada.
- y ya <u>les</u> voy a explicar por qué voy a separar un poquito de esta masa...

Figure 12. Example PowerPoint slide used in the Co-construction phase

In the activities for the Extension phase of the instruction for each of the lessons, participants had to create their own recipes and write down the steps in making the recipes, write a simple script for a cooking show, and describe the process of building a robot. Three worksheets that served as reviews between the post-test and the delayed post-test were also completed by the participants. All of the materials that were part of the instructional intervention for the instructed group are included in Appendix F. One example of the items from each review worksheet is provided in (22). In the first review (22a), learners replaced the underlined entity in the first sentence with the appropriate POC in the second sentence. In the second review (22b), learners chose the appropriate POC in parenthesis that could refer to the entity to the right of the sentence.

In the third review (22c), learners completed sentences and were instructed to replace the underlined entity with the appropriate POC.

- (22) (a) Tú compras <u>los ingredientes</u>. Tú _____ compras.(b) Marta (lo, le) devuelve el dinero. <u>Juan</u>
 - (c) Tú pones los ingredientes en <u>la olla</u>. Tú _______.

The control group also viewed a video for the Presentation part of the instruction they received (Alaminos, 2011). This video showed a psychologist asking a patient to describe things he enjoyed and compare and contrast them with things that his girlfriend enjoyed. PowerPoint presentations were also used during the Attention and Co-construction phases of the instruction to show examples of the grammar target presented in the video. The control group also completed three worksheets that served as reviews between the post-test and the delayed post-test. All of the materials that were part of the instructional intervention for the control group are included in Appendix G. One example of the items from each review worksheet is provided in (23). In the first review (23a), learners chose which verb would appropriately complete the sentence. In the third review (23c), learners translated the sentence provided in English.

(23)	(a) A mí		ir al cine.	
	a.	me gustan	c. te gusta	
	b.	me gusta	d. le gusta	
	(b) A mi hijo no			los aguacates.
	(c) Julio lik	res neanuts		

6.2.3 Procedure

All participants completed the tests described in section 6.2.3 on either Apple or PC computers in the Language Media Center at the University of Pittsburgh. For the sentence-completion task, participants were first presented with five practice sentence pairs in order to familiarize themselves with the task before completing any experimental pairs. After the practice sentence pairs, participants were presented both the context sentence and the completion sentence at the same time. The task was to decide whether the completion sentence was a sensible completion of the situation provided in the first sentence by clicking on a green "Yes" button for a positive response or a red "No" button for a negative response. An example of the sentence-completion task is shown in Figure 13.

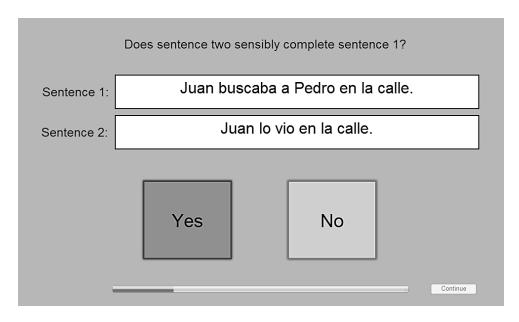


Figure 13. Sentence-completion task¹⁵

Responses were recorded and accuracy scores were calculated for each participant. If learners base their interpretations of POCs on an Animacy hierarchy, accuracy is predicted to be higher with referents higher on the hierarchy with the dative POC and lower with the accusative POCs. Also, accuracy is predicted to be higher with referents lower on the Animacy hierarchy with the accusative POCs and slower with the dative POC. If learners base their interpretations of POCs on Case, there should be no effect for Animacy. Accuracy should be higher with the dative POC referring to indirect objects and the accusative POCs referring to direct objects regardless of the Animacy of the referent.

¹⁵ Translation of Figure 13: Sentence 1- 'Juan was looking for Pedro in the street.'; Sentence 2- 'Juan saw him in the street.'

For the cloze task, participants were presented sentences where a drop-down menu with the options: *le*, *lo*, or *la* replaced the POC slot followed by an entity in parenthesis. This task is illustrated in Figure 14. Participants were instructed to choose the object pronoun that referred to the entity in parenthesis. Responses were recorded and percentages of POC use with each Animacy and Case level were calculated. If learners base their usage of POCs on an Animacy hierarchy, the dative POC is predicted to be used a higher percent of the time with referents higher on the hierarchy and a lower percent of the time with the accusative POCs. The inverse should be true for the accusative POCs. If learners base their usage of POCs on Case, there should be no effect for Animacy. Accuracy should be higher with the dative POC referring to indirect objects and the accusative POCs referring to direct objects regardless of the Animacy of the referent. Half of the participants in each group and proficiency level completed the sentence-completion task first and the other half completed the cloze task first. This was done to ensure that there was no task order effect.

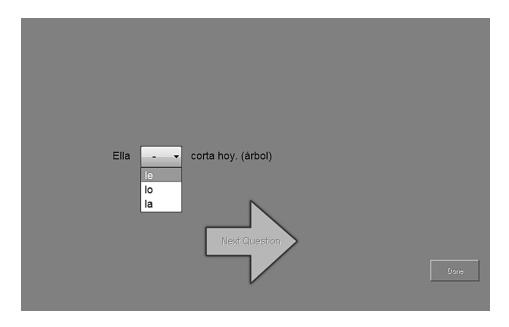


Figure 14. Cloze task

After completing the sentence-completion and the cloze tasks, participants completed the interpretation strategy task. For this task, participants were first presented with a context sentence and the three completion sentence options. Participants were instructed to choose the sentence that best completed the main sentence by clicking on a radio button. After clicking the button, they were directed to another screen that asked them why they made that choice and presented the options indicated in (21). Figure 15 shows a sample of a main multiple choice item and Figure 16 shows a sample of the follow-up question. Responses were recorded and item

¹⁶ English translations of Figure 16 are shown in example (20).

analyses were performed in order to determine whether participants were using Animacy, Case, or some other cue for POC distinctions.

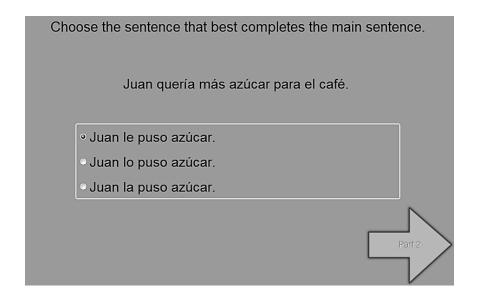


Figure 15. Multiple choice item of interpretation strategy task

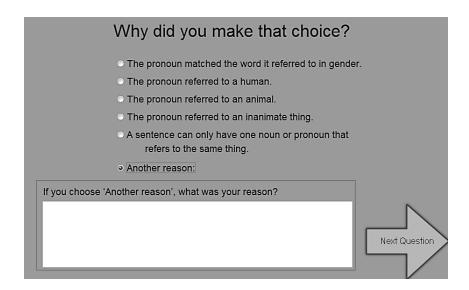


Figure 16. Follow-up question of interpretation strategy task

After the pre-test was completed, the instructed group received the PACE instruction on Spanish POCs. Before the in-class portion of the instruction took place, the instructed group was given the vocabulary worksheet to complete at home. Participants were instructed to categorize the list words to familiarize themselves with the vocabulary used in the video. The instruction took place during each group's regular class period and each period lasted approximately fifty minutes. In order to keep the instruction consistent, the investigator taught all of the instructional periods in this study. Participants received two instructional periods, one for accusative POCs and one for dative POCs, making 100 minutes of instruction. Although Attention, Coconstruction, and Extension phases were divided by POC type, participants were exposed to both types during the Presentation phase for each instructional period. The instructional period for

accusative POCs was carried out first, followed by the period for dative POCs. The sequence of instruction followed the PACE model of instruction as described in section 3.4. Detailed lesson plans, which were followed closely, are included in Appendix H.

The control group also received instruction; however, the instruction was on the psychological verb *gustar* and only one class period of instruction was carried out. This is because the only purpose of providing instruction was so that participants did not know that they were in the control group and one class period of instruction was sufficient to accomplish this goal. The control group also differed in that they only did extension activities in class and did not have out-of-class assignments as did the instructed group. Hence, the control group received no instruction on POCs other than the instruction that they might have received incidentally by reading and writing in Spanish and hearing teacher-led practice activities during the semester that may have incidentally contained Spanish POCs.

Following the instructional intervention, all participants completed the post-test. This test took place as soon after the instructional intervention as possible (0-3 days after) in the Language Media Center at the University of Pittsburgh. After finishing the post-test, participants received short reviews in the form of worksheets that their instructors handed out. Depending on the wishes of the instructors, the worksheets were either completed during class time or completed outside of class. Participants received a total of three reviews approximately every other week between the post-test and the delayed post-test. These reviews were implemented in order to more closely approximate classroom-based instructional practices where reviews often take

place. Six weeks after completing the post-test, participants completed the delayed post-test, again in the Language Media Center at the University of Pittsburgh. Figure 17 summarizes and outlines the procedural design.

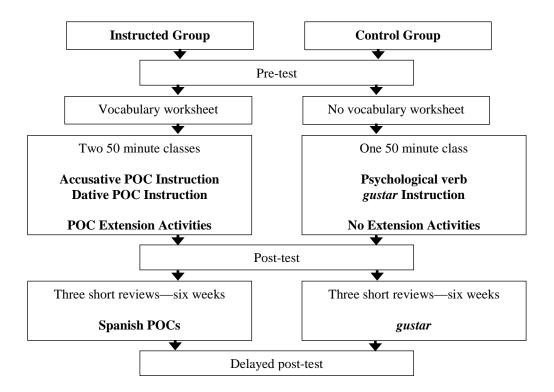


Figure 17. Experimental design

6.2.4 Classroom Interaction

In order to contextualize the results and provide insight into the nature of the instructional intervention, an account of the classroom interaction that took place during the instructional

intervention is presented here. In general, the instructional intervention followed the lesson plans provided in Appendix H.

At the beginning of each instructional intervention, participants were presented with the objectives for the lesson. They were told that the topic of the lesson was how to avoid repetition and how to indicate the person or thing that is affected by the action of the verb respectively for the accusative and dative class periods. As part of the presentation of the objectives, participants were told that they would understand direct and indirect object pronouns and the rules that govern their uses.

After this introduction, the instructor led a short discussion to prepare the participants for the video clips that they would watch. The instructor asked about the participants' knowledge of Peruvian food and cooking shows for the accusative lesson and about their Mother's Day traditions for the dative lesson. Participants generally had little knowledge of Peruvian food, but some did mention rice, potatoes, and seafood. Participants also mentioned making food for and spending time with their mothers as traditions they had for celebrating Mother's Day.

Before the presentation of the video clips, participants were told that they would be watching a video of a cooking show about a typical Peruvian dish for the accusative lesson and about a desert for Mother's Day for the dative lesson. They were given instructions for the viewing activities and were told that the hostess of the cooking show would use words to avoid repetition and that they should pay attention what she was saying. After viewing the video clips, a short comprehension check was performed to see if the participants were paying attention.

During this comprehension check, participants provided their answers to the viewing activities.

These activities are shown in Appendix F.

After the presentation phase was completed, participants were shown a PowerPoint slide with excerpts from the video clips. As part of the attention phase of the instruction, they were asked to work in pairs to find the words that replace other words and help to avoid repetition. Also for the dative lesson, the instruction to find words that indicated the person or thing that was affected by the action of the verb was added. Participants worked together for approximately eight minutes to find the words. After this pair activity was completed, another comprehension check was performed. During this comprehension check, the excerpts from the video clips were reviewed and participants called out the words that they were instructed to find. Some participants were confused at first. Because they have been educated using metalinguistic terms they were inclined to use the words 'pronoun', 'direct pronoun', and 'indirect pronoun'. Once it was obvious that they were looking for pronouns, they clearly knew to what words they were supposed to attend. At the end of the comprehension check, the words were highlighted on the PowerPoint slide so that it was made explicit to what the participants should be attending.

After the attention phase was completed, participants were told that these words were direct object pronouns or indirect object pronouns in the case of the dative lesson. They were then instructed to work in small groups to create grammar rules with respect to the pronouns. They were prompted to think about where the pronouns can be placed in a sentence and the possible referents of the pronouns. Participants worked together for approximately ten minutes

creating rules. After this group activity the co-construction phase moved into a whole class discussion. Participants were asked to provide rules that they had created. Many of the participants repeated rules that they had clearly memorized from text books or prior explicit classroom instruction. Some of these rules lacked specificity necessary to indicate differences between accusative and dative pronouns as well as the possible referents to which the pronouns could refer, such as "le se refiere a alguin que recibe la acción" (le refers to someone that receives the action). When this happened, the instructor referred to particular instances from the video clip excerpts and pointed out that such a rule would not allow a listener or a reader understand exactly to whom or what the pronoun was referring by saying things like "Bueno, pero veamos a este pronombre. ¿A qué se refiere? (Ok, but let's look at this pronoun. What does it refer to?) or "¿En verdad recibe la acción este pronombre o recibe la acción éste pronombre? (Does this pronoun really receive the action, or does this pronoun receive the action?). Participants were then asked to rethink the rule and what could be added to make it a better rule. Eventually with numerous trials and reanalysis, an acceptable rule was reached that indicated where the POCs should be placed, what the functions of the pronouns were, and what the possible referents of the pronouns were. An example rule was "Le (y los otros pronombres de complemento indirecto) se refiere a una persona, animal o cosa que es afectada por la entidad que directamente recibe la acción del verbo" (Le (and the other indirect object pronouns) refers to a person, animal, or thing that is affected by the entity that directly receives the action of the verb).

After the co-construction phase was completed, participants spent some time in class working together one the extension activity. Participants were provided the instructions for each extension activity (shown in Appendix F), being reminded to use the pronouns that were the topic of the lesson. They were also given a take-home extension activity for each lesson and were instructed to complete the activity and turn it in to their instructor the next class period.

One observation from the instructional intervention is that, like most groups of language students, participation was variable. There were some classes where most of the students participated freely in the discussions while other classes had only a few students that participated freely. Because the instructor was not the regular instructor and did not know all of the participants by name, calling on particular students to answer or participate was difficult. The Level 3 participants in the instructed group were particularly non-participatory. Only two students from this level did not greatly resist participating in the discussions. In general, however, participants seemed to stay on task during the small group activities and at least paid attention during the whole class discussions. Also, the instructional interventions felt quite rushed. Participants often had very little time remaining to work on the extension activities during class time.

6.3 RESULTS

The results of study 2 are presented in this section. Results from the interpretation strategy task are presented first, followed by the sentence-completion results and then the cloze task results. The extension activities were also analyzed so see how learners use POCs in a more open-ended task. Results from this qualitative analysis follow the cloze task results.

6.3.1 Interpretation Strategy Task

The interpretation strategy task was carried out in order to make sure that participants were not using another cue more prominently than Animacy or Case to distinguish among POCs. Percentages were calculated for each possible response (Gender, Human, Animal, Inanimate, and Only one pronoun). Most of the responses in the "Another reason" category referred to Case and were therefore coded as such. Example responses coded as Case are shown in (24). Those that were not discernible were put into the 'Other' category. Example responses in this category are shown in (25).

- (24) (a) "Juan was the subject of the sentence, and he added sugar (the direct object) TO the coffee, thus rendering the coffee as the indirect object in the sentence."
 - (b) "In this case, the main subject actually DIRECTLY did 'hit' the other subject, thus meaning the second was a direct object, thus requiring 'lo/la.'"

- (c) "She gave the watch TO Juan so it has to be LE"
- (d) "Le refers to an indirect object, perro"
- (e) "Lo refers to the direct object, el gato"
- (f) "Juan (the subject) gave the packet (direct object) TO Rosa (indirect object)."
- (25) (a) "I didn't know the answer"
 - (b) "le referred to the coffee"
 - (c) "Because I remember como se llama is a phrase"
 - (d) "He added the sugar"
 - (e) "refers to it"

Since the purpose of this task was to make sure that participants were using either Animacy or Case and not another (irrelevant) cue, the categories corresponding with Animacy and Case were combined, resulting in the categories: Gender, Animacy/Case, Only one pronoun, and Other. Table 17 shows the mean percentages for each category by test.

Table 17. Means and standard errors for interpretation strategy task by test

	Gender		Anima	cy/Case	Only	one	Other		
Test	M	SE	M	SE	M	SE	M	SE	
Pre-	.434	.029	.520	.030	.021	.006	.001	.001	
Post-	.436	.030	.519	.032	.037	.011	.008	.004	
Delayed Post-	.458	.029	.457	.030	.078	.019	.005	.004	

As Table 17 shows, the interpretation strategies with the highest number of responses were Gender and Animacy/Case. While it may appear that Gender is an important cue for POC processing, these overall mean percentages are misleading. Only 6.52% (95/1486) of the responses in favor of using Gender as an interpretation strategy referred to the *le* option of the first question in the task. Therefore, in general, participants responded that they used Gender as an interpretation strategy to distinguish accusative POCs *lo* and *la*, which are the only ones that encode gender. This fact does not undermine an Animacy/Case interpretation strategy. If it were so, a much higher percentage of responses with respect to *le* would be expected. Also seen in Table 17, the number of responses in the categories Only one and Other is negligible. The results of this task indicate that learners generally use Animacy or Case cues and not any extraneous cue when distinguishing Spanish POCs.

6.3.2 Sentence-Completion Task

In order to eliminate any possible effect of gender on the accusative POCs, only sentence pairs that were mismatched in Case but not Gender as in (26), were considered correct. This also eliminated the possibility that the participants were penalized for not knowing the correct gender of the referent.

(26) Rosa encontró **la puerta** cerrada. Rosa **lo** empujó para entrar. 'Rosa found the door closed. Rosa pushed it to enter.

The means and standard errors for response accuracy for each Animacy and Case category by Level and Time are shown in Table 18 for the instructed group and Table 19 for the control group. At the Pre-test, accuracy rates across Animacy and Case are close to chance, with accusatives being slightly more accurate than datives for the human and inanimate referents. This pattern changes for the Post- and Delayed post-tests. While the human-Case pattern seems to maintain over time, learners become more accurate with datives referring to non-human animate and inanimate objects. Although there are a few slight differences across proficiency levels in terms of the average accuracy scores, the overall pattern does not change as proficiency increases. These general patterns are also similar between the instructed group and the control group.

Table 18. Instructed Group means and standard errors of response accuracy by Animacy, Case, Level, and Time

			Human Animate						Inanimate					
			Accu	sative	Da	tive	Accus	sative	Da	tive	Accu	sative	Da	tive
Level	N	Test	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE
1	17	Pre-	.507	.021	.489	.025	.488	.028	.471	.023	.488	.022	.478	.027
		Post-	.424	.028	.485	.020	.436	.018	.518	.026	.419	.025	.452	.018
		Delayed	.473	.022	.426	.023	.377	.019	.566	.023	.498	.020	.581	.022
2	14	Pre-	.538	.024	.462	.028	.426	.031	.457	.026	.574	.025	.462	.030
		Post-	.378	.030	.397	.022	0.378	.020	.585	.028	.402	.028	.415	.020
		Delayed	.488	.024	.406	.026	.399	.021	.563	.025	.440	.022	.545	.024
3	10	Pre-	.492	.028	.487	.033	.333	.037	.494	.030	.567	.029	.394	.035
		Post-	.333	.036	.475	.026	.358	.024	.569	.034	.358	.033	.425	.024
		Delayed	.467	.028	.362	.030	.375	.024	.575	.029	.442	.026	.581	.029
4	16	Pre-	.479	.022	.437	.026	.307	.029	.437	.024	.521	.023	.455	.028
		Post-	.320	.028	.445	.020	.396	.019	.562	.027	.393	.026	.430	.019
		Delayed	.466	.022	.340	.024	.414	.019	.535	.023	.424	.020	.566	.023

Table 19. Control Group means and standard errors of response accuracy by Animacy, Case, Level, and Time

			Human				Anii	nate		Inanimate				
			Accu	sative	Da	tive	Accu	Accusative Dative		Accu	sative	Da	tive	
Level	N	Test	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE
1	17	Pre-	.507	.021	.449	.025	.422	.028	.456	.023	.537	.022	.474	.027
		Post-	.395	.028	.460	.020	.414	.018	.555	.026	.436	.025	.467	.018
		Delayed	.498	.022	.408	.023	.414.	.019	.548	.023	.439	.020	.585	.022
2	17	Pre-	.488	.021	.441	.025	.324	.028	.478	.023	.527	.022	.401	.027
		Post-	.321	.028	.460	.020	.336	.018	.592	.026	.419	.025	.441	.018
		Delayed	.456	.022	.371	.023	.385	.019	.533	.023	.414	.020	.526	.022
3	13	Pre-	.490	.024	.481	.029	.321	.032	.490	.027	.510	.025	.452	.031
		Post-	.362	.032	.409	.022	.372	.021	.519	.029	.420	.029	.409	.021
		Delayed	.401	.025	.351	.027	.369	.021	.582	.026	.446	.023	.572	.025
4	11	Pre-	.481	.027	.523	.032	.261	.035	.460	.029	.549	.028	.426	.034
		Post-	.295	.034	.443	.024	.364	.023	.597	.032	.352	.032	.415	.023
-		Delayed	.436	.027	.364	.029	.333	.023	.551	.028	.405	.025	.602	.028

A 3×2×3×4×2 mixed ANOVA was performed on response accuracy as a function of Animacy, Case, Time, Level and Group. The within-subjects independent variables were Animacy with three levels (human, animate, and inanimate), Case with two levels (accusative and dative), and Time with three levels (pre-test, post-test, delayed post-test). The between-subjects independent variables were Level with four levels (1, 2, 3, and 4), and Group with two levels (instructed and control).¹⁷

 17 Because the assumptions of the mixed ANOVA were not completely met for all of the analyses, a Greenhouse-Geisser adjustment was made to the degrees of freedom

The ANOVA performed showed significant interaction effects of Animacy×Case×Time, Animacy×Case×Level, Animacy×Case×Group, Animacy×Case, Animacy×Time, Case×Time, Case×Level, and Case×Group. The other interactions were not significant (see Table 20 for ANOVA results). The highlighted rows in Table 20 indicate significant results. As can be seen in Table 20, none of the interactions involving Group were significant, indicating that both groups' responses patterned in the same way with respect to the other variables. The significant four-way interaction, along with the significant three-way interactions indicate that the Animacy-Case patterns did vary among times and levels. Although the main effects for all variables besides Group were significant, these effects do not reveal how learners' responses are affected by Animacy and Case. Mixed ANOVAs are used to investigate how within-subjects variables interact with between-subjects variables. Thus, the significant main effects are irrelevant to this study.

Table 20. ANOVA on Accuracy scores for Animacy x Case x Time x Level x Learner Group

Source	df	F	p	η_p^2
Animacy (A)	(1.912, 204.629)	23.93	< .001	0.183
Case (C)	(1, 107)	126.59	< .001	0.542
Time (T)	(1.849, 197.808)	31.46	< .001	0.227
Level (L)	(3, 107)	7.56	< .001	0.175
Group (G)	(1, 107)	2.94	0.09	0.027
AxC	(1.893, 202.539)	130.50	< .001	0.549
AxT	(3.667, 392.334)	55.97	< .001	0.343
AxL	(5.737, 204.629)	0.38	.883	.011
AxG	(1.912, 204.629)	0.711	.486	.007
CxT	(1.979, 211.806)	51.347	< .001	.324
CxL	(3, 107)	3.122	.029	.080
CxG	(1, 107)	3.161	.078	.029
TxL	(5.546, 197.808)	0.438	.839	.012
TxG	(1.849, 197.808)	0.487	.601	.005
LxG	(3, 107)	0.573	.634	.016
AxCxT	(3.839, 410.806)	49.359	< .001	.316
AxCxL	(5.679, 202.539)	3.424	.004	.088
AxCxG	(1.893, 202.539)	0.928	.393	.009
AxTxL	(11, 392.334)	2.983	.001	.077
AxTxG	(3.667, 392.334)	0.598	.650	.006
AxLxG	5.737, 204.629)	0.454	.834	.013
CxTxL	(5.938, 211.806)	1.1	.363	.030
CxTxG	(1.979, 211.806)	0.316	.727	.003
CxLxG	(3, 107)	1.674	.177	.045
TxLxG	(5.546, 197.808)	1.197	.311	.032
AxCxTxL	(11.518, 410.806)	2.382	.006	.063
AxCxTxG	(3.839, 410.806)	0.877	.474	.008
AxCxLxG	(5.679, 202.539)	0.689	.651	.019
AxTxLxG	(11, 392.334)	0.914	.526	.025
CxTxLxG	(5.938, 211.806)	1.825	.096	.049
AxCxTxLxG	(11.518, 410.806)	1.267	.238	.034

Note. Shaded rows are statistically significant

Because the main purpose of this study is to see if instruction can lead learners toward a case-based POC system, planned comparisons for interactions of Animacy×Case×Group were carried out for each Time. This interaction was not significant for any test. Planned comparisons for interactions of Animacy×Case×Time×Group were also carried out for each Level to test whether instruction made a difference at a certain level. This interaction was not significant at any Level (see Table 21 for simple interactions results).

 Table 21. Simple Interactions performed on Accuracy scores

Source	df	F	p	η_p^2
Animacy x Case x Group				
Pre-test	(1.892, 213.742)	1.978	.143	.017
Post-test	(1.821, 205.769)	0.936	.387	.008
Delayed post-test	(1.943, 219.505)	0.231	.787	.002
Animacy x Case x Time x C	Group			
Level 1	(3.644, 116.622)	1.786	.142	.053
Level 2	(3.654, 105.954)	1.656	.171	.054
Level 3	(3.341, 70.164)	1.182	.324	.053
Level 4	(3.110, 77.739)	.603	.621	.024
Animacy x Case x Time				
Level 1	(3.739, 123.373)	8.155	<.001	.198
Level 2	(3.710, 111.299)	12.896	<.001	.301
Level 3	(3.294, 72.462)	14.429	<.001	.396
Level 4	(3.145, 81.758)	19.792	<.001	.432
Animacy x Case				
Level 1				
Pre-test	(1.854, 61.191)	.880	.413	.026
Post-test	(1.710, 56.443)	2.489	.100	.070
Delayed post-test	(1.722, 56.822)	28.644	<.001	.465
Level 2				
Pre-test	(1.982, 59.451)	25.033	<.001	.455
Post-test	(1.839, 55.164)	30.326	<.001	.503
Delayed post-test	(1.746, 52.378)	42.641	<.001	.587
Level 3				
Pre-test	(1.949, 42.869)	30.951	<.001	.585
Post-test	(1.837, 40.421)	11.733	<.001	.348
Delayed post-test	(1.683, 37.032)	53.022	<.001	.707
Level 4				
Pre-test	(1.934, 50.276)	25.294	<.001	.493
Post-test	(1.716, 44.618)	11.422	<.001	.305
Delayed post-test	(1.652, 42.943)	45.183	<.001	.635

Although the interactions involving the two groups at different test times were not significant, indicating that instruction was not effective and that this lack of effect held for all proficiency levels, the significant four-way interaction of Animacy×Case×Time×Level was followed up by simple comparisons of the Animacy×Case×Time interaction for each Level. This interaction was significant at each Level and was followed up with simple comparisons of the interaction Animacy×Case for each Time and Level. This interaction was significant for all Times in Levels 2-4 and was significant for the delayed post-test only for Level 1. Significant interactions of Animacy×Case were followed up by simple main effects of Case for each Animacy type in order to find out which Animacy-Case combinations were more accurate (see Table 22 for means and standard errors and Table 21 for simple interactions).

Table 22. Means and standard errors of response accuracy by Animacy, Case, and Test

			Human				Anii	mate			Inan	imate		
			Accu	sative	Da	tive	Accu	Accusative Dati		tive	Accusative		Dative	
Level	N	Test	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE
1	34	Pre-	.507	.018	.469	.020	.455	.022	.463	.016	.512	.015	.476	.024
		Post-	.409	.024	.472	.014	.425	.016	.537	.020	.428	.021	.460	.015
		Delayed	.485	.017	.417	.019	.396	.016	.557	.015	.468	.015	.583	.017
2	21	D	711	012	450	016	270	000	4.60	016	5.40	017	420	010
2	31	Pre-	.511	.013	.450	.016	.370	.023	.468	.016	.548	.017	.428	.018
		Post-	.347	.020	.431	.017	.355	.015	.589	.017	.411	.016	.429	.012
		Delayed	.470	.015	.387	.016	.391	.012	.546	.014	.426	.017	.534	.018
3	23	Pre-	.491	.020	.484	.019	.326	.026	.492	.022	.534	.020	.427	.017
Ü		Post-	.350	.024	.438	.017	.366	.013	.541	.024	.393	.021	.416	.012
		Delayed	.429	.020	.356	.019	.371	.013	.579	.020	.444	.016	.576	.016
4	27	Pre-	.480	.013	.472	.023	.289	.015	.447	.017	.532	.018	.438	.019
		Post-	.310	.011	.444	.013	.383	.009	.576	.018	.377	.020	.424	.014
		Delayed	.454	.016	.350	.016	.381	.017	.542	.020	.417	.012	.581	.014

At the Pre-test, participants at Levels 2 and 3 were more accurate with human referents in accusative contexts than dative contexts, more accurate with animate referents in dative contexts than accusative contexts, and more accurate with inanimate referents in accusative contexts than dative contexts. All comparisons were statistically significant except for the human referents for Level 3 participants. Level 4 participants were significantly more accurate with animate referents in dative contexts than accusative contexts and with inanimate referents in accusative contexts than dative contexts. There was no difference between human referents for the Level 4 participants.

At the Post-test, the pattern for participants at Levels 2 and 3 switched; they were more accurate with referents in dative contexts than accusative contexts across the Animacy types. All comparisons were statistically significant except for the inanimate referents for both Levels. The Level 4 participants also followed the same pattern as Levels 2 and 3 at the Post-test with dative contexts being more accurate than accusative contexts except for the inanimate referents.

At the Delayed post-test, participants were more accurate with human referents in accusative contexts than dative contexts and more accurate with animate and inanimate referents in dative contexts than accusative contexts. All comparisons at the Delayed post-test were statistically significant (see Tables 23-25 for main effects).

Table 23. Simple main effects for the Pre-test

Source	df	F	p	η_p^2
Level 2				
HD x HA	(1, 30)	10.162	.003	.253
AnD x AnA	(1, 30)	12.789	.001	.299
ID x IA	(1, 30)	26.238	<.001	.467
Level 3				
HD x HA	(1, 22)	.079	.782	.004
AnD x AnA	(1, 22)	30.25	<.001	.579
ID x IA	(1, 22)	14.299	.001	.394
Level 4				
HD x HA	(1, 26)	.071	.792	.003
AnD x AnA	(1, 26)	45.349	<.001	.636
ID x IA	(1, 26)	13.144	.001	.336

Note. H=Human, An=Animate, I=Inanimate, D=Dative, A=Accusative

Table 24. Simple main effects for the Post-test

Source	df	F	р	η_p^2
Level 2				
HD x HA	(1, 30)	12.080	.002	.287
AnD x AnA	(1, 30)	121.661	<.001	.802
ID x IA	(1, 30)	.649	.427	.021
Level 3				
HD x HA	(1, 22)	11.136	.003	.336
AnD x AnA	(1, 22)	34.947	<.001	.614
ID x IA	(1, 22)	.962	.337	.042
Level 4				
HD x HA	(1, 26)	73.891	<.001	.740
AnD x AnA	(1, 26)	81.362	<.001	.758
ID x IA	(1, 26)	3.488	.073	.118

Note. H=Human, An=Animate, I=Inanimate, D=Dative, A=Accusative

Table 25. Simple main effects for the Delayed post-test

Source	df	F	p	η_p^2
Level 1				
HD x HA	(1, 33)	6.352	.017	.161
AnD x AnA	(1, 33)	56.101	<.001	.630
ID x IA	(1, 33)	27.493	<.001	.454
Level 2				
HD x HA	(1, 30)	18.412	<.001	.380
AnD x AnA	(1, 30)	66.232	<.001	.688
ID x IA	(1, 30)	15.709	<.001	.344
Level 3				
HD x HA	(1, 22)	16.025	.001	.421
AnD x AnA	(1, 22)	62.167	<.001	.739
ID x IA	(1, 22)	43.084	<.001	.662
Level 4				
HD x HA	(1, 26)	29.746	<.001	.534
AnD x AnA	(1, 26)	24.743	<.001	.488
ID x IA	(1, 26)	85.202	<.001	.766

Note. H=Human, An=Animate, I=Inanimate, D=Dative, A=Accusative

Figures 18-23 show the mean accuracy scores for Levels 1-4 of each group. As shown on the X-axis of these graphs, participant accuracy scores for inanimate referents in accusative contexts are more accurate than dative contexts at the pre-test. At the post-test, participants' accuracy scores for inanimate referents switch directions and become more accurate for inanimate referents in dative contexts than accusative contexts. Accuracy scores also improve with animate referents in dative contexts. This pattern becomes more exaggerated at the delayed post-test.

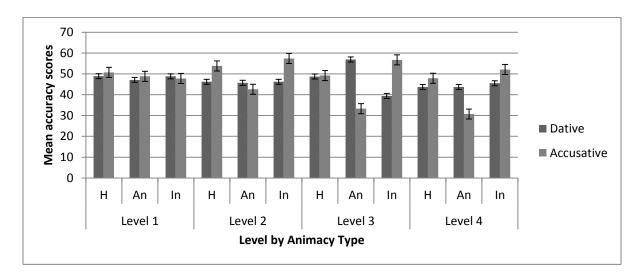


Figure 18. Mean pre-test accuracy scores by Animacy, Case, and Level for the Instructed group

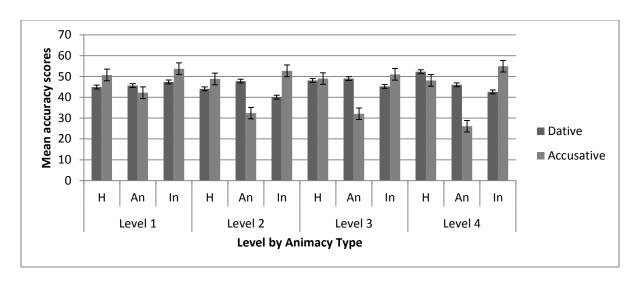


Figure 19. Mean pre-test accuracy scores by Animacy, Case, and Level for the Control group

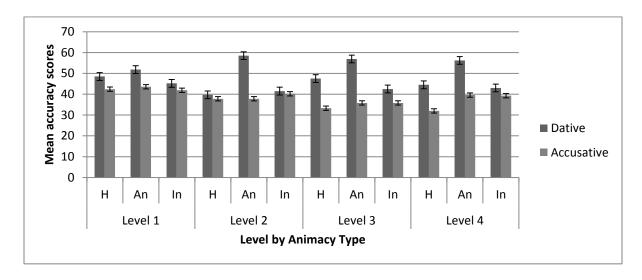


Figure 20. Mean post-test accuracy scores by Animacy, Case, and Level for the Instructed group

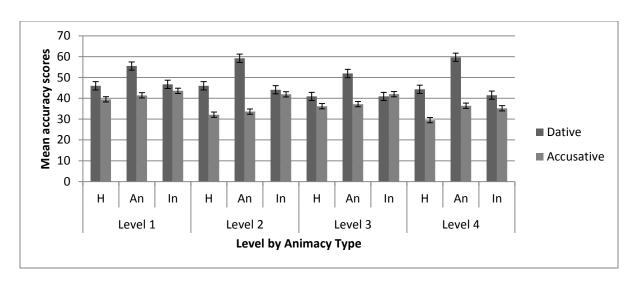


Figure 21. Mean post-test accuracy scores by Animacy, Case, and Level for the Control group

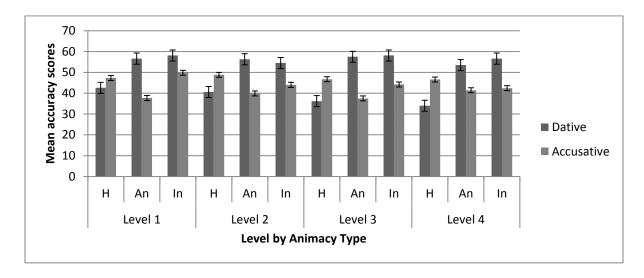


Figure 22. Mean delayed post-test accuracy scores by Animacy, Case, and Level for the Instructed group

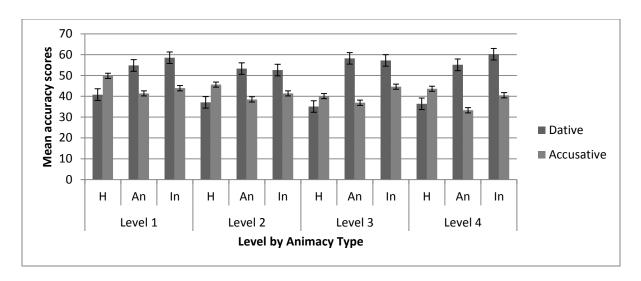


Figure 23. Mean delayed post-test accuracy scores by Animacy, Case, and Level for the Control group

The results presented in this section suggest that it is *time* rather than instruction that affects learners' POC distinctions as far as interpretation is concerned. Participants' accuracy scores did not pattern in a way that is predicted if instruction is effective in aiding students towards a Case-based POC system. The non-significant interaction effects of Animacy by Case between groups (instructed and control) and at different test times indicate that the in-class instruction did not make a difference for the instructed group. This result was also consistent across proficiency levels. The significant interactions of Animacy by Case across test times and proficiency level that were further explored suggest that over time, learners may be able to notice that dative POCs may also be used to refer to animate and inanimate entities. That human accusative referents were consistently more accurate than human dative, even at the pre-test,

indicates that learners already understood that accusative POCs can refer to humans and that they are not restricted to (in)animate referents as a grammar based on Animacy would have predicted.

6.3.3 Cloze Task

In order to eliminate any possible effect of gender on the accusative POCs, *lo* and *la* were considered correct in accusative contexts as in (27). This also eliminated the possibility that the participants were penalized for not knowing the correct gender of the referent.

(27) Él <u>lo</u> rompió ayer. (ventana) 'He ACC.MASCPOC broke yesterday. (window) ← FEM'

Unlike the methodology used in study 1, accuracy scores were calculated for correct uses of Spanish POCs because the purpose of this study is to test the effect of instruction on leading learners towards a Case-based POC system. If learners become more accurate in using these pronouns in obligatory contexts, they will have shown that they are using Case to distinguish POCs.

Tables 26 and 27 show the means and standard errors for accuracy for each Animacy and Case category by Level for each group in the cloze task. Overall, learners are more accurate with human referents in dative contexts and with animate and inanimate referents in accusative contexts at the pre-test. At the post-test and delayed post-test, overall accuracy drops

considerably and accuracy with inanimate referents in dative contexts is noticeably higher than accusative contexts. These patterns are generally constant across levels and groups; however the Level 3 and Level 1 participants in the instructed group were more accurate with accusative POCs across the Animacy types at the pre-test.

Table 26. Instructed group means and standard errors of accuracy by Animacy, Case, Level, and Time

			Human Animate						Inan	imate				
			Accu	sative	Da	tive	Accu	sative	Da	tive	Accu	sative	Da	tive
Level	N	Test	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE
1	17	Pre-	.627	.086	.275	.086	.711	.050	.230	.079	.691	.048	.225	.066
		Post-	.382	.026	.319	.044	.436	.028	.388	.044	.338	.028	.387	.055
		Delayed	.294	.029	.402	.044	.284	.025	.270	.036	.412	.023	.392	.054
2	14	Pre-	.506	.094	.603	.094	.846	.055	.160	.087	.923	.053	.115	.072
		Post-	.417	.029	.345	.048	.345	.031	.452	.048	.315	.031	.464	.061
		Delayed	.315	.032	.417	.048	.280	.028	.298	.040	.411	.026	.363	.059
3	10	Pre-	.767	.112	.700	.112	.867	.065	.575	.103	.900	.063	.425	.086
		Post-	.317	.034	.458	.057	.417	.037	.375	.057	.258	.036	.592	.072
		Delayed	.242	.038	.533	.057	.217	.033	.358	.047	.417	.030	.517	.070
4	16	Pre-	.458	.088	.771	.088	.906	.051	.333	.082	.953	.050	.229	.068
		Post-	.370	.027	.354	.045	.411	.029	.422	.045	.276	.029	.448	.057
		Delayed	.286	.030	.448	.045	.250	.026	.292	.037	.432	.024	.401	.056

Table 27. Control group means and standard errors of accuracy by Animacy, Case, Level, and Time

				Hu	man			Ani	mate			Inan	imate	
			Accus	sative	Da	Dative		Accusative Dative		tive	Accusative		Dative	
Level	N	Test	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE
1	17	Pre-	.516	.086	.578	.086	.794	.050	.260	.079	.813	.048	.208	.066
		Post-	.402	.026	.260	.044	.422	.028	.402	.044	.309	.028	.377	.055
		Delayed	.284	.029	.387	.044	.275	.025	.294	.036	.407	.023	.319	.054
2	14	Pre-	.480	.086	.588	.086	.814	.050	.250	.079	.814	.048	.225	.066
		Post-	.368	.026	.333	.044	.412	.028	.407	.044	.250	.028	.387	.055
		Delayed	.270	.029	.431	.044	.289	.025	.289	.036	.426	.023	.407	.054
3	10	Pre-	.250	.098	.846	.098	.821	.057	.436	.091	.962	.055	.250	.075
		Post-	.404	.030	.353	.050	.423	.032	.397	.050	.308	.032	.455	.063
		Delayed	.327	.033	.378	.052	.263	.029	.237	.041	.423	.027	.308	.062
4	16	Pre-	.530	.107	.848	.106	.864	.062	.583	.098	.909	.060	.409	.082
		Post-	.333	.033	.409	.054	.477	.035	.371	.054	.273	.035	.576	.069
		Delayed	.250	.036	.515	.055	.242	.031	.348	.045	.386	.029	.477	.067

A 3×2×3×4×2 mixed ANOVA was performed on response accuracy as a function of Animacy, Case, Time, Level and Group. The within-subjects independent variables were Animacy with three levels (human, animate, and inanimate), Case with two levels (accusative and dative), and Time with three levels (pre-test, post-test, delayed post-test). The between-subjects independent variables were Level with four levels (1, 2, 3, and 4), and Group with two levels (instructed and control).¹⁸

¹⁸ Because the assumptions of the mixed ANOVA were not completely met for all of the analyses, a Greenhouse-Geisser adjustment was made to the degrees of freedom.

The ANOVA performed showed significant interaction effects of Animacy×Case×Time×Level×Group, Case×Time×Group, Animacy×Case×Time, Time×Level, Case×Time, Animacy×Time, and Animacy×Case. The other interactions were not significant (see Table 28 for ANOVA results). The highlighted rows in Table 28 indicate significant results. As with the sentence-completion task, mixed ANOVAs are used to investigate how within-subjects variables interact with between-subjects variables. Thus, the significant main effects are irrelevant to this study. The important significant result is the five-way interaction at the bottom of Table 28.

Table 28. ANOVA on response accuracy for Animacy x Case x Time x Level x Learner Group

Source	df	F	p	η_p^2
Animacy (A)	(1.986, 212.478)	9.535	< .001	.082
Case (C)	(1, 107)	15.069	< .001	.123
Time (T)	(1.369, 146.523)	291.006	< .001	.731
Level (L)	(3, 107)	8.430	< .001	.186
Group (G)	(1, 107)	.038	.846	< .001
AxC	(1.205, 128.908)	69.287	< .001	.393
AxT	(3.316, 354.773)	41.699	< .001	.280
AxL	(5.957, 212.478)	0.636	.700	.018
AxG	(1.986, 212.478)	2.900	.058	.026
CxT	(1.950, 208.629)	107.059	< .001	.500
CxL	(3, 107)	2.679	.051	.070
CxG	(1, 107)	.367	.546	.003
TxL	(4.108, 146.523)	7.686	< .001	.177
TxG	(1.369, 146.523)	.637	.473	.006
LxG	(3, 107)	2.697	.050	.070
AxCxT	(1.443, 154.406)	70.128	< .001	.396
AxCxL	(3.614, 128.908)	1.941	.114	.052
AxCxG	(1.205, 128.908)	1.709	.194	.016
AxTxL	(9.947, 354.773)	1.022	.424	.028
AxTxG	(3.316, 354.773)	.534	.677	.005
AxLxG	(5.957, 212.478)	.621	.712	.017
CxTxL	(5.849, 208.629)	.986	.435	.027
CxTxG	(1.950, 208.629)	4.200	.017	.038
CxLxG	(3, 107)	.822	.484	.023
TxLxG	(4.108, 146.523)	1.997	.096	.053
AxCxTxL	(4.329, 154.406)	2.274	.059	.060
AxCxTxG	(1.443, 154.406)	1.925	.161	.018
AxCxLxG	(3.614, 128.908)	1.721	.155	.046
AxTxLxG	(9.947, 354.773)	1.645	.093	.044
CxTxLxG	(5.849, 208.629)	.511	.795	.014
AxCxTxLxG	(4.329, 154.406)	3.028	.017	.078

Note. Shaded rows are statistically significant

Because the five-way interaction of Animacy×Case×Time×Level×Group was statistically significant, comparisons of the interaction of Animacy×Case×Time×Level were performed for each Group. This interaction was statistically significant for the instructed group, F (4.526, 79.962) = 4.068, p = .003, $\eta_p^2 = .187$ and not for the control group, F (4.149, 74.683) = 1.485, p = .214, $\eta_p^2 = .076$. However, this does not necessarily mean that the instruction was effective; the reason that this interaction was not significant for the control group is that the interaction of Animacy×Case×Time was the same across all Levels. Due to this finding, participants were not split by Group or Level for the remainder of the analyses.

A simple comparison of the interaction of Animacy×Case×Time was performed on response accuracy. This interaction was statistically significant, F(1.436, 163.682) = 65.394, p = .001, $\eta_p^2 = .365$ and was followed up by simple comparisons of Animacy×Case at each time. Significant interactions were followed up by simple main effects of Case for each Animacy type in order to find out which Animacy-Case combinations were more accurate (see Table 29 for means and standard errors).

Table 29. Means and standard errors of response accuracy by Animacy, Case, and Test

	Human			Animate				Inanimate				
	Accu	sative	Dative		Accusative		Dative		Accusative		Dative	
Test	M	SE	M	SE	M	SE	M	SE	M	SE	M	SE
Pre-	.511	.034	.631	.036	.823	.020	.248	.026	.861	.020	.248	.026
Post-	.378	.010	.345	.017	.417	.011	.396	.017	.293	.011	.447	.022
Delayed	.286	.011	.432	.017	.266	.010	.294	.014	.415	.009	.391	.021

At the Pre-test, participants were more accurate with human referents in dative contexts than accusative contexts and more accurate with animate referents as well as inanimate referents in accusative contexts than dative contexts. All comparisons at the pre-test were statistically significant except for the human referents. At the Post-test, participants were significantly more accurate with inanimate referents in dative contexts than accusative contexts. Participants were not significantly more accurate with human and animate referents in accusative contexts than dative contexts fort the post-test. At the Delayed post-test, participants were more accurate with human referents in dative contexts than accusative contexts. The other two comparisons were not significantly different (see Table 30 for simple interactions and main effects).

Table 30. Simple Interactions and Main effects on response accuracy for Animacy x Case per Test

Source	df	F	p	η_p^{2}
Pre-test				
Animacy x Case	(1.134, 129.265)	66.601	<.001	.369
HD x HA	(1, 114)	3.773	.055	.032
AnD x AnA	(1, 114)	142.414	<.001	.555
ID x IA	(1, 114)	272.332	<.001	.705
Post-test				
Animacy x Case	(1.715, 195.466)	52.754	<.001	.316
HD x HA	(1, 114)	1.736	.190	.015
AnD x AnA	(1, 114)	.709	.402	.006
ID x IA	(1, 114)	28.931	<.001	.202
Delayed post-test				
Animacy x Case	(1.982, 225.952)	72.578	<.001	.389
HD x HA	(1, 114)	31.768	<.001	.218
AnD x AnA	(1, 114)	1.801	.182	.016
ID x IA	(1, 114)	.837	.362	.007

Note. H=Human, An=Animate, I=Inanimate, D=Dative, A=Accusative

Figures 24-29 show the mean accuracy scores for each Animacy and Case category by Level for each group in the cloze task. As shown on the X-axis of these graphs, participant accuracy scores at the pre-test generally indicate an Animacy-based system. Human referents in dative contexts are more accurate than accusative contexts and animate as well as inanimate referents more accurate in accusative contexts than dative contexts. At the post-test, participants' accuracy scores decrease in general and switch directions for inanimate referents, becoming more accurate for in dative contexts than accusative contexts. Accuracy scores also improve with animate referents in dative contexts. While human referents in dative contexts again become

more accurate than accusative contexts, the animate and inanimate referent patterns are maintained.

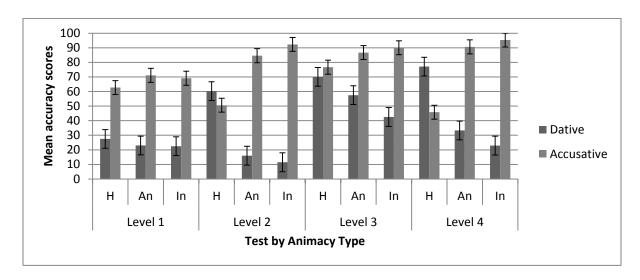


Figure 24. Mean pre-test accuracy scores by Animacy, Case, and Level for the Instructed group

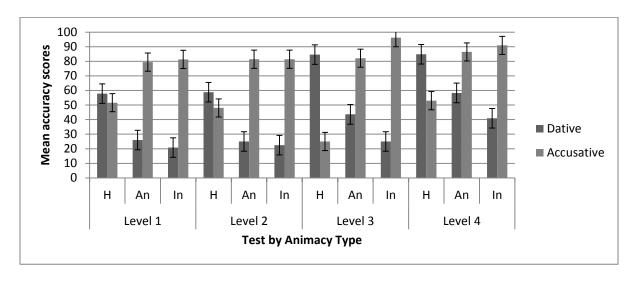


Figure 25. Mean pre-test accuracy scores by Animacy, Case, and Level for the Control group 158

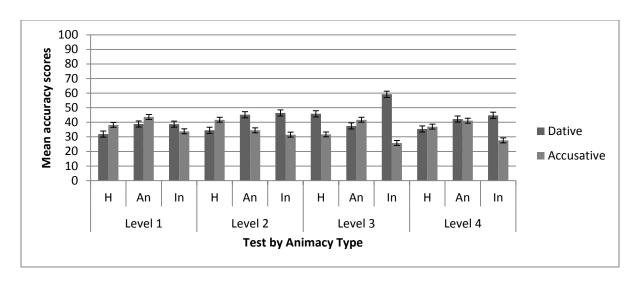


Figure 26. Mean post-test accuracy scores by Animacy, Case, and Level for the Instructed group

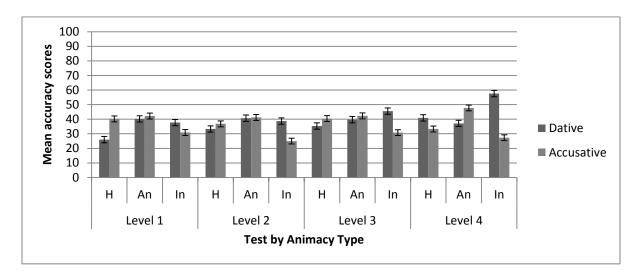


Figure 27. Mean post-test accuracy scores by Animacy, Case, and Level for the Control group

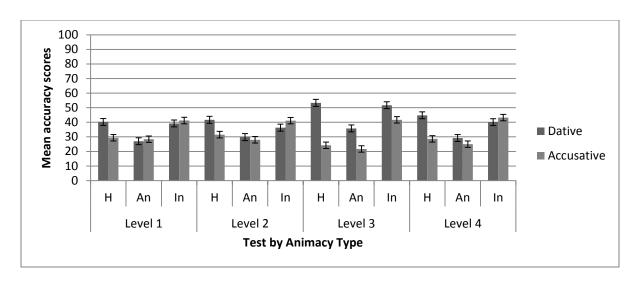


Figure 28. Mean delayed post-test accuracy scores by Animacy, Case, and Level for the Instructed group

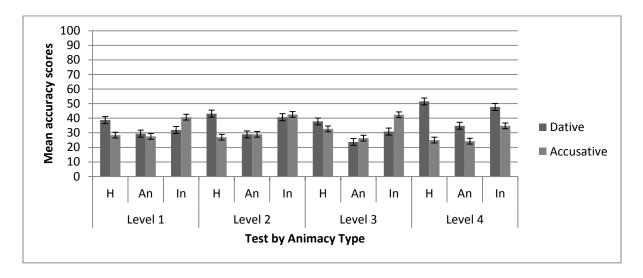


Figure 29. Mean delayed post-test accuracy scores by Animacy, Case, and Level for the Control group

The results presented in this section converge with the sentence-completion task, suggesting that it is time or some aspect of the tests themselves rather than instruction that affects learners' POC distinctions. Participants' accuracy scores did not pattern in a way that is predicted if instruction is effective in aiding students towards a Case-based POC system. The non-significant effects between groups and at different test times indicate that instruction did not make a difference for the instructed group. This result was also consistent across proficiency levels. The significant interactions of Animacy by Case across test times that were further explored suggest that over time, learners may be able to produce dative POCs referring to animate and inanimate entities. Like the results from the sentence-completion task, the non-significant difference between human referents in accusative contexts and human referents in dative contexts at the pre-test indicates that learners already understood that accusative POCs can refer to humans.

In order to verify that the results of the cloze task as well as the sentence-completion task were not deceiving, namely that there was actually no difference between the instructed group and the control group, and that participants were actually completing the tasks and not randomly choosing answers, three sub-sections of the participants were submitted to the same statistical tests. Accuracy on the distractor items of the sentence-completion tasks was used as a measure to separate the sub-sections. Analyses were performed on the response accuracy of the sentence-completion task and the cloze task only including participants that scored above certain accuracy percentages on the distractor items. The three sub-sections were participants whose accuracy on the distractor items was at least 70 percent accurate, at least 75 percent accurate, and at least 80 percent accurate. All other participants were not included in the analyses.

The results of the analyses of these sub-sections of participants supported the overall results presented in this section (6.3). All of the analyses for each of the sub-sections of participants produced the same results with respect to the statistical significance or insignificance of the ANOVAs presented in this section.

6.3.4 Extension Activities

The extension activities (see Appendix F) were collected from fifty of the fifty-seven participants in the instructed group. This was due to the majority of the Level 3 instruction class not handing in the homework to their instructor, leaving only four participants from this group. Although analyses included these participants, the results from these three participants are not necessarily representative of Level 3 in general. Tokens were coded for their Animacy and Case features (regardless of formal realization). Because the task prompts did not elicit reference to animals in the open-ended writing, only human and inanimate referents were found. This produces the categories human-dative, human-accusative, inanimate-dative, and inanimate-accusative. Also, because number and gender are not part of this study, plural POCs were grouped with their singular counterparts and *lo* was combined with *la*. Table 31 shows the number of tokens produced for each form, the mean, and the standard error by each Level.

Table 31. Descriptive statistics for POC use

	Level 1		Level 2		Level 3		Level 4	
	le	lo/la	le	lo/la	le	lo/la	le	lo/la
Total tokens	19	108	15	88	0	25	23	196
Mean	1.12	6.35	1.07	6.36	0.00	6.25	4.44	12.19
SE	0.44	0.71	0.57	1.14	0.00	2.56	0.70	1.26

As seen in Table 31, participants at all levels used a considerably higher number of accusative POCs than dative POCs. A total of 474 POCs were used with le comprising 12.02% (57) of the total and lo/la comprising 87.97% (417) of the total. Level 4 participants used a higher number of POCs overall than the other groups. One-way between subjects ANOVAs performed on usage of le and usage of lo/la showed no differences between levels on the usage of le and a significant difference among the levels on the usage of lo/la, F (3, 47) = 7.095, p < .001, η_p^2 = .312. A post-hoc test using a Bonferroni adjustment revealed that Level 4 participants used lo/la a significantly higher amount than Level 1 and Level 2 (ps < .03). All other comparisons were not significant. These results show that participants used le slightly over seven times less than they used lo/la.

A distributional analysis was performed to test whether Animacy or Case affect the use of Spanish POCs. Table 32 presents the percentages and number of tokens produced for each POC form in each Animacy/Case category by Level.

Table 32. Distribution of POCs used by Animacy and Case

	HD	HA	ID	IA
Level 1 (127)				
le (19)	0(0)	0(0)	73.68%(14)	26.32%(5)
lo/la (108)	0(0)	0(0)	5.56%(6)	94.44% (102)
Level 2 (103)				
le (15)	0(0)	0(0)	20.00%(3)	80.00%(12)
lo/la (88)	0(0)	2.27%(2)	5.55%(4)	93.18%(82)
Level 3 (16)				
le (0)	0(0)	0(0)	0(0)	0(0)
lo/la (25)	0(0)	0(0)	0(0)	100.00% (25)
Level 4 (219)				
le (23)	17.39%(4)	4.35%(1)	65.22%(15)	13.04%(3)
lo/la (196)	0(0)	0(0)	2.55%(5)	97.45%(191)

Note. H=Human, I=Inanimate, D=Dative, A=Accusative

As seen in Table 32, learners are generally using Case to distinguish Spanish POCs in open-ended writing tasks. However, Level 2 participants appear to be extending *le* to accusative contexts with inanimate referents; Level 1 participants also do this to a degree. One caveat to this data is that a majority of the *le* tokens came from a small number of participants. Of the twenty-three tokens from the Level 4 participants, fifteen were accurately produced by two participants. The other *le* tokens were very sparse (one per participant) and/or incorrectly used. Anecdotally, the two participants that accurately produced a high number of *le* tokens were consistently high performers among their peers in the class in which they were enrolled. The majority of the *le* tokens produced by the Level 2 participants were incorrect. Out of the fourteen participants in Level 2, only two had at least one accurate use of *le* and the one of these participants produced

the majority of his *le* tokens incorrectly. Six of the Level 1 participants produced *le* tokens and were generally accurate in their usage of this POC. Although it may appear that these results from the extension activities provide some evidence that learners are beginning to use a Casebased system for POC distinctions, the data provided by the participants is difficult to generalize because, in general, the *le* tokens were accurately produced by a reduced number of participants.

6.4 DISCUSSION

The aim of study 2 was to investigate the effectiveness of instruction on leading L2 learners of Spanish towards acquiring a Case-based pronominal object clitic system and preempt competition between Animacy and Case as cues for POC distinctions. Overall, the results of study 2 suggest that the PACE model of instruction was not any more effective than exposure to Spanish POCs in a variety of contexts through the tasks administered to test interlanguage grammar status. Although instruction may not have necessarily been beneficial to learners, there are a number of interesting findings that have theoretical and pedagogical implications. A discussion of how the results answer the research questions is presented in this section. Implications of these results are discussed in Chapter 7.

The first research question in Study 2 explored whether instruction leads learners to use a Case-based pronominal object clitic system rather than an Animacy-based pronominal object

clitic system. An important note is that it appears learners may have already had an interlanguage system partially based on Case. This detail will be further discussed at a later point. Results from the sentence-completion task and the cloze task suggest that instruction was not any more effective than an increased exposure to Spanish POCs. Both the control group and the instructed group displayed the same types of changes between the pre-test and the post-test as well as between the post-test and the delayed post-test. If an effect of instruction were evident, the group that received the instruction on Spanish POCs would have made the changes evident in the results, while the control group would have maintained their pre-test patterns with respect to Animacy and Case.

The second research question attempted to investigate any effect of instruction at a particular level of proficiency as the Teachability Hypothesis (Pienemann, 1984, 1989) predicts. The finding that the interactions of Animacy×Case×Time×Group were not significant at any proficiency level suggests that the instruction was not effective for any one proficiency level over another. It is possible that none of the participants in the study were at the level needed to be able to take advantage of the instruction provided. If this was the case with the participants in this study, it would also explain the lack of an effect of instruction in general.

One possible explanation for the lack of an effect of instruction is that more time in the classroom is needed in order for the PACE model of instruction to be effective. As mentioned in section 6.2.4, the instructional intervention felt rushed with the little time that was afforded for instruction. More time would allow for participants to process the instruction better and allow

them to better attend to the Spanish POCs under investigation and arrive at the native patterns in order to use them in their own language creation.

The third research question, whether instructional effects were robust, assumed positive results of the first research question, and is therefore unanswerable. However, the effect of time and exposure to Spanish POC forms in a variety of possible contexts evident in the sentence-completion task and the cloze task does indicate robust learning. Because the results of this study did show a reliable change in learners POC system over time, a discussion of these results is warranted.

At the pre-test the general pattern was that participants were more accurate with inanimate referents in accusative contexts than dative contexts, which is expected if these learners started out basing POC distinctions on Animacy as shown in Study 1; however, the human referents were more accurate in accusative contexts, suggesting that these learners were using a partial Animacy-based system at the beginning of this study. Results from the cloze task support this assertion since participants were significantly more accurate with animate and inanimate referents in accusative contexts than dative contexts. Although human referents were more accurate in dative contexts than accusative contexts at the pre-test, this difference was not significant. Therefore, participants generally appear to have already understood that *lo/la* can refer to *humans* in accusative contexts, and were not reserving these pronouns for non-human referents. The results of these two tasks also align with results from the open-ended extension

activities which were carried out during the instruction period. Learners appear to be confident in using accusative POCs to refer to inanimate objects.

All participants showed an increase in accuracy from the pre-test to the post-test with animate and inanimate referents in *dative* contexts. As indicated by the results of both tasks, but especially the cloze task, accuracy subsequently *decreased* overall at the post-test. Although a decrease in accuracy usually does not indicate an improvement, this is actually an important result. This decline in accuracy, along with the leveling effect across Animacy types, is indicative of a change in the way learners are processing Spanish POCs. That the particular differences between dative and accusative contexts among Animacy types becomes non-significant in the cloze task, except for a switch in the direction of significance for inanimate referents, shows that learners are beginning to understand that the dative POC can also refer to animals and inanimate objects as well as humans. This result is indicative of a preemption of the natural tendency to form a full Animacy-based system for *le* as was found in Study 1. The significant increase in accuracy with animate referents in dative contexts for the sentence-completion task and with inanimate referents in dative contexts for the cloze tasks supports this suggestion.

The increase in the accuracy with animate and inanimate referents in dative contexts on the sentence completion task evident at the post-test continues in the delayed post-test, especially for the inanimate referents. This increase indicates that, with more input from the test itself, learners have now fully accepted that *le* can refer to animals and inanimate objects. The results

from the cloze task at the delayed post-test also support the suggestion that learners have accepted the use of le with objects other than humans in dative contexts. There was no significant difference found between animate and inanimate referents at the delayed post-test which is indicative of the beginnings of a Case-based system for le. The results regarding the human referents indicate that learners accept that lo/la can refer to humans as well as le, however, they are still more confident using le when referring to humans than lo/la. Although the design of this study did not consider greater duration of time, another test, further in the process of acquisition for these learners, could possibly show that they will have successfully formed a fully Case-based system.

There are at least two interesting observations to be made with respect to the results of this study. One observation is that instruction was not necessarily effective in leading learners to a Case-based system since the control group also made notable changes that aligned almost exactly with the instructed group. The question arises as to the source of the change of both groups. The most obvious answer is that both groups showed movement towards a Case-based system due to the nature of the tests used to measure the interlanguage grammar. Because prior studies have shown that learners have difficulty processing Spanish morphology (e.g., VanPatten, 1990, 1996, 2007), the tasks needed to force learners to process Spanish POCs in order to measure their interlanguage grammars. Therefore, the sentence-completion task as well as the cloze task may have constituted a type of computer-mediated processing instruction,

which was beneficial to both the instructed and the control group. ¹⁹ By forcing participants to process the Spanish POCs specifically, these tasks helped them to notice patterns in the input that they received and produced the effects seen in the results of the post-test and delayed post-test.

The sentence-completion task also provided a skewed input with regards to the three POC forms. As mentioned in section 4.2, the frequency of dative POCs referring to humans and of accusative POCs referring to inanimate objects is higher than the inverse situation in natural native speaker communication. The sentence-completion task balanced the presentation of POCs across Animacy Types and Case in order to facilitate statistical analysis. This balancing of POCs produced a higher frequency of accusative POCs referring to humans and dative POCs referring to inanimate objects than would be found in everyday speech and may have also affected the input that became intake for the participants.

The other interesting observation comes from the results of the extension activities that participants completed as part of the instructional intervention. These results showed that all learners are confident using accusative POCs to refer to inanimate objects. Although there is some usage of the dative POC to refer to inanimate objects by a few learners, the overwhelming majority of POCs used to refer to inanimate objects were accusative. Although the prompts for the extension activities were written to induce the use of both accusative and dative POCs,

¹⁹ Processing instruction (VanPatten & Cadierno, 1993; VanPatten & Oikkenon, 1996; VanPatten & Sanz, 1995) as originally conceptualized differs from what I am calling computer-mediated processing instruction. Processing instruction provides explicit feedback in order to force learners to processes the input whereas the tests in this study did not provide feedback.

learners generally avoided the use of the dative POC. This is not surprising since Zyzik (2006) reports a similar finding, and avoidance strategies have been documented for grammatical items that are difficult for learners to grasp (see Dagut & Laufer, 1985; Hulstijn & Marchena, 1989; Kleinmann, 1978; Kellerman, 1977; Schachter, 1974). In order to claim that learners are avoiding the use of the dative POC, they must have demonstrated knowledge of the form in question (Seliger, 1989) and it must be used frequently by native speakers in the same context (Kamimoto, Shimura, & Kellerman, 1992). Participants in this study have demonstrated some knowledge of the dative POC evidenced by the sentence-completion and cloze tasks. The cooking show videos used in the instructional intervention also show that native speakers use dative POCs in the same context.

The reason for the use of an avoidance strategy with the dative POC can be explained by influence from the L1 and the Subset Principle (Berwick, 1985). Because the object pronoun *it* in English is very similar to *lo/la* in Spanish, learners map the semantic and syntactic properties of *it* directly on *lo/la*. This, however, is only a subset of the properties that *lo/la* actually have. Therefore, learners use *lo/la* in a subset of their possible uses (i.e., with inanimate referents in accusative contexts). Other uses of Spanish POCs are not evident because the learners have not extended their grammars to the native grammar because they have not received enough positive evidence to do so at least at the point of the extension activities. This subset grammar makes using Spanish POCs difficult for L2 learners and they therefore avoid using POCs that extend beyond their current grammar due to inadequate input. Although the extension activities showed

possible avoidance strategies, the tasks of this study meant to measure participants' interlanguage grammar effectively extended the meaning of *le* from only having human referents to include non-human referents as well. This change was effectuated through the forced processing of the POCs in the test materials, but at the same time introduced some confusion into the system.

One last point about the learner POC patterns in this study is that learners appear to have understood, at least in part, that the accusative POCs could refer to referents of all Animacy types, but reserved the dative POC for human entities. As mentioned in section 5.4.2.1, the locative meaning of the dative pronoun may be marked in comparison to prototypical dative uses in Romance languages. As far as I am aware, only in Spanish is this locative meaning available with dative POCs. Because it is a marked form-meaning relationship, learners do not pick up on it in the input without aid in processing this possibility. Evidence from the post-test and delayed post-tests of this study suggest that the tasks effectively led students to better understand this meaning for the dative POC.

7.0 CONCLUSIONS

The overall purposes of this dissertation were to explore the development of L2 Spanish learners' knowledge of Spanish pronominal object clitics in university-level Spanish language classes in the United States. Study 1 explored proposals that without specific instructional intervention, learners develop an Animacy-based rather than a Case-based system. Study 2 investigated the effect of instruction on Spanish POC distinctions.

This dissertation contributes to the research on the acquisition of Spanish pronominal object clitics by L2 learners in a university setting. Little prior research has been conducted on the acquisition of Spanish POCs. Most research involving Spanish POCs focuses on placement and word order as well as dialectal variation and functional categories of dative POCs. This dissertation contributes to the Spanish POC literature by viewing acquisition from a processing standpoint and expands upon Zyzik's (2006) findings by including accusative POCs, which she did not include in her study. Aside from the contributions to our understanding of Spanish POC interlanguage systems that this dissertation makes, it also contributes to instructed SLA research by investigating the effect of instruction on Spanish POC distinctions and therefore on the effect

of instruction on the acquisition of the abstract representation of Case. The main findings of this dissertation are reiterated and discussed in this chapter in sections 7.1-7.3. Following the main findings, section 7.4 presents suggestions for future research. Section 7.5 summarizes and concludes this dissertation.

7.1 ANIMACY OR CASE?

The first main finding of this dissertation relates to whether learners are using Animacy or Case to process and produce Spanish POCs. Results of Study 1 suggest that, although Case is a competing cue, lower proficiency learners base their interpretation and use of Spanish POCs on Animacy, in particular for *le*. This finding was attained through the sentence-completion and cloze tasks in Study 1 as well as the same tasks performed in the pre-test of Study 2. The extension activities collected from the participants in Study 2 also support this claim.

For study 1, accuracy and reaction time data were collected from the sentence-completion task and analyzed in order to see whether L2 learners base Spanish POC interpretations on Animacy or Case. The percent usage of each POC type in the responses on the cloze task items was also calculated for each Animacy-Case category in order to investigate whether production was based on Animacy or Case. For study 2, accuracy data were collected for the sentence-completion task as well as the cloze task because the purpose of Study 2 was to investigate the

effect of instruction on the interlanguage POC system. These data also supported the data collected in Study 1. The extension activity data was collected in order to investigate how learners used POC in a more open-ended context. Mixed ANOVAs revealed significant interactions between Animacy and Case. Further simple comparisons indicated that learners generally connect the dative POC *le* with human referents more than other types of referents in interpretation and production tasks. The distributional analysis performed on the extension activities revealed that learners were much more confident in using accusative POCs to refer to inanimate objects than any other type of POC or referent.

Taken together, results from these tasks suggest that Animacy plays a significant role in the L2 acquisition process of Spanish POCs because of the cue availability of Animacy in the input. However, it is also important to note that Case is not completely ignored. The results from all of the tasks show that Case also influences POC distinctions in these L2 learners. This is especially true for the most advanced L2 learner participants included in this dissertation—the Level 4 learners in Study 1.

7.1.1 Theoretical Implications

The overall results of Study 1 and the pre-test of Study 2 support some of the suggestions made by the Shallow Structure Hypothesis (Clahsen & Felser, 2006a, 2006b, 2006c). The participants in Study 1 appear to be building a formal grammar based on processing semantic cues, Animacy

in this case, due in part to the cue availability of Animacy in the input. As the SSH predicts, results from the sentence-completion tasks showed that learners, in the main, do not base interpretation of Spanish POCs on a Case-based system. The claims made by Clahsen and Felser are that L2 learners rely heavily on 'shallow' processing strategies because they do not possess the abstract representation required to carry out 'deeper' processing strategies or strategies base on abstract grammatical constructs. Therefore, it stands to reason that most of the learners in Study 1 had not completely acquired the abstract representation of Case needed to process Spanish POCs according to the native grammar. Because of this lack of representation, learners must resort to lexical-semantic features that are clearly interpretable from the input. The natural frequency of dative POCs referring to humans and accusative POCs referring to inanimate objects as attested in native Spanish corpora, learners rely on Animacy to interpret Spanish POCs. This interpretation of the input then leads them to base their POC production on Animacy instead of Case as evidenced by the cloze tasks in this dissertation.

In light of the results of this dissertation with respect processing and how processing influences the creation of an interlanguage grammar, learners appear to interpret and use formal distinctions that are, in the native language, considered to mark Case as something entirely different. Instead of depending on syntactic features of the predicate to determine formal POC distinctions, learners depend on semantic features of the logical referent. Thus, learners are marking a semantic agreement (Corbett, 1979) instead of the structural relationship of Case marking. This is especially true for the locative meaning of the dative POC.

7.2 DIFFERENCES AMONG PROFICIENCY LEVELS

An important detail on the differences between proficiency level divisions between studies is needed before explaining the second main finding of this dissertation in order to make the finding clearer. The proficiency level divisions of Study 1 and Study 2 are not exactly the same. The participants in Study 1 were all one level higher than those in Study 2. That is to say, the Level 1 participants in Study 1 were equivalent to the Level 2 participants in Study 2. The reason for this difference between the studies is that learners at the Level 1 participants in Study 2 had not yet received instruction on POCs in their regular Spanish classes. Investigating learners that had not yet received instruction was important for testing the effect of instruction for learners early in the acquisition process. Including highly advanced participants in Study 2 was not a possibility in this dissertation since intact Spanish classes at the University level were used for the instructional intervention. It was also expected that the proficiency levels included in Study 2 were sufficient to show an effect of instruction.

The second main finding of this dissertation builds upon the first main finding. While results of Study 1 showed that learners generally base Spanish POC distinctions on Animacy, this was mainly true for the lower proficiency learners. Results of Study 1 provided evidence that the most advanced learners did show indications of acquiring a Case-based POC system. This result, like the first main finding, was attained through the sentence-completion and cloze tasks of Study 1. Again, for study 1, accuracy and reaction time data were collected from participants

at different proficiency levels completing the sentence-completion task and analyzed in order to see whether the relative influence of Animacy and Case on L2 learner interpretations of POCs changed as proficiency increased. The percent usage of each POC type taken from the responses of the cloze task items was also calculated for each Animacy-Case category and compared across proficiency levels in order to investigate whether the influence of Animacy and Case on L2 learner production changed as proficiency increased.

Mixed ANOVAs and simple comparisons for each level revealed that, although Animacy still influenced accuracy and interpretation, the Level 4 participants were more accurate with both Cases and there was no statistical significance between animate referents in accusative and dative contexts. The RT data showed no difference between Cases for human referents and animate referents for the Level 3 and Level 4 participants. The results of the cloze task were clearer as to the difference in the influence of Animacy and Case among the proficiency levels. Levels 1-3 performed similarly, showing a heavier influence of Animacy; whereas the Level 4 group began to base extend the use of *le* to inanimate referents. This change in the Level 4 participants is evidenced by the decrease in percent use of *le* with humans referents and *lo/la* with animate and inanimate referents and an increase in percent use of *le* with animate and inanimate referents and *lo/la* with humans referents.

Overall, results from these tasks suggest that the higher proficiency learners did process Spanish POCs, at least in part, using Case while the lower proficiency learners used Animacy as the primary cue. The more advanced participants also began to distinguish Spanish POCs in their production based on Case distinctions. These results indicate that, although Animacy is influential at all proficiency levels, higher proficiency levels are able to acquire the abstract representation necessary to use a Case-based processing strategy. Again, it may be that learners in the second study are at an intermediate state where they use Case to for the accusative POCs, but reserve dative POCs for humans. After time or instructional intervention, they are able to extend the use of the dative POC to inanimate referents.

7.2.1 Theoretical Implications

Although the overall results of Study 1 and the pre-test of Study 2 support the Shallow Structure Hypothesis (Clahsen & Felser, 2006a, 2006b, 2006c), results for Level 4 learners of Study 1 suggest that the SSH may be limited to low and intermediate proficiency levels. The advanced learners are clearly on their way to overcoming their dependency on lexical-semantic cues and are shifting a Case-based grammar—effectively creating a formal system in spite of frequency and Animacy. This change ought not to be possible if learners only used non-structural cues for building an L2 grammar. It is important to note here that Clahsen and Felser (2006a) did call for more advanced learners to be studied and results from the Level 4 group in Study 1 suggest that the SSH does not fully apply to the very advanced proficiency levels.

That the Level 4 learners showed evidence of a Case-based grammar, which relies on syntactic structure, is suggestive that they are not completely dependent on shallow processing as

the SSH posits for less proficient learners. These learners demonstrate usage of deeper processing strategies which is only possible if they have access to an abstract, structural representation. Although these results do not completely refute the SSH, a tentative attenuation of the SSH can be posited. Learners in early stages of acquisition do rely on lexical-semantic information for the reasons stated in the SSH and because learners' limited processing resources a focus on meaning takes precedence to attending to form. However, after learners are able to begin attending to form, they do formulate an abstract, structural representation and use it for deeper processing.

Similar to this finding, Foote (2012) also found that L2 Spanish learners did form representations of morphologically complex words and process them as such, also attenuating the SSH. In her study, even intermediate learners were able to do this with adjectives. One possible reason that she provides is that morphological richness, such as that evident in Spanish compared to English, may lead learners to decompose morphologically complex words. This decomposition then leads to the need for a structural representation. That lower proficiency participants in Study 1 of this dissertation did not process POCs base on Case may be because POCs, while arguably inflectional, are not morphologically complex. Thus, the amount of input and processing resources needed for grammar formation is greater.

With regards to Ullman's (2005) claim that, with much practice, L2 learners could eventually train their procedural system to process language similarly to L1 speakers, the results suggest that it is tenable. That the advanced learners were able to make POC distinctions based

on Case, indicates they are able to use the procedural system. The results of Study 1, however, should be considered to be exploratory in nature. More research that specifically addresses procedural knowledge versus declarative knowledge is needed to confirm these preliminary indications that L2 learners can use their procedural system when functioning in their L2.

7.3 INSTRUCTION

The last main finding of this dissertation relates to the effect of instruction on Spanish POCs. The goal of the instruction was to preempt (Rutherford, 1989) the Animacy-based system which had been suggested by Zyzik (2006) and confirmed in Study 1. Results of Study 2 suggest that instruction, at least the type of instruction use in Study 2, may not more effectively lead learners to acquire a Case-base system than time and exposure to Spanish POCs in a variety of contexts. This finding was attained through the sentence-completion and cloze tasks completed in the pretest, post-test, and delayed post-test by the L2 learners in Study 2.

For this study, accuracy was calculated for the sentence-completion and cloze tasks for each test. These accuracy scores were analyzed in order to investigate whether significant differences on the influence of Animacy and Case existed before and after the instructional intervention. Results from mixed ANOVAs indicated that, although there was a difference between the pre-test and post-test for all proficiency levels for the group that received the

instruction, this difference was very similar to the results from the control group. These results suggest that, although learners did show indications of preemption of an Animacy-based system for *le* in particular, this effect was not due to the instructional intervention in class, but rather 2 hours of exposure in pre-test and immediate post-test to a range of sentences that provided crucial input lacking in regular classrooms and forced learners to process that input.

That a change from a partially Animacy-based system regardless of whether instruction was received is evident necessitates an explanation. Based on these results, the preemption of an Animacy-based system does not entirely depend on instruction. Because these changes also did not vary with proficiency level, and therefore exposure time, duration of exposure to Spanish POCs cannot fully explain the results either.

7.3.1 Theoretical Implications

These results were largely unexpected due to other studies showing effects for instructions. For example, Toth (2000) showed positive effects for explicit instruction on the acquisition of the clitic *se* with a sample from the same population as this dissertation. There are at least two possible reasons for the different results between his study and the current study. The first is that participants in Toth (2000) received a full week of instruction that focused on different aspects of the target grammatical concept. This contrasts with the two days of instruction received by the

participants in the current study. With a full week of instruction, the participants in the instructed group of this study may have shown greater differences than the control group.

The other possible reason for the different results are that, while it is possible to make a find-grained division of the meanings of the clitic *se* as Toth (2000) does (reflexive, reciprocal, impersonal, passive, anticausative, anticuasative with direct object pronoun, and with verbs of emotion), many of these meanings are very similar and are sometimes indistinguishable in communication (e.g., impersonal, passive, verbs of emotion). Excluding the reflexive, reciprocal, and anticuasative with direct object pronoun meanings, *se* merely de-emphasizes the subject of the sentence and could be internalized as one meaning by the learner. This would also make the learners' task less difficult than it may seem. The important point is that with *se*, learners must attach multiple meanings to a single form, whereas with Spanish 3rd person POCs, learners must acquire form-meaning mappings that are more complicated and are influenced by the input frequencies as discussed herein. Because Spanish 3rd person POCs are arguably more complicated than *se*, instruction received may have been sufficient for Toth's participants and not sufficient for the participants in this dissertation.

Aside from the differences found between the results of study 2 and Toth's (2000) study, another possible explanation for the preemption of an Animacy-based system for both participant groups is that the tests themselves constituted a type of computer mediated processing instruction. The nature of both tasks that constituted the tests required participants to process the POCs in order to assure that the data collected would be based on POCs processing and not any

extraneous variables. The fact that processing was obligatory for the completion of the tasks, combined with the higher frequency of dative POCs referring to inanimate objects and accusative POCs referring to humans, compared to natural frequencies, could have led to a realization that Spanish POC distinctions are not based on the Animacy of the referent. This possibility is in line with Processing Instruction (VanPatten & Cadierno, 1993; VanPatten & Oikkenon, 1996; VanPatten & Sanz, 1995). The results of Study 2 suggest that the act of completing the tasks obligated participants to process POCs in a variety of Animacy-Case contexts. This processing led learners to realize that le is not reserved for humans, but can also refer to inanimate objects. After this realization, learners become less accurate overall because at this point they are reevaluating the way they distinguish POC forms and begin testing hypotheses once more. If this sequence accurately describes the development through which learners progress, a possible end result would be a Case-based POC system. At the time of the delayed post-test, this proposed process has not been completed. Additional time and exposure may be necessary to carry learners to a fully formed Case-based system. One question that the results of Study 2 raise is whether a Case-based system of Spanish POCs is in fact 'teachable'. Because normal instruction does not appear to preempt an Animacy-based system that develops naturally in instructed SLA, the results of Study 1, and the PACE model of instruction did not show any difference in how learners distinguish Spanish POCs compared to a control group, the type of information required for Spanish POCs may not be teachable at the levels of proficiency that Study 2 examined. Following the Teachability Hypothesis (Pienemann, 1984, 1989),

learners in Study 2 may not be proficient enough for instruction to make a difference. If this is true, at only very advanced proficiency levels would Spanish POCs be teachable and at that level of proficiency, learners are usually at the point where they do not receive instruction because they are deemed native-like in their overall Spanish performance. A longitudinal study of the effects of the mediated processing instruction that the test used in both studies may provide would prove helpful in understanding if this type of instruction proves beneficial to lower proficiency learners after a longer time has passed.

Another question that results of Study 2 raise is the type of input is sufficient for the acquisition of Spanish POCs. As these results suggest, comprehensible input (Krashen, 1981, 1982, 1992, 1993), is not sufficient. According to Goldberg and Casenhiser (2008), providing a skewed distribution of prototypical form-meaning mappings (i.e., more prototypical mappings than non-prototypical mappings) facilitates the acquisition of such forms. However, the input, in the case of Spanish POCs, may require a skewed distribution of form-meaning mappings in order to lead learners away from the more available cue in the input (Animacy) to the more reliable cue (Case). The tasks in both studies of this dissertation provided a balanced distribution of dative and accusative POCs with different Animacy types. This distribution is skewed with respect to the naturally occurring frequency of Spanish POCs in different Animacy-Case contexts and favors a non-prototypical form-meaning mapping. The input learners receive may also need to require learners to process the target grammatical structure in both meaning and

form as VanPatten and his colleagues (VanPatten & Cadierno, 1993; VanPatten & Oikkenon, 1996; VanPatten & Sanz, 1995) claim in order to be sufficient for uptake.

7.4 SUGGESTIONS FOR FUTURE RESEARCH

The results from the two studies in this dissertation not only answer the research questions posed herein, but also motivate future research in order to better understand the acquisition of Spanish POCs. As mentioned in section 7.3.1, a longitudinal study might reveal whether the computer-mediated processing instruction from the tasks of Study 2 is successful leading learners to a fully Case-based system. Preemption of an Animacy-based system is evident in the results of study 2, but a longitudinal study is necessary to investigate the success of this instruction to the eventuality of a Case-based system.

Also, one possible weakness of Study 2 is the difficulty discovered in utilizing the PACE model of instruction within the confines of a university-level Spanish curriculum. The normal amount of time spent on Spanish POCs at the university level is approximately two days with the possible addition of a limited review before an exam that includes Spanish POCs among other grammatical structures. While Spanish POCs may be covered again during a subsequent semester, this instruction usually includes the use of dative and accusative POCs together. Because of this limited amount of time spent on Spanish POCs in the classroom, finding time in

the curriculum where I could teach Spanish POCs proved difficult. Therefore, the lack of an effect for instruction may be partially due to the limited amount of time available for PACE instruction and not the value of PACE instruction itself. Because of this weakness, it would be interesting to investigate whether a longer amount of time spent utilizing the PACE model of instruction would show clearer results.

Another possible direction for future research is to investigate how heritage speakers process and use Spanish POCs. Montrul (2010) compared heritage speakers and L2 learners with native speakers on their use of Spanish POCs with respect to placement. She found that heritage speakers use POCs in a more similar way to native speakers than do L2 learners. As she states, this use may be due to different learning contexts, but may not reveal much about possible differences in linguistic knowledge of POCs. A study similar to Study 1 of this dissertation which included heritage speakers would shed light on possible differences in linguistic knowledge that exist between heritage speakers and L2 learners. Studies comparing heritage speakers and L2 learners have also shown that these two groups generally perform similarly on morpho-syntactic tests, but that core grammar phenomena are more stable than interface phenomena (Montrul, 2004, 2005, 2006, 2009). Testing heritage speakers on how they treat POCs would be an innovative approach to further testing this hypothesis.

Aside from testing heritage speakers, investigating how the input presented in the tasks led to the preemption of an Animacy-based system is also important and would have pedagogical implications. One possibility is that the skewed distribution of POCs aided the realization that

POC distinctions are not based on Animacy. Goldberg and Casenhiser (2008) based there claim that providing a skewed distribution in favor of prototypical form-meaning mappings facilitates the acquisition of such forms on studies that mainly investigated L1 acquisition or artificial language acquisition. They state that "[t]he studies discussed in this chapter have clear, but as yet untested, implications for second language learning and pedagogy" (p. 210). Also, the focus of these studies was skewing the input of prototypical form-meaning mappings. Thus further investigating the usefulness of skewing the input in favor of non-prototypical forms, such as accusative POCs referring to inanimate objects, is needed.

Finally, future research should empirically test the possibility that the tasks used in both studies of this dissertation produce comparable results to processing instruction. Although I have suggested herein that the tasks constitute a computer-mediated processing instruction, further evidence of this claim is necessary in order to confirm this possibility. Such research would solidify the pedagogical implications of this dissertation. Due to the current movement towards online classes, the possibility of computer mediated processing instruction is promising for language learners and teachers facing the challenge of universities asking for more online courses.

7.5 SUMMARY AND FINAL CONCLUSIONS

This dissertation has provided evidence that the Shallow Structure hypothesis may be limited to lower-proficiency learners and that advanced learners are capable of acquiring an abstract representation regarding Spanish POCs based on Case. Only the most advanced learners of Study 1 showed indications of moving away from an Animacy-based POC system to a Case-based POC system. Study 2 of the dissertation also provided evidence that instruction may not be any more effective than exposure to a skewed distribution of Spanish POCs compared to naturally occurring frequencies and the obligation to process POCs. Results from Study 2 also indicated that this effect did not change among different levels of proficiency.

These findings reveal the importance of processing input in order to create a native-like grammar. Processing input based on naturally occurring frequencies (or not processing input at all), may lead learners towards a misguided interlanguage grammar. After years of practice and continual exposure to the L2, learners may begin to alter their interlanguage grammar to closer approximate the target language. Therefore, a skewed distribution in the input and the obligatory processing of the target feature, which is more marked in this case, may be necessary to aid learners in acquiring a more native-like grammar in a shorter amount of time. These findings are important steps in understanding the bigger picture with regards to the L2 acquisition of Spanish POCs and the ability of L2 learners to acquire a native-like grammar. They also provide insight

into the usefulness of instruction and what type of instruction is necessary to facilitate the acquisition of a native-like L2 grammar.

APPENDIX A

STUDY 1 SENTENCE-COMPLETION TASK ITEMS

A.1 EXPERIMENTAL SENTENCES

Context sentence

Completion sentence

Rosa la pasó la pelota.

Human-Masculine-Dative

Rosa trajo flores para Juan.	Grammatical:	Rosa le dio las flores.
	Ungrammatical:	Rosa lo dio las flores.
		Rosa la dio las flores.
Rosa compró un paquete para Juan.	Grammatical:	Rosa le trajo el paquete.
	Ungrammatical:	Rosa lo trajo el paquete.
		Rosa la trajo el paquete.
Rosa vio a Juan después de mucho tiempo.	Grammatical:	Rosa le ofreció un abrazo.
	Ungrammatical:	Rosa lo ofreció un abrazo.
		Rosa la ofreció un abrazo.
Juan quiere entrar pero Rosa tiene la llave.	Grammatical:	Rosa le dio la llave.
	Ungrammatical:	Rosa lo dio la llave.
		Rosa la dio la llave.
Rosa quiere pasar la pelota a Juan.	Grammatical:	Rosa le pasó la pelota.
	Ungrammatical:	Rosa lo pasó la pelota.

Human-Feminine-Dative

Juan trajo flores para Rosa. Grammatical: Juan le dio las flores.

Ungrammatical: Juan lo dio las flores. Juan la dio las flores.

Juan compró un paquete para Rosa. Grammatical: Juan le trajo el paquete.

> Ungrammatical: Juan lo trajo el paquete. Juan la trajo el paquete.

Juan encontró el collar para Rosa. Grammatical: Juan le puso el collar.

> Ungrammatical: Juan lo puso el collar. Juan la puso el collar.

Juan le dio la llave. Rosa quiere entrar pero Juan tiene la llave. Grammatical:

Ungrammatical: Juan lo dio la llave. Juan la dio la llave.

Grammatical: Juan le pasó la pelota. Juan quiere pasar la pelota a Rosa.

Ungrammatical: Juan lo pasó la pelota. Juan la pasó la pelota.

Animate-Masculine-Dative

Juan compró comida para el perro. Grammatical: Juan le dio la comida. Juan lo dio la comida.

Ungrammatical: Juan la dio la comida.

Rosa le dio la leche. Rosa recogió la leche para el elefante. Grammatical:

Rosa lo dio la leche. Ungrammatical: Rosa la dio la leche.

Juan le tiró la piedra. Grammatical: Juan tenía una piedra para tirar al oso.

Ungrammatical: Juan lo tiró la piedra. Juan la tiró la piedra.

Rosa le regaló la zanahoria. Rosa trajo una zanahoria para el caballo. Grammatical:

> Rosa lo regaló la zanahoria. Ungrammatical:

Rosa la regaló la zanahoria. Rosa le pasó la carne. Rosa tenía la carne para el león. Grammatical:

> Rosa lo pasó la carne. Ungrammatical:

Rosa la pasó la carne.

Animate-Feminine-Dative

Juan traía la comida para la vaca. Grammatical: Juan le dio la comida.

Ungrammatical: Juan lo dio la comida.

Juan la dio la comida.

Grammatical: Rosa le puso la bolsa. Rosa quería poner la bolsa en la vicuña. Ungrammatical:

Rosa lo puso la bolsa.

Rosa la puso la bolsa.

Rosa trajo la medicina para la rata. Grammatical: Rosa le administró la medicina. Ungrammatical: Rosa lo administró la medicina. Rosa la administró la medicina. Juan trajo el grano para la gallina. Grammatical: Juan le echó el grano. Ungrammatical: Juan lo echó el grano. Juan la echó el grano. Juan encontró un gusano para la rana. Grammatical: Juan le trajo el gusano. Ungrammatical: Juan lo trajo el gusano. Juan la trajo el gusano. **Inanimate-Masculine-Dative** Juan traía el agua para el árbol. Grammatical: Juan le echó el agua. Ungrammatical: Juan lo echó el agua. Juan la echó el agua. Juan tenía una decoración para el carro. Grammatical: Juan le colocó la decoración.

Juan tenía una decoración para el carro.

Grammatical:

Ungrammatical:

Juan le colocó la decoración.

Juan la colocó la decoración.

Juan la colocó la decoración.

Rosa quería agregar azúcar al postre. Grammatical: Rosa le agregó el azúcar.

Ungrammatical: Rosa lo agregó el azúcar. Rosa la agregó el azúcar.

Rosa trajo pintura para el camión. Grammatical: Rosa le derramó la pintura.

Ungrammatical: Rosa lo derramó la pintura. Rosa la derramó la pintura.

Juan tenía nuevo aceite para el motor.

Grammatical: Juan le puso el aceite.

Ungrammatical: Juan lo puso el aceite.

Juan la puso el aceite.

Inanimate-Feminine-Dative

Juan compró un disco para la computadora. Grammatical: Juan le metió el disco. Ungrammatical: Juan lo metió el disco.

Juan la metió el disco.

Se bajó el asiento de la bicicleta de Juan. Grammatical: Juan le ajusta el asiento.

Ungrammatical: Juan lo ajusta el asiento. Juan la ajusta el asiento.

Rosa compró un nuevo foco para la lámpara. Grammatical: Rosa le reemplazó el foco.

Ungrammatical: Rosa lo reemplazó el foco.

Rosa tenía fertilizante para la planta. Rosa la reemplazó el foco. Rosa tenía fertilizante para la planta. Grammatical: Rosa le dio el fertilizante.

Ungrammatical: Rosa lo dio el fertilizante.

Rosa la dio el fertilizante.

Rosa necesitaba pegar la cinta a la ventana. Grammatical: Rosa le pegó la cinta.

Ungrammatical: Rosa lo pegó la cinta.

Rosa la pegó la cinta.

Human-Masculine -Accusative

Juan tenía que llamar a Pedro. Grammatical: Juan lo llamó hoy.

Ungrammatical: Juan le llamó hoy. Juan la llamó hoy.

Juan buscaba a Pedro en la calle. Grammatical: Juan lo vio en la calle.

Ungrammatical: Juan le vio en la calle. Juan la vio en la calle.

Rosa buscaba a Juan en el parque. Grammatical: Rosa lo encontró en el parque.

Ungrammatical: Rosa le encontró en el parque. Rosa la encontró en el parque.

Rosa salió con su novio Juan. Grammatical: Rosa lo besó en la calle.

Ungrammatical: Rosa le besó en la calle. Rosa la besó en la calle.

Rosa quería la atención de Juan. Grammatical: Rosa lo tocó en el brazo.

Ungrammatical: Rosa le tocó en el brazo. Rosa la tocó en el brazo.

Human-Feminine-Accusative

Rosa buscaba a María en la calle. Grammatical: Rosa la encontró en la calle.

Ungrammatical: Rosa le encontró en la calle. Rosa lo encontró en la calle.

Rosa peleaba con María. Grammatical: Rosa la pateó en la pierna. Ungrammatical: Rosa le pateó en la pierna.

Rosa lo pateó en la pierna.

Juan tenía que llamar a Rosa. Grammatical: Juan la llamó hoy.

Ungrammatical: Juan le llamó por teléfono.

Juan lo llamó por teléfono.

Juan salió con su novia Rosa. Grammatical: Juan la besó en la cara. Ungrammatical: Juan le besó en la cara.

Ungrammatical: Juan le besó en la cara. Juan lo besó en la cara.

Juan buscaba a Rosa en el parque.

Grammatical: Juan la vio en el parque.

Ungrammatical: Juan le vio en el parque.

Juan lo vio en el parque.

Animate-Masculine-Accusative

Juan buscaba el perro.

Grammatical: Juan lo vio en la calle.

Ungrammatical: Juan le vio en la calle.

natical: Juan le vio en la calle. Juan la vio en la calle. Juan salió a cazar un oso. Grammatical: Juan lo encontró en la pradera.

Ungrammatical: Juan le encontró en la pradera.

Juan la encontró en la pradera.

Rosa quería tocar el caballo. Grammatical: Rosa lo tocó en la cabeza.

Ungrammatical: Rosa le tocó en la cabeza.

Rosa tenía que besar el elefante.

Rosa tenía que besar el elefante.

Rosa la tocó en la cabeza.

Rosa lo besó en la trompa.

Ungrammatical: Rosa le besó en la trompa. Rosa la besó en la trompa.

Rosa quería que su perro viniera ayer. Grammatical: Rosa lo llamó ayer.

Ungrammatical: Rosa le llamó ayer. Rosa la llamó ayer.

Animate-Feminine-Accusative

Rosa quería tocar la tortuga. Grammatical: Rosa la tocó en la espalda.

Ungrammatical: Rosa le tocó en la espalda. Rosa lo tocó en la espalda.

Rosa buscaba la rata. Grammatical: Rosa la encontró en su cabeza.

Ungrammatical: Rosa le encontró en su cabeza. Rosa lo encontró en su cabeza.

Juan tenía que ordeñar la vaca. Grammatical: Juan la ordeñó afuera.

Ungrammatical: Juan le ordeñó afuera. Juan lo ordeñó afuera.

Juan buscaba la vicuña en las montañas. Grammatical: Juan la vio en las montañas.

Ungrammatical: Juan le vio en las montañas. Juan lo vio en las montañas.

Rosa tenía que besar la rana. Grammatical: Rosa la besó en la cara. Ungrammatical: Juan le besó en la cara.

Juan lo besó en la cara.

Inanimate-Masculine-Accusative

Juan quería el dinero en el banco. Grammatical: Juan lo robó anoche. Ungrammatical: Juan le robó anoche.

Juan la robó anoche.

Juan necesitaba leer un libro. Grammatical: Juan lo leyó en el cuarto.

Ungrammatical: Juan le leyó en el cuarto. Juan la leyó en el cuarto.

Rosa quería manejar su carro. Grammatical: Rosa lo manejó en la calle.

Ungrammatical: Rosa le manejó en la calle.

Rosa la manejó en la calle.

Rosa quería tocar el árbol. Grammatical: Rosa lo tocó esta mañana.

Ungrammatical: Rosa le tocó esta mañana.

Rosa la tocó esta mañana.

Juan buscaba el calendario. Grammatical: Juan lo vio en la pared. Ungrammatical: Juan le vio en la pared.

Juan la vio en la pared.

Inanimate-Feminine- Accusative

Juan jugaba con una pelota. Grammatical: Juan la pateó duro.

Ungrammatical: Juan le pateó duro. Juan lo pateó duro.

Juan cocinaba la comida esta mañana. Grammatical: Juan la comió para la cena.

Ungrammatical: Juan le comió para la cena. Juan lo comió para la cena.

Rosa no sabía dónde estaba la computadora. Grammatical: Rosa la encontró en el salón.

Ungrammatical: Rosa le encontró en el salón.

Rosa encontró la puerta cerrada. Rosa lo encontró en el salón. Rosa la empujó para entrar.

Ungrammatical: Rosa le empujó para entrar.

Rosa lo empujó para entrar.

Juan buscaba la corbata para comprar. Grammatical: Juan la vio en la tienda.

Ungrammatical: Juan le vio en la tienda. Juan lo vio en la tienda.

A.2 DISTRACTOR SENTENECES

Context sentence

Completion sentence

Rosa trajo flores para Juan.

Rosa compró un paquete para Juan.

Rosa vio a Juan después de mucho tiempo. Juan quiere entrar pero Rosa tiene la llave.

Rosa trajo flores para Juan.

Rosa vio a Juan después de mucho tiempo.

Juan trajo flores para Rosa.

Juan compró un paquete para Rosa.

Rosa come empanadas. A Juan le gusta correr. Juan vive con Rosa. Rosa tiene un carro rojo.

Rosa tiene un carro rojo.

Juan corre cada día en el parque. A Juan le gusta comer chocolate.

Juan come empanadas. A Rosa le gusta correr.

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Juan encontró el collar para Rosa.

Rosa quiere entrar pero Juan tiene la llave.

Juan trajo flores para Rosa.

Juan encontró el collar para Rosa.

Juan compró comida para el perro.

Rosa recogió la leche para el elefante.

Juan tenía una piedra para tirar al oso feroz.

Rosa trajo una zanahoria para el caballo.

Juan compró comida para el perro.

Rosa recogió la leche para el elefante.

Juan traía la comida para la vaca.

Rosa quería poner la bolsa en la llama.

Rosa trajo la medicina para la rata.

Juan trajo el grano para la gallina.

Juan traía la comida para la vaca.

Rosa quería poner la bolsa en la llama.

Juan traía el agua para el árbol.

Juan tenía una nueva llanta para el carro.

Rosa quería ver algo diferente en el televisor.

Rosa trajo pintura para el camión.

Juan traía el agua para el árbol.

Rosa quería ver algo diferente en el televisor.

Juan compró un programa para la computadora.

Se bajó el asiento de la bicicleta de Juan.

Rosa compró un nuevo foco para la lámpara.

Se rompió la rama de la planta de Rosa.

Se bajó el asiento de la bicicleta de Juan.

Rosa compró un nuevo foco para la lámpara.

Juan tenía que llamar a Pedro.

Juan buscaba a Pedro en la calle.

Rosa buscaba a Juan en el parque.

Rosa salió con su novio Juan.

Juan tenía que llamar a Pedro.

Rosa buscaba a Juan en el parque.

Rosa buscaba a María en la calle.

Rosa peleaba con María.

Juan tenía que llamar a Rosa.

Juan salió con su novia Rosa.

Rosa peleaba con María.

Rosa es bailarina.

Juan tiene un carro azul.

Rosa tiene dos perros.

Rosa fue de compras esta mañana.

Juan es científico.

A Rosa le gustan la flores.

El oso como miel.

Las zanahorias son buenas.

Juan fue a la playa.

El elefante es grande.

La vaca tiene una becerra.

Rosa tiene un carro.

La rata come queso.

La gallina no sabe volar.

Juan no sabe manejar.

La llama vive en los Andes.

Juan quiere bailar esta noche.

El carro es negro con rayas blancas.

El televisor es un regalo.

Rosa sabe bailar salsa.

El árbol tiene ramas enormes.

Rosa enseña matemáticas.

La computadora es gris.

El asiento de la bicicleta es grande.

La lámpara es de moda.

Las hojas de la planta son verdes.

Juan es un futbolista.

Rosa come la cena a las ocho.

Pedro es periodista.

Juan vive en Madrid ahora.

Rosa vive en Ouito.

Juan tiene un asiento bueno.

Juan ya no vive en Buenos Aires.

El parque se construyó hace un año.

María fue al concierto ayer.

María es atleta.

Juan compró pan para la cena.

Juan es alto y flaco.

Rosa tiene tres perros.

Juan salió con su novia Rosa.

Juan buscaba el perro.

Juan salió a cazar un oso.

Rosa quería tocar el caballo.

Rosa tenía que besar el elefante.

Juan buscaba el perro.

Rosa quería tocar el caballo.

Rosa quería tocar la tortuga.

Rosa buscaba la rata.

Juan tenía que ordeñar la vaca.

Juan buscaba la llama en las montañas.

Rosa buscaba la rata.

Juan tenía que ordeñar la vaca.

Juan quería el dinero en el banco.

Juan necesitaba leer un libro.

Rosa quería manejar su carro.

Rosa quería tocar el árbol.

Juan necesitaba leer un libro.

Rosa quería manejar su carro.

Juan jugaba con una pelota.

Juan cocinaba la comida esta mañana.

Rosa no sabía dónde estaba la computadora.

Rosa encontró la puerta cerrada.

Juan cocinaba la comida esta mañana.

Rosa encontró la puerta cerrada.

Rosa es de México.

Al perro le gusta comer naranjas.

El oso come insectos.

El caballo ganó la carrera.

El elefante viene de África.

El perro morderá el gato.

Rosa mastica chicle.

La tortuga sabe nadar.

La rata tiene una cola rosada.

La vaca come pasto.

Las montañas son grandes.

Rosa tiene una computadora.

Juan tiene un escritorio.

Jaun tiene una rata en su brazo.

Juan quiere comprar un camión.

Rosa tiene un televisor grande.

El árbol es una planta.

El libro sabe a naranjas.

El carro tiene volante.

La pelota se usa para ping pong.

Juan es ciclista.

La computadora es un invento.

Rosa es la novia de Juan.

La comida es necesaria para vivir.

La puerta es como una pared.

APPENDIX B

STUDY 1 CLOZE TASK ITEMS

Ella	conduce en la calle. (carro)	El da la comida. (vaca)
Ella	cose el botón. (chaqueta)	Ella compra la corbata. (él)
Ella	quita la rama. (planta)	Él da la comida. (perro)
Él ve e	en la calle. (perro)	Él echa el agua. (árbol)
Ella to	ca en el brazo. (Miguel)	Ella reemplaza el foco. (lámpara)
Ella pa	atea en la cabeza. (león)	Él ajusta el asiento. (bicicleta)
Ella da	a la leche. (elefante)	Ella cambia el canal. (televisor)
Ella da	a las flores. (él)	Él llamó ayer. (Juan)
Él rega	ala el regalo. (ella)	Ella toca en la cabeza. (caballo)
Él con	npra la comida. (gato)	Él ve en la calle. (Pedro)
Ella to	ca hoy. (árbol)	Ella ve en la tienda. (falda)
Ella m	ató esta mañana. (araña)	Él carga el archivo. (computadora)
Él trae	el paquete. (él)	Él lee en el cuarto. (libro)
Ella be	esa en la trompa. (elefante)	Él trae el paquete. (ella)
Ella de	ejó la carne. (león)	Él da las moscas. (araña)
Él traj	o la comida. (rana)	Él golpea en la cabeza. (Miguel)

Él ve en la pared. (calendario)	Él rompió ayer. (ventana)
Él come para el almuerzo. (comida)	Él llamó hoy. (gato)
Ella pega la cinta. (ventana)	Él llama por teléfono. (Juanita)
Ella puso la bolsa. (llama)	Él compra el collar. (ella)
Él da las flores. (ella)	Él patea duro. (pelota)
Él da la llave. (ella)	Ella encuentra en el cuarto. (rata)
Ella echa el grano. (gallina)	Ella besa en la cara. (rana)
Ella regala el regalo. (él)	Él cambia el aceite. (carro)
Ella encuentra en la calle. (Rosa)	Ella regala la zanahoria. (caballo)
Él besa en la cara. (Rosa)	Él ve en el parque. (Margarita)
Él tira la piedra. (oso)	Él compró la llanta. (carro)
Ella toca en la espalda. (tortuga)	Ella encuentra en el parque. (Juan)
Él ve en las montañas. (llama)	Ella besa en la calle. (Pedro)
Él ordeña afuera. (vaca)	Ella compró el queso. (rata)
Él da la llave. (él)	Ella patea en la pierna. (Margarita)
Ella robó anoche. (banco)	Él come para la cena. (bistec)
Ella empuja para entrar. (puerta)	Ella pasa la pelota. (él)
Ella corta el césped. (jardín)	Él toca en el hombro. (Juanita)
Ella echa la pintura. (camión)	Ella encuentra en el salón. (computadora)
Él pasa la pelota. (ella)	Él encuentra en el bosque. (oso)

APPENDIX C

STUDY 2 SENTENCE-COMPLETION TASK ITEMS

C.1 EXPERIMENTAL SENTENCES

Context sentence

Completion sentence

Human-	-Masci	ıline-	Dative
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Rosa trajo flores para Juan.

Grammatical: Rosa **le** dio las flores.

Ungrammatical: Rosa **lo** dio las flores.

Rosa **la** dio las flores.

Rosa compró un paquete para Juan. Grammatical: Rosa **le** trajo el paquete.

Ungrammatical: Rosa lo trajo el paquete.

Rosa **la** trajo el paquete.

Juan quiere entrar pero Rosa tiene la llave. Grammatical: Rosa **le** dio la llave. Ungrammatical: Rosa **lo** dio la llave.

nmatical: Rosa **lo** dio la llave. Rosa **la** dio la llave.

Rosa quiere pasar la pelota a Juan. Grammatical: Rosa **le** pasó la pelota.

Ungrammatical: Rosa **lo** pasó la pelota. Rosa **la** pasó la pelota.

Human-Feminine-Dative

Juan trajo flores para Rosa. Grammatical: Juan le dio las flores.

Ungrammatical: Juan lo dio las flores.

Juan la dio las flores.

Juan encontró el collar para Rosa. Grammatical: Juan **le** puso el collar.

Ungrammatical: Juan lo puso el collar.

Juan **la** puso el collar.

Rosa quiere entrar pero Juan tiene la llave. Grammatical: Juan **le** dio la llave. Ungrammatical: Juan **lo** dio la llave.

Juan la dio la llave.

Juan quiere pasar la pelota a Rosa.

Grammatical: Juan le pasó la pelota.

Ungrammatical: Juan lo pasó la pelota.

Juan la pasó la pelota.

Animate-Masculine-Dative

Juan compró comida para el perro. Grammatical: Juan **le** dio la comida.

Ungrammatical: Juan **lo** dio la comida. Juan **la** dio la comida.

Rosa recogió la leche para el elefante. Grammatical: Rosa le dio la leche.

Ungrammatical: Rosa **lo** dio la leche. Rosa **la** dio la leche.

Rosa trajo una zanahoria para el caballo. Grammatical: Rosa **le** regaló la zanahoria.

Ungrammatical: Rosa **lo** regaló la zanahoria. Rosa **la** regaló la zanahoria.

Rosa tenía la carne para el león. Grammatical: Rosa **le** pasó la carne.

Ungrammatical: Rosa **lo** pasó la carne. Rosa **la** pasó la carne.

Animate-Feminine-Dative

Juan traía la comida para la vaca. Grammatical: Juan **le** dio la comida.

Ungrammatical: Juan **lo** dio la comida. Juan **la** dio la comida.

Rosa quería poner la bolsa en la vicuña. Grammatical: Rosa **le** puso la bolsa.

Ungrammatical: Rosa lo puso la bolsa.

Rosa **la** puso la bolsa.

Grammatical: Juan **le** echó el grano. Ungrammatical: Juan **lo** echó el grano.

Juan **la** echó el grano.

Juan encontró un gusano para la rana.

Grammatical: Juan **le** trajo el gusano.

Ungrammatical: Juan **lo** trajo el gusano.

Juan **la** trajo el gusano.

Inanimate-Masculine-Dative

Juan trajo el grano para la gallina.

Juan traía el agua para el árbol.

Grammatical: Juan **le** echó el agua.

Ungrammatical: Juan **lo** echó el agua.

Juan **la** echó el agua.

Juan tenía una decoración para el carro. Grammatical: Juan **le** colocó la decoración. Ungrammatical: Juan **lo** colocó la decoración. Juan **la** colocó la decoración. Rosa quería agregar azúcar al postre. Grammatical: Rosa **le** agregó azúcar. Ungrammatical: Rosa lo agregó azúcar. Rosa la agregó azúcar. Juan tenía nuevo aceite para el carro. Grammatical: Juan **le** puso el aceite. Ungrammatical: Juan **lo** puso el aceite. Juan la puso el aceite. **Inanimate-Feminine-Dative** Se bajó el asiento de la bicicleta de Juan. Grammatical: Juan **le** ajustó el asiento. Ungrammatical: Juan lo ajustó el asiento. Juan **la** ajustó el asiento. Rosa compró un foco para la lámpara. Grammatical: Rosa le cambió el foco. Ungrammatical: Rosa lo cambió el foco. Rosa la cambió el foco. Rosa compró fertilizante para la planta. Grammatical: Rosa **le** dio el fertilizante. Ungrammatical: Rosa lo dio el fertilizante. Rosa la dio el fertilizante. Rosa necesitaba pegar la cinta a la ventana. Grammatical: Rosa **le** pegó la cinta. Rosa lo pegó la cinta. Ungrammatical: Rosa la pegó la cinta. **Human-Masculine -Accusative** Grammatical: Juan tenía que llamar a Pedro. Juan **lo** llamó hoy. Ungrammatical: Juan le llamó hoy. Juan **la** llamó hoy. Juan **lo** vio en la calle. Juan buscaba a Pedro en la calle. Grammatical: Ungrammatical: Juan **le** vio en la calle. Juan **la** vio en la calle. Rosa buscaba a Juan en el parque. Grammatical: Rosa **lo** encontró en el parque. Ungrammatical: Rosa **le** encontró en el parque.

Grammatical: Ungrammatical:

Rosa salió con su novio Juan.

Rosa **la** encontró en el parque.

Rosa **lo** besó en la calle.

Rosa **le** besó en la calle. Rosa **la** besó en la calle. **Human-Feminine-Accusative**

Rosa buscaba a María en la calle. Grammatical: Rosa **la** encontró en la calle.

Ungrammatical: Rosa le encontró en la calle.

Rosa **lo** encontró en la calle.

Rosa peleaba con María. Grammatical: Rosa **la** pateó en la pierna.

Ungrammatical: Rosa le pateó en la pierna.

Rosa **lo** pateó en la pierna.

Juan salió con su novia Rosa. Grammatical: Juan **la** besó en la cara.

Ungrammatical: Juan **le** besó en la cara. Juan **lo** besó en la cara.

Juan buscaba a Rosa en el parque. Grammatical: Juan **la** vio en el parque.

Ungrammatical: Juan **le** vio en el parque. Juan **lo** vio en el parque.

Animate-Masculine-Accusative

Juan buscaba el perro.

Grammatical: Juan **lo** vio en la calle.

Ungrammatical: Juan **le** vio en la calle.

Ungrammatical: Juan **le** vio en la calle. Juan **la** vio en la calle.

Juan salió a cazar un oso. Grammatical: Juan lo encontró en la pradera.

Ungrammatical: Juan le encontró en la pradera.

Juan **la** encontró en la pradera. nte. Grammatical: Rosa **lo** besó en la trompa.

Rosa tenía que besar el elefante. Grammatical: Rosa **lo** besó en la trompa. Ungrammatical: Rosa **le** besó en la trompa.

Rosa **la** besó en la trompa.

Rosa quería que su perro viniera ayer. Grammatical: Rosa **lo** llamó ayer.

Ungrammatical: Rosa **le** llamó ayer. Rosa **la** llamó ayer.

Animate-Feminine-Accusative

Rosa quería tocar la tortuga. Grammatical: Rosa **la** tocó en la espalda.

Ungrammatical: Rosa **le** tocó en la espalda. Rosa **lo** tocó en la espalda.

Rosa buscaba la rata. Grammatical: Rosa **la** encontró en su cabeza.

Ungrammatical: Rosa **le** encontró en su cabeza. Rosa **lo** encontró en su cabeza.

Juan tenía que ordeñar la vaca. Grammatical: Juan **la** ordeñó afuera.

Ungrammatical: Juan le ordeñó afuera.

Rosa tenía que besar la rana.

Juan **lo** ordeñó afuera.

Rosa **la** besó en la cara.

Ungrammatical: Juan **le** besó en la cara.

Juan **lo** besó en la cara.

Inanimate-Masculine-Accusative

Juan necesitaba leer un libro. Grammatical: Juan **lo** leyó en el cuarto.

Ungrammatical: Juan **le** leyó en el cuarto.

Juan **la** leyó en el cuarto.

Rosa quería manejar su carro. Grammatical: Rosa **lo** manejó en la calle.

Ungrammatical: Rosa le manejó en la calle.

Rosa **la** manejó en la calle.

Rosa quería cortar el árbol. Grammatical: Rosa **lo** cortó esta mañana.

Ungrammatical: Rosa **le** cortó esta mañana. Rosa **la** cortó esta mañana.

Juan buscaba el calendario. Grammatical: Juan **lo** vio en la pared.

Ungrammatical: Juan le vio en la pared.

Juan **la** vio en la pared.

Inanimate-Feminine- Accusative

Juan jugaba con una pelota. Grammatical: Juan **la** pateó duro. Ungrammatical: Juan **le** pateó duro.

Juan **lo** pateó duro.

Juan cocinaba la comida esta mañana. Grammatical: Juan **la** comió para la cena.

Ungrammatical: Juan **le** comió para la cena. Juan **lo** comió para la cena.

Rosa encontró la puerta cerrada. Grammatical: Rosa **la** empujó para entrar.

Ungrammatical: Rosa le empujó para entrar.

Rosa lo empujó para entrar.

Juan salió para comprar la corbata. Grammatical: Juan **la** vio en la tienda.

Ungrammatical: Juan le vio en la tienda.

Juan **lo** vio en la tienda.

C.2 DISTRACTOR SENTENCES

Context sentence

Rosa trajo flores para Juan.

Rosa compró un paquete para Juan.

Rosa vio a Juan después de mucho tiempo.

Juan quiere entrar pero Rosa tiene la llave.

Rosa trajo flores para Juan.

Juan trajo flores para Rosa.

Juan compró un paquete para Rosa.

Juan encontró el collar para Rosa.

Rosa quiere entrar pero Juan tiene la llave.

Juan trajo flores para Rosa.

Juan compró comida para el perro.

Rosa recogió la leche para el elefante.

Juan tenía una piedra para tirar al oso feroz.

Rosa trajo una zanahoria para el caballo.

Juan compró comida para el perro.

Juan traía la comida para la vaca.

Rosa quería poner la bolsa en la llama.

Rosa trajo la medicina para la rata.

Juan trajo el grano para la gallina.

Juan traía la comida para la vaca.

Juan traía el agua para el árbol.

Juan tenía una nueva llanta para el carro.

Rosa quería ver algo diferente en el televisor.

Rosa trajo pintura para el camión.

Juan traía el agua para el árbol.

Juan compró un programa para la computadora.

Se bajó el asiento de la bicicleta de Juan.

Rosa compró un nuevo foco para la lámpara.

Completion sentence

Rosa come empanadas.

A Juan le gusta correr.

Juan vive con Rosa.

Rosa tiene un carro rojo.

Juan corre cada día en el parque.

Juan come empanadas.

A Rosa le gusta correr.

Rosa es bailarina.

Juan tiene un carro azul.

Rosa tiene dos perros.

Juan es científico.

A Rosa le gustan la flores.

El oso como miel.

Las zanahorias son buenas.

Juan fue a la playa.

La vaca tiene una becerra.

Rosa tiene un carro.

La rata come queso.

La gallina no sabe volar.

Juan no sabe manejar.

Juan quiere bailar esta noche.

El carro es negro con rayas blancas.

El televisor es un regalo.

Rosa sabe bailar salsa.

El árbol tiene ramas enormes.

La computadora es gris.

El asiento de la bicicleta es grande.

La lámpara es de moda.

Se rompió la rama de la planta de Rosa.

Se bajó el asiento de la bicicleta de Juan.

Juan tenía que llamar a Pedro.

Juan buscaba a Pedro en la calle.

Rosa buscaba a Juan en el parque.

Rosa salió con su novio Juan.

Juan tenía que llamar a Pedro.

Rosa buscaba a María en la calle.

Rosa peleaba con María.

Juan tenía que llamar a Rosa.

Juan salió con su novia Rosa.

Rosa peleaba con María.

Juan buscaba el perro.

Juan salió a cazar un oso.

Rosa quería tocar el caballo.

Rosa tenía que besar el elefante.

Juan buscaba el perro.

Rosa quería tocar la tortuga.

Rosa buscaba la rata.

Juan tenía que ordeñar la vaca.

Juan buscaba la llama en las montañas.

Rosa buscaba la rata.

Juan quería el dinero en el banco.

Juan necesitaba leer un libro.

Rosa quería manejar su carro.

Rosa quería tocar el árbol.

Juan necesitaba leer un libro.

Juan jugaba con una pelota.

Juan cocinaba la comida esta mañana.

Rosa no sabía dónde estaba la computadora.

Las hojas de la planta son verdes.

Juan es un futbolista.

Pedro es periodista.

Juan vive en Madrid ahora.

Rosa vive en Quito.

Juan tiene un asiento bueno.

Juan ya no vive en Buenos Aires.

María fue al concierto ayer.

María es atleta.

Juan compró pan para la cena.

Juan es alto y flaco.

Rosa tiene tres perros.

Al perro le gusta comer naranjas.

El oso come insectos.

El caballo ganó la carrera.

El elefante viene de África.

El perro morderá el gato.

La tortuga sabe nadar.

La rata tiene una cola rosada.

La vaca come pasto.

Las montañas son grandes.

Rosa tiene una computadora.

Jaun tiene una rata en su brazo.

Juan quiere comprar un camión.

Rosa tiene un televisor grande.

El árbol es una planta.

El libro sabe a naranjas.

La pelota se usa para ping pong.

Juan es ciclista.

La computadora es un invento.

APPENDIX D

STUDY 2 CLOZE TASK ITEMS

Ella conduce en la calle. (carro)	El ajusta el asiento. (bicicleta)
Ella cose el botón. (chaqueta)	Ella rompió esta mañana. (televisor)
Ella dio el fertilizante. (planta)	Él llamó ayer. (Juan)
Él ve en la calle. (perro)	Ella acarició ayer. (caballo)
Ella golpea en el brazo. (Miguel)	Él ve en la calle. (Pedro)
Ella patea en la cabeza. (león)	Ella ve en la tienda. (falda)
Ella da la leche. (elefante)	Él pone la vela. (torta)
Ella da las flores. (él)	Él lee ahora. (libro)
Él regala el suéter. (ella)	Él trae el paquete. (ella)
Él compra la comida. (gato)	Él da la fruta. (iguana)
Ella corta hoy. (árbol)	Él golpea en la cabeza. (Miguel)
Ella mató esta mañana. (araña)	Él rompió ayer. (ventana)
Él trae el paquete. (él)	Él llamó hoy. (gato)
Ella besa en la trompa. (elefante)	Él llama por teléfono. (Juanita)
Ella dejó la carne. (león)	Él compra el collar. (ella)

Él	_ trajo la comida. (rana)	Él patea duro. (pelota)
Él	_ ve en la pared. (calendario)	Ella encuentra en el cuarto. (rata)
Él	_ come para el almuerzo. (comida)	Ella besa en la cara. (rana)
Ella _	pega la cinta. (ventana)	Él pone el aceite. (motor)
Ella _	puso la mochila. (llama)	Ella regala la zanahoria. (caballo)
Él	_ da las flores. (ella)	Él ve en el parque. (Margarita)
Él	_ da la llave. (ella)	Él compró la llanta. (carro)
Ella _	echa el grano. (gallina)	Ella encuentra en el parque. (Juan)
Ella _	da el regalo. (él)	Ella besará mañana. (Pedro)
Ella _	encuentra en la calle. (Rosa)	Ella compró la alfalfa. (oveja)
Él	_ besa en la cara. (Rosa)	Ella patea en la pierna. (Margarita)
Él	_ tira la piedra. (oso)	Ella mete el marcador. (libro)
Ella _	vio en el lago. (tortuga)	Ella empuja para entrar. (puerta)
Él	_ ve en las montañas. (llama)	Ella echa azúcar. (postre)
Él	_ ordeña afuera. (vaca)	Ella coloca la decoración. (carro)
Él	_ da la llave. (él)	Él pasa la pelota. (ella)
Él	_ encuentra en el bosque. (oso)	Él come para la cena. (bistec)
Él	_ da la comida. (vaca)	Ella pasa la pelota. (él)
Ella _	compra la corbata. (él)	Él chocó en el hombro. (Juanita)
Él	_ da la comida. (perro)	Ella encuentra en el salón. (computadora)
Él	echa el agua. (árbol)	Ella cambia el foco. (lámpara)

APPENDIX E

INTERPRETATION STRATEGY TASK ITEMS

Main Sentence

Juan quería más azúcar para el café.

Rosa compró un reloj para Juan.

Rosa buscaba el gato en el bosque.

Rosa peleaba con María.

Juan trajo un paquete para Rosa.

Juan tenía agua para la botella.

Juan quería botar la basura.

Rosa tenía agua para el perro. Juan necesitaba llamar a Pedro.

Juan tenía que rescatar la vaca.

Rosa quería pintar el carro.

Juan tenía comida para la rana.

Options

Juan le/lo/la puso azúcar.

Rosa le/lo/la dio el reloj.

Rosa le/lo/la encontró en el bosque.

Rosa le/lo/la golpeó en la cara.

Juan le/lo/la regaló el paquete.

Juan le/lo/la puso el agua.

Juan le/lo/la botó esta mañana.

Rosa le/lo/la dio el agua.

Juan le/lo/la llamó anoche.

Juan le/lo/la rescató en la tarde.

Rosa le/lo/la pintó ayer.

Juan le/lo/la dio la comida.

APPENDIX F

MATERIALS FOR INSTRUCTIONAL INTERVENTION-INSTRUCTED GROUP

F.1 VOCABULARY WORKSHEETS

F.1.1 Accusative POC lesson (Direct Object Pronouns)

Divide las palabras de abajo en categorías. Puedes crear cuantas categorías que quieres.

Aceite de maní (peanut oil)	Auyamas (pumpkin)	Licuar (liquify)
Agregar (add)	Caldo (soup/broth)	Mezclar (mix)
Aguadito (soup/broth)	Camarón (shrimp)	Mitad (half)
Ají panca (type of chili)	Cangrejo (crab)	Receta (recipe)
Ajo (garlic)Mariscos (seafood)	Cebolla (onion)	Rico (delicious)
Almeja (clam)	Cucharada (tablespoon)	Tapar (cover)
Arándano (blueberry)	Cucharadita (teaspoon)	Taza (cup)
Arveja (pea)	Libra (pound)	Vieira (scallop)

F.1.2 Dative POC lesson (Indirect Object Pronouns)

Divide las palabras de abajo en categorías. Puedes crear cuantas categorías que guieres.

Almíbar (syrup)Esparcir (to spread out)Parrilla (grill)Aplanar (to level)Hornear (bake)Paquete (package)Batir (churn)Mantequilla (butter)Recipiente (container)

Consentir (to pamper) Maracuyá (passion fruit) Sellar (seal)

Cubierta (covering) Masa (dough) Triturada (crushed)

Derretida (melted)Mezclar (to mix)Truco (trick)Enfriar (to cool)Nevera (fridge)Verter (pour)

F.2 VIDEO TRANSCRIPTS

F.2.1 Accusative POC lesson (Direct Object Pronouns)

Vamos ahora acá a empezar con dos cucharadas de aceite de maní. Tengo acá si quieres puedes hacerlo con aceite vegetal. Vamos a decir que esos son dos cucharadas Vamos a ponerle una e... cebolla entera blanca finamente picada. A eso le vamos a agregar cuatro dientes de ajo, sal y pimienta y vamos a empezar lo que es el sofrito de estos ingredientes el sofrito que va luego a hacer el matrimonio con todos los ingredientes. Vamos a dejar que esto se vaya... cocinando, sofriendo, ablandando, mientras tanto voy a hacer la pasta de cilantro que eso es la base diría yo de este aguadito también.

Vamos a ponerle más a menos yo diría que una taza, venga que voy a quitar un poco más de esto para que inclusive en esta receta hasta los tallos del cilantro saben muy rico. Todo para dentro le vamos a agregar un cuarto de taza de agua y simplemente un poco de sal y de pimienta. Vamos a licuar. Eso va a ser la pasta de cilantro e... típico de lo que se utiliza para esta receta. Yo voy a agregar un poquito más de [inaudible] el caldo van a ser en total doce tazas las que van a ir adentro del aguadito así que... Bueno nuestra pasta de cilantro está lista. ¡Ay! qué rico huele la fragancia de cilantro. Les cuento que yo, sin cilantro, no sé, no podría vivir creo porque de verdad que lo utilizo... ustedes ya saben los que ven Delicioso que... la reina del cilantro. Además, yo no entiendo porque no es el día de la madre todos los días de verdad. Yo tengo hoy la bendición de estar mi madre acá en el estudio que más tarde la van a conocer que es una bendición tenerla ya que está muy lejos siempre y ahorita la tenemos aquí.

Bueno, les cuento, hablando del aguadito, ahora le vamos a agregar el ají panca. El ají panca viene siendo un ají rojo, peruano, seco convertido en pasta. Es... No es tan picos... picante em... en lo que es cuestión de ajís pero tiene mucho sabor casi como un sabor a am... arándanos diría yo. Eso fue una cucharada. Si no lo consigues en tu supermercado generalmente, hoy día por ejemplo aquí en Miami yo lo veo en muchos sitios, puedes buscar en una tienda de comida peruana o más fácil aún, vas en el internet, hay muchas compañías que lo venden, te lo mandan por correo a la casa, es un ingrediente económico, y, no sabes, lo puedes guardar en el 'freezer' y utilizarlo en veinte mil recetas. Me encanta. Esto fue una cucharadita de paprika. Bueno, y ahora lo único que nos falta son acá el caldo de pescado. Si no consigues caldo de

pescado en tu supermercado, hoy día lo hay en todo lado. Bueno esos fueron doce tazas de caldo. Ahora simplemente vamos a tapar y vamos a dejar cocinar un buen tiempo ya más adelante vamos a empezar a agregar todos los mariscos. Típica sopa peruana súper fácil de hacer.

Bueno, les cuento que lo siguiente que vamos a hacer es, yo ya previamente había puesto acá casi la base de este aguadito por cierto peruano y lo cual me acuerda hoy que en el cielo está mi bisabuela peruana donde me viera hoy preparando para el día de las madres un aguadito. Estoy segura que estaría muy contenta. Bueno, y aquí va tres cuartos de taza de arroz. Adentro habían doce tazas de caldo de...de pescado, tenía cebolla, tenía la pasta de cilantro, ají panca, acá viene una taza de arvejas, ahora le vamos a agregar una taza de auyamas (calabaza), y acá vienen dos mitades de un cangrejo con patas y todo, esto nos va a dar una cantidad de sabor y también veinte almejas. Esto huele muy rico ya vamos es... a taparlo, a dejarlo cocinar solito por treinta minutos, ya cuando le falten tres minutos, ahí, sí, le voy a agregar los mariscos y los calamares que esos toman tres minutos solamente.

E... mis platanitos ya están tostaditos y bien bonitos y ricos, y acá lo único que me falta es los últimos tres minutos de mi sopa peruana, mi aguadito de mariscos, sopa típica peruana. Le voy a agregar media libra de vieras que vienen siendo... en México se les conoce como callos de hacha. Acá va la media libra. Ahora esto todo que le voy a poner solo se cocina por tres minutos. Es lo único que necesita o se nos endurecen. Media libra de cam... calamares. Una libra de calamares tengo. Era media libra, la de vieras. Acá viene una libra de camarones. Vamos

simplemente ahorita a mezclar. Y les cuento que esto huele delicioso. Tengo unas ganas de probarlo. Lo voy a tapar tres minutos.

Vean esta delicia. Vamos acá a poner... servir un platado. Les cuento que no saben lo rico... vieron lo fácil que fue de hacer todo.

F.2.2 Dative POC lesson (Indirect Object Pronouns)

Woman 1: ¿Qué tal amigos? Bienvenidos a otro Delicioso. Hoy es un show dedicado

a todas las mamás.

Woman 2: Así es. Estamos celebrando el día de las madres. Felicidades mamacitas

hermosas de todo este gran país y también a las mujeres. Y déjenme

decirles que las recetas están, miren, para chuparse los dedos.

Woman 1: ¡Deliciosas! Y por eso mismo me voy a cocinar y...

Woman 2: Por favor

Woman 1: Te voy a guardar para tú... para ti. Vamos a consentir a las mamacitas hoy

Woman 2: Sí, pero sabes que... yo quiero... yo quiero doble del cheesecake, del

postre [inaudible]

Woman 1: jajaja Ya vieron. Se le apunto el cheesecake. Me parece bien. Yo te

guardo.

Woman 2: Es que soy postrera de corazón.

Woman 1:

Sí. Y por cierto, feliz día de madres y de las mamacitas para las que no son mamás. Es... Debería ser el día de las madres todos los días. Bueno, ¿qué les parece? Les tengo un menú variadito porque vamos a empezar con un aguadito de mariscos típico peruano bastante fácil eso sí muy especial. Yo creo que uno de las... de mis objetivos hoy con las recetas es que son recetas que pintan ser muy elaboradas pero son bastante fáciles entonces para que señores, señoras, todo el mundo, más que todos los señores para que se animan y los hijos a consentir a mamá mañana hoy tienen tiempo de irse para comprar todos los ingredientes.

Ahora lo que vamos a hacer es vamos a empezar mientras que eso se cocina vamos a empezar a hacer la base de lo que va a ser el postre que va a ser un cheesecake de maracuyá delicioso. Primero lo que tenemos que hacerle es la cubierta que lo vamos a poner en este em.. recipiente y lo vamos a introducir en el horno. Aquí yo ya tengo mi cubierta hecho y les voy a mostrar lo que es. Muy fácil. Tenemos 'ginger snaps' galleticas de jengibre las que uno compra en el supermercado común y corriente. Le puse veinte es lo que hay acá dentro trituradas, y media taza de pacanas que también está acá dentro triturado. Ahora lo único que vamos a hacer es mezclarlo con cuatro cucharadas de mantequilla derretida, y señores, prácticamente la base de el cheesecake está casi listo. Simplemente lo horneamos a 350 grados. Ya tengo me horno precalentado. Eso sí es muy importante que lo tengan precalentado ya listo de hacer. Y en diez minutitos lo sacamos y lo dejamos afuera a que llegue a temperatura del ambiente mientras que le seguimos haciendo todo el resto de las recetas.

Les mando a todas las mamás del universo un abrazo, una luz, que ojalá que mañana me las consienten mucho. No solo mañana, mañana y todos los días. Les cuento que para mi, mamá, solo hay una en la vida. Amo a mi padre pero mi mamá es pasión aniquiladora. Así que para mí de verdad yo creo que las mamás es algo muy especial. Ojalá que me las consienten que me las hagan este cheesecake bien rico. Y no se preocupen por las calorías mañana mamás porque resulta que parte de las recetas que estoy haciendo hoy son em.. como los... los plat... platanitos que voy a hacer son tostaditas de plátano que vamos a hacer sin calorías. Vamos a guardar todas las calorías para ponérselas aquí al cheesecake. Además que es un día de consentirse.

Vamos primero a esparcir y ahorita lo voy a sellar con las manos bien selladas... para que me quede bien, acá se toca poner las manos en la masa. Vean no más, y eso es para que se aplane. Uno quiere de verdad que sea una costra gruesa como la típica costra que viene del cheesecake. Ahora señores, les voy a dar un truco. Ojalá que no hagan, pero si...pero prefiero que lo hagan a que no me hagan la receta para consentir a las mamás o a las mamacitas. Si no quieres hacer este paso, simplemente en los supermercados en la sección congelada, venden lo que se llama el 'pie crust'. También te puedes ayudar de eso y ahí te...ahí terminas un paso. Lo que no quiero es que se me tengan una excusa para no consentir. Bueno, esto ha quedado bien. Me voy a lavar las manos un instante. Quitarme la mantequilla. Bueno, y ahora vamos a ponerlo en el horno. Recuerden que les dije lo tenía precalentado a 350 grados. Vamos a dejarlo 10 minutos.

Bueno, y mientras que esto se hace, vamos a preparar el glaseado que va a ser parte de la del... de la base de nuestro cheesecake. Vamos a ponerle tres cuartos de taza de pulpa de maracuyá, o fruta de la pasión a como le dicen mis amigos los ch... los chamos les digo yo a los venezolanos con todo cariño, le dicen parchita. Así ya saben que nosotros todos les decimos a diferentes ingredientes por diferentes nombres. Aquí tengo media taza de azúcar y media taza de agua. En realidad esto sea casi como convertir en un almíbar lo que quieres primero llevarlo a que hierva y después que se reduzca un poquito mientras que eso se hace ya después finalizado eso, lo tengo que devolver a temperatura de ambiente.

Ahora lo que vamos a sacar del horno que tenemos es el 'crust' o lo que es la base de mi cheesecake que se va a convertir en mi cheesecake de maracuyá que ya estuvo diez minutos en el horno en 350 grados. Ahora simplemente lo voy a poner en una rejilla a que se vaya a enfriar. Y hablando de maracuyá, vean lo que les tenemos, muy interesante...

Bueno, ya saben mucho más sobre la fruta de la pasión, a ver si se me ponen apasionados y si le hacen el cheesecake de fruta de la pasión a la mamá o las mamacitas para ponérlas bien apasionadas.

Vean, vamos a empezar. Dos paquetes de queso crema. Los tenía afuera para que sea más fácil para batirlos. Cada uno es de ocho onzas o quien dice en total tenemos 16 onzas. Allí van. A esto le vamos a agregar ahora, media taza de azúcar, ve... no me quiso salir todita la media taza de azúcar. A esto le vamos a poner cuatro huevos y vamos a empezar a mezclar antes de que le agreguemos e... lo que es la leche condensada. Vamos a mezclar. Ahora vamos a agregarle el...

la lata de leche condensada. Importante primero siempre cremar el azúcar con el queso crema. Bueno, les cuento que ya prácticamente esa parte está lista. Lo que voy a hacer es subir mi 'pie crust' o la costra o la base que habíamos previamente horneado por diez minutos. Ahora lo que voy a hacer es que voy a verter la mitad... primero voy a separar un poquito... y ya les voy a explicar por qué voy a separar un poquito de esta masa... que la voy a mezclar acá con mi taza de pulpa de maracuyá... y que rico. Estoy que le pongo los dedos adentro. Ven una cucharada que esto lo voy a mezclar con esta la... con esta taza de maracuyá. Y la voy a reservar y ya van a ver después por qué.

Mientras tanto vamos a mezclarla bien, donde está me palita, y esto después le vamos a hacer con esto... vamos a convertir un diseñito que le vamos a hacer encima al 'pie'. Primero le vamos a introducir toda la capa de esto que va a ser la capa densa. Y ven que yo tengo acá, esto se llama en ingles un 'spring form' esto es un refractario o molde que se deshacen los bordes, desmoldable, y lo tengo envuelto en papel aluminio como ven. Eso es de adrede porque... por si las moscas, cuando le pongo agua, porque lo vamos a cocinar con un poquito de vapor, para que no se le entre y nos dañe el cheesecake. Así que vamos a soltar ahora. Vamos a verter esto aquí. Eso siempre es un truco. Es mejor prevenir que lamentar ¿verdad? Lo vamos a cocinar más a menos una hora. Yo digo que a la hora la chequeen y máximo una hora y diez. La razón que lo cocinamos también con vapor que ahorita cuando... antes de ponerlo al horno se lo voy a agregar, es para que no se nos corte e... cuando esté en el horno. No se nos seque y se nos corte toda la parte de arriba, o sea, como quien dice es baño de maría. Aquí es cuando le vamos acá

ahora a jugar un poco con esto... para darle un efecto marmolado. Y eso realmente es solo como para... ya saben, todo entra por los ojos. Y ahora le voy a jugar un poquito más con un palillo. Vamos a hacerle primero así, después así. La idea es como que mover todo eso. Luego puedes hacerle así y le puedes hacer los diseños que quieres. Ya ahí está lo suficiente. Lo vamos a poner en el horno primero, voy a abrir el horno. Vamos a hacer el horno de abajo. Vamos a sacar la parrilla. Vamos a poner... y allí es que le voy a poner el agua por los laditos y el agua la tengo tibia también. Bueno, y eso simplemente es para... se me haría demasiado pasada y para prevenir accidentes. Entonces aquí por el bordecito. Y les cuento que en una hora tendremos un delicioso cheesecake de maracuyá, fruta de la pasión. Bueno, esto, en realidad, lo que queremos es que el agua nos llegue más o menos hasta la mitad del molde. Y eso se queda cocinando solito, tranquilito.

F.3 VIEWING ACTIVITIES

F.3.1 Accusative POC lesson (Direct Object Pronouns)

Durante el programa, tienen que poner los pasos de la receta según el orden que la cocinera sigue. Llena los espacios con el número adecuado que indica el orden correcto. 1 Poner dos cucharadas de aceite de maní _____ Agregar dos mitades de un cangrejo Licuar una taza de cilantro con un cuarto de taza de agua _____ Agregar cuartos de taza de arroz _____ Agregar media libra de vieras Agregar una taza de arvejas y de auyamas _____ Dejarlo cocinar por treinta minutos Agregar una cucharadita de paprika _____ Poner una cebolla entera picada Poner cuatro dientes de ajo, sal y pimienta _____ Agregar una cucharada de ají panca _____ Agregar caldo de pescado _____ Agregar veinte almejas _____ Agregar una libra de calamares

_____ Agregar una libra de camarones

F.3.2 Dative POC lesson (Indirect Object Pronouns)

Durante e	l programa,	tienen (que re	espond	der a	las pro	egun	tas sc	bre	lo q	ue l	la (cocinera	dice
sobre el di	ía de las ma	dres. Va	mos a	a ver e	el pro	grama	dos	veces	así	que	no s	se	preocupe	en si
no puedes	escribir tod	o la prin	nera v	ez.										

¿Qué dice sobre su propia madre?

¿Qué dice sobre las madres en general?

¿Qué dice sobre las mujeres en general?

F.4 EXTENSION ACTIVITIES

F.4.1 Accusative POC lesson (Direct Object Pronouns)

En parejas, tienen que crear una receta para un plato simple que les guste incluyendo los pasos del proceso para hacer la receta. No se olviden de usar pronombres para evitar la repetición.
Ingredientes:
Proceso:

TAREA

hacer la receta. No te olvides de usar pronombres para evitar la repetición.				
Ingredientes:				
Proceso:				

F.4.2 Dative POC lesson (Indirect Object Pronouns)

En parejas, tienen que escribir un proceso en forma de párrafo de cómo construir un robot. No se olviden de usar pronombres para indicar la persona o cosa que recibe la acción y evitar la repetición.				
Proceso:				

TAREA

Crea un guion de un programa de cocina donde un/a cocinero/a muestra cómo hacer	tu postre favorito
para el Día de Acción de Gracias u otro día feriado. No te olvides de usar pronomb	res para evitar la
repetición.	

F.5 REVIEW WORKSHEETS

Review 1

Llena cada espacio con el pronombre de complemento correcto que remplaza el sustantivo subrayado.

1. Tú compras <u>los ingredientes</u> . Tú compras.
2. Tú y yo vemos a <u>Jorge</u> . Tú y yo vemos.
3. Ud. come <u>un aguadito</u> . Ud come.
4. Tú invitas a <u>tus amigos</u> . Tú invitas.
5. Juan abraza a <u>María</u> . Juan abraza.
6. Esos señores quieren <u>la receta</u> . Ellos quieren.
7. José pide <u>el caldo</u> . Él pide.
8. Yo no conozco a <u>tu abuela</u> . No conozco.
9. Nosotros esperamos <u>nuestra sopa</u> . Nosotros esperamos.
10. Ellos miran <u>al hombre</u> afuera. Ellos miran.
11. Mariana hornea <u>un pastel y unas galletas</u> . Mariana hornea.
12. Yo traigo <u>mucho arroz</u> . Yo traigo.

- 13. Uds. invitan a <u>Juanita y a Inés</u> a cenar. Uds. _____ invitan.
- 14. ¿Quién cocina <u>los mariscos</u>? ¿Quién ____ cocina?

Review 2

Haz un círculo sobre el pronombre de complemento correcto que remplaza al sustantivo subrayado.

- 1. Marta (lo, le) devuelve el dinero. *Juan*
- 2. Ellos (la, le) llaman cada día. <u>Marta</u>
- 3. Yo (lo, le) traigo mis problemas. *Psicólogo*
- 4. Nosotros (lo, le) respetamos mucho. *Profesor*
- 5. Enrique (la, le) vende su coche. *Juana*
- 6. Mis amigos (lo, le) piden un favor. Jorge
- 7. Tú y yo (lo, le) encontramos allí. <u>padre</u>
- 8. ¿A quién (lo, le) regalas flores? alquien
- 9. Ella (lo, le) sabe de memoria. *libro*
- 10. La mujer (la, le) busca en la tienda. sal
- 11. Yo no (los, les) entiendo a veces. <u>hablantes nativos</u>
- 12. El despertador (los, les) despierta a las 8:00. *niños*
- 13. Todos (las, les) evitan en público. *palomas*
- 14. Tú (los, les) prometas una sorpresa. <u>hermanos</u>
- 15. Enrique (los, les) vende su coche. *tus padres*
- 16. Yo (los, les) odio. *gatos*
- 17. Un hombre (las, les) sigue por el parque. *chicas*
- 18. El agente (los, les) prepara el itinerario. *viajeros*

- 19. Alguien (los, les) visita los martes. $\underline{abuelos}$
- 20. Nadie (las, les) sirve la cena. $\underline{ni\tilde{n}as}$

Review 3

Llena cada espacio con el pronombre de complemento correcto que remplaza el sustantivo subrayado y termina la oración.
1. Tú pones los ingredientes en <u>la olla</u> . Tú
2. Tú y yo damos las llaves a <u>Jorge</u> . Tú y yo
3. Ud. agrega sal <u>al aguadito</u> . Ud
4. Tú mandas un paquete a <u>tus amigos</u> . Tú
5. Juan abraza a <u>María</u> . Juan
6. Esos señores ponen otra línea en <u>la receta</u> . Ellos
7. José pide <u>el caldo</u> del restaurante. Él
8. Yo mando una carta a <u>tu abuela</u> . No
9. Nosotros ponemos más pimienta en <u>nuestra sopa</u> . Nosotros
10. Ellos tiran una pelota <u>al hombre</u> . Ellos
11. Mariana mete trozos de chocolate en <u>unas galletas</u> . Mariana
12. Yo echo mucha agua <u>al arroz</u> . Yo

13.	Uds. invitan a <u>Juanita y a Inés</u> a cena	ır. Uds	
14.	¿Quién cocina los mariscos? ¿Quién _	?)

APPENDIX G

MATERIALS FOR INSTRUCTIONAL INTERVENTION-CONTROL GROUP

G.1 VIDEO TRANSCRIPT

Psicólogo: Bueno, cu

Bueno, cuéntame sus problemas

Chico:

Verá doctor. A Julita y a mí, no nos gustan las mismas cosas. Bueno, a los dos, nos gusta viajar.

¿Vale? Pero mientras a mí, me gusta viajar en avión a otros países y me gusta viajar a ciudades

grandes, a ella le gusta ir a pueblos pequeños cerca de aquí. Y también le gusta ir al campo. A los

dos, nos gusta comer fuera. Nos encanta ir a restaurantes pero a mí, me gusta la comida española;

Mmmmm jamón ibérico, por ejemplo, queso, paella. Pero doctor, a ella, le gustan las

hamburguesas. Nos gusta el cine también. Nos encanta ver películas de vez en cuando. El

problema aquí es que a mí, me gusta el cine europeo y asiático y también me gustan las películas

antiguas. A ella, solo le gustan las películas comerciales de Hollywood; sobre todo, las comedias

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románticas y yo las odio. A mí, me gusta leer, me gusta quedarme en casa, navegar por internet y dormir. Me encanta dormir. Pero a ella, le gusta ver la fórmula 1, le gusta hablar por teléfono con sus amigas, le gusta salir de fiesta y le encanta levantarse temprano. Así que discutimos muchas veces. Muchas veces. Y la relación no va muy bien. Pero la verdad es que, a pesar de todo, me gusta estar con ella. No sé. Quizá el problema, de verdad, es que a ella y a mí, nos gusta Pedro. ¿Qué le parece doctor?

Psicólogo: Yo, no sé qué decirle. Creo, creo que estoy enamorado. ¡Me gustas mucho!

G.2 REVIEW WORKSHEETS

Review 1

Haz un círculo sobre la respuesta que va en el espacio de cada oración.

1.	A tu papá		la revista <i>People</i> en Español.
	a.	te gustan	c. te gusta
	b.	le gustan	d. le gusta
2.	A mí _		ir al cine.
	a.	me gustan	c. te gusta
	b.	me gusta	d. le gusta
3.	A ti		jugar con videojuegos.
	a.	te gustan	c. me gustan
	b.	te gusta	d. le gusta

4.	A mi m	ejor amiga no _		montar en bicicleta.	
	a.	le gustan	c. te gusta		
	b.	me gusta	d. le gusta		
5.	A mí _		las rosas rojas.		
		me gustan			
	b.	me gusta	d. mi gusta		
6.	A ti		los meses del ver	rano.	
		te gustan			
	b.	me gusta	d. le gustan		
7.	A Dalia	·	ir de compra	s.	
	a.	le gustan	c. te gusta		
	b.	me gusta	d. le gusta		
8.	A usted		los libros de	Dean Koontz.	
		le gustan			
	b.	te gusta	d. le gusta		
9.	. A nadie		las mofetas	(skunks).	
		te gustan			
	b.	me gustan	d. le gusta		
10.	A la clase		mucho ha	cer deportes.	
		le gustan		_	
	b.	me gusta	d. le gusta		

Review 2

Llena cada espacio con el pronombre d	correcto y la forma correcta del verbo gustar.	
1. A mi hijo no	los aguacates.	
2. Al chico	bucear en el mar.	
3. A nosotros no	el estrés.	
4. A los bebés	los animalitos de felpa.	
5. A mí	jugar al fútbol.	
6. A Luis y a mí	la montaña rusa.	
7. A ti	los videojuegos.	
8. A los gatos	beber leche.	
9. A ellos	el columpio.	
10. ¿A quién	los girasoles?	

Review 3

Traduzca	las siguientes	oraciones
Hauuzca	ias siguientes	oraciones.

1. Julio likes peanuts	
2. We like the circus.	
3. I like to have fun	
4. Who likes balloons?	
5. You (fam.) like to see movies	
6. They like garlic	
7. My mother likes deals	
8. Nobody likes war.	

APPENDIX H

PACE LESSON PLANS

H.1 ACCUSATIVE POCS (DIRECT OBJECT PRONOUNS)

Lesson objectives

- Functional: Comprehend how to refer to entities while avoiding repetition of nouns.
- Grammar: Identify and attend to direct object pronouns in input (a cooking show), viable referents, and their position in sentences

Language Foci:

- Direct object pronouns: me, te, nos, os, and especially lo, la, los, and las
- Placement of direct object pronouns: before main verb, after infinitives and present participles
- Viable referents of direct object pronouns: humans, animals, inanimate objects

Conceptual L2 Knowledge:

- Students' understanding of how direct objects are used and their referents.

Lesson Materials: video of *Delicioso-receta del aguadito*, and the vocabulary, viewing, and extension activities, as well as the PowerPoint for the attention and co-construction phases.

Lesson Sequence:

Opening (2 minutes)

I will greet students and show the objectives using PowerPoint in Spanish.

Today's Objectives

- Comprender cómo referirse a entidades evitando la repetición de sustantivos
- Identificar y poner atención a palabras que ayudan a evitar la repetición en un programa de cocina
- Formar reglas para los pronombres de complemento directo del texto de un programa de cocina
- Comprender: dónde poner los pronombres de complemento directo y los referentes viables de los pronombres de complemento directo.

PRESENTATION: Building background (5 minutes)

I will start a short conversation with students about cooking shows using the following questions as starters:

¿Qué piensan, cómo es la comida peruana? (What do you think, what is Peruvian food like?), ¿Qué tipos de ingredientes se usa en la comida peruana? (What types of ingredientes are used in Peruvian food?),¿Quién ha visto un programa de cocinar? (Who has seen a cooking show?), ¿Cómo son los programas de cocinar? (How are cooking shows?),¿Por qué es importante seguir la receta cuando cocinas? (Why is it important to follow the recipe when you cook?).

I will then tell students in Spanish that today we will watch a cooking show about preparing a typical Peruvian soup that shows the types of ingredients used and the process of making a typical Peruvian soup.

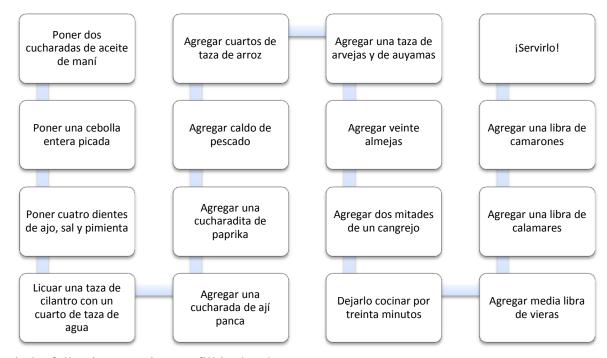
PRESENTATION: Cooking Show viewing (12 minutes)

I will present the cooking show (actually a part of the show) and students will have an activity to complete while viewing. Instructions will be in Spanish, as follows:

Durante este programa tienen que indicar el orden de los pasos de hacer el aguadito. Vamos a ver el programa dos veces así que no se preocupen si no pueden escribir todo la primera vez. (During the program, you need to indicate the order of the steps for making the soup. We will watch the program two times, so don't worry if you can't write everything down the first time.)

PRESENTATION: Re-cap cooking show (5 minutes)

I will have a brief conversation to discuss student answers in the viewing activity. I will give them this flowchart (without the answers) to fill in as we fill it in together using PowerPoint:



I will ask the following questions to fill in the chart:

¿Cuál fue el primer paso para hacer el aguadito? (What was the first step to making the soup?), ¿Cuál fue el segundo (tercer, etc.) paso para hacer el aguadito? (What was the second (third, etc.) step to making the soup?) ¿Parece difícil hacer la receta? (Does the recipe seem difficult to make?).

ATTENTION: Direct object pronouns (8 minutes)

I will tell students that we are going to now look at a few parts in the cooking show and show them that there are certain words that replace other words. Using a PowerPoint slide, I will show sentences and paragraphs taken from the cooking show and ask students (in pairs) to try and find the words that replace other words. I will then ask them to discuss why the words are used, why they are needed, and how they contribute to the process of following the recipe. Instructions will be as follows:

Veamos estos párrafos en la pantalla. Están sacados directamente del programa de cocina que vimos. En parejas, tienen que encontrar palabras que puedan reemplazar a otras palabras. Discutan: ¿por qué usa esas palabras la cocinera?, ¿por qué son necesarias?, y ¿cómo contribuyen (contribute) al proceso de seguir la receta? (Let's look at these paragraphs on the screen. They are taken directly from the cooking show we just saw. In pairs, you need to find the words that replace other words. Discuss: Why does the cook use these words?, Why are they necessary?, and how do they contribute to the process of following the recipe?)

Once students have noticed the pronouns and their forms and functions, I will say that these words are direct object pronouns. I will then have them pay attention to where they are in the sentence and what they are referring to by asking if they can guess where they go in different sentence types and what the different forms can refer to. I will use the following questions:

¿Dónde podemos poner estos pronombres? (Where can we put these pronouns?), ¿Hay posiciones diferentes en oraciones diferentes? (Are there different positions in different sentences?), ¿A qué se refiere "lo"? (What does lo refer to?), ¿A qué se refiere "la"? (What does la refer to?), etc.

CO-CONSTRUCTION: Explicit form-meaning relationships (10 minutes)

I will tell students that we are now going to create the "rules" of how to use direct object pronouns together. This will be a discussion where students propose what they think about placement of direct object pronouns and what entities the pronouns can refer to. They will have access to the sentences used in the attention stage. I will first have students create "rules" in small groups, and then have a large group discussion. I will guide the discussion with questions such as:

¿Qué reglas podemos formar para los pronombres de complemento directo? (What rules can we form for direct object pronouns?), ¿Dónde podemos ponerlos en una oración? (Where can we put them in a sentence?), ¿A qué pueden referir estos pronombres? (What can these pronouns refer to?), etc.

As meta-linguistic information is presented through the discussion, I will write the students answers on the board. I will then help students reanalyze any misguided hypotheses about the forms by looking at the paragraphs from the show and pointing out discrepancies in their hypotheses. When they are correct, I will praise them and reinforce their correct assumptions by pointing out other examples of the correct forms from the show script.

I expect that some students might say that lo(s) and la(s) refer to inanimate objects. If this happens I will show them a few examples where lo(s) and la(s) refer to humans and ask questions such as:

¿De verdad?, Pero, ¿qué pasa con esta oración? (Really? But what is happening in this sentence?) ¿Debemos cambiar la regla? ¿Cómo? (Should we change the rule? How?)

Also, if students say that pronouns always come before verbs, I will show examples that they come after verbs (infinitives, present participle). They may also say that they always come after verbs, which might be accepted since English object pronouns are post verbal. I will turn the attention to differences in the sentences when object pronouns come before and after the verb.

Overall, I will guide the students to revise their hypotheses until they reach the correct hypothesis by calling attention to language that falsifies their hypothesis until they come up with the correct patterns.

EXTENSION: Language use (8 minutes)

Students will complete one activity in class and one homework assignment that will help them use direct object pronouns.

H.2 DATIVE POCS (INDIRECT OBJECT PRONOUNS)

Lesson objectives

- Functional: Comprehend how to indicate the person or thing that receives an action while avoiding repetition of nouns.
- Grammar: Identify and attend to indirect object pronouns in input (a cooking show), viable referents, and their position in sentences

Language Foci:

- Indirect object pronouns: me, te, nos, os, and especially le, and les
- Placement of indirect object pronouns: before main verb, after infinitives and present participles
- Viable referents of indirect object pronouns: humans, animals, inanimate objects

Conceptual L2 Knowledge:

- Students' understanding of how indirect objects are used and their referents.

Lesson Materials: video of *Delicioso-receta del cheesecake*, and the vocabulary, viewing, and extension activities, as well as the PowerPoint for the attention and co-construction phases.

Lesson Sequence:

Opening (2 minutes)

I will greet students and write the objectives using PowerPoint in Spanish.

Today's Objectives

- Comprender cómo indicar la persona o cosa que recibe una acción sin la repetición
- Identificar y poner atención a palabras que ayudan a evitar la repetición en un programa de cocina
- Categorizar las palabras de una receta para un postre
- Formar reglas para los pronombres de complemento indirecto del texto de un programa de cocina
- Comprender: dónde poner los pronombres de complemento indirecto y los referentes viables de los pronombres de complemento indirecto.

PRESENTATION: Building background (5 minutes)

I will start a short conversation with students about Mother's Day using the following questions as starters:

¿Qué hacen ustedes el día de las madres? (What do you do on Mother's Day?), ¿Tienen tradiciones específicas? (Do you have specific traditions?), ¿Conocen las tradiciones de los hispanohablantes para el día de las madres? (Do you know any traditions of Spanish speakers for Mother's Day?) ¿A veces cocinan para sus madres? (Do you sometimes cook for you Mother's?).

I will then tell students in Spanish that today we will watch a cooking show about preparing a dessert for Mother's Day which shows how foods from different cultures are fused to create a new culture and how Spanish speakers celebrate Mother's Day. It also demonstrates the importance of family relationships in Hispanic cultures.

PRESENTATION: Cooking Show viewing (15 minutes)

I will present the cooking show (actually a part of the show) and students will have an activity to complete while viewing. Instructions will be in Spanish, as follows:

Durante el programa, tienen que responder a las preguntas sobre lo que la cocinera dice sobre el día de las madres. Vamos a ver el programa dos veces así que no se preocupen si no puedes escribir todo la primera vez. (During the program, you need to answer the questions about what the cook says about Mother's Day. We will watch the program two times, so don't worry if you can't write everything down the first time.)

PRESENTATION: Re-cap cooking show (2 minutes)

I will have a brief conversation to discuss student answers in the viewing activity. I will give them graphic organizer to fill in as we fill it in together using PowerPoint:

Sobre su propia madre

Sobre las madres en general

Sobre las mujeres en general

I will ask the following questions to fill in the graphic organizer:

¿Qué dijo la cocinera sobre su propia madre? (What did the cook say about her own mother?), ¿Qué dijo la cocinera sobre las madres en general? (What did the cook say about mothers in general?), ¿Qué dijo la cocinera sobre las mujeres en general? (What did the cook say about women in general?).

ATTENTION: Indirect object pronouns (8 minutes)

I will tell students that we are going to now look at a few parts in the cooking show and show them that there are certain words that indicate who or what benefits from the action of a verb. Using a PowerPoint slide, I will show sentences taken from the cooking show and ask students (in pairs) to discuss why the words are used, why they are needed, and how they contribute to what the cook is saying. Instructions will be as follows:

Veamos estos párrafos en la pantalla. Están sacados directamente del programa de cocina que vimos. En parejas, tienen que encontrar palabras que puedan reemplazar a otras palabras e indiquen la persona o cosa que se beneficia de la acción del verbo. Discutan: ¿por qué usa esas palabras la cocinera?, ¿por qué son necesarias?, y ¿cómo contribuyen (contribute) a lo que dice la cocinera? (Let's look at these paragraphs on the screen. They are taken directly from the cooking show we just saw. In pairs, you need to find the words that replace other words and indicate the person or thing that benefits from the action of the verb. Discuss: Why does the cook use these words?, Why are they necessary?, and How do they contribute to what the cook is saying?)

Once students have noticed the pronouns and their forms and functions, I will say that these words are indirect object pronouns. I will then have them pay attention to where they are in the sentence and what they are referring to by asking if they can guess where they go in different sentence types and what the different forms can refer to. I will use the following questions:

¿Dónde podemos poner estos pronombres? (Where can we put these pronouns?), ¿Hay posiciones diferentes en oraciones diferentes? (Are there different positions in different sentences?), ¿A qué se refiere "le"? (What does le refer to?), etc.

CO-CONSTRUCTION: Explicit form-meaning relationships (10 minutes)

I will tell students that, together, we are now going to create the "rules" of how to use indirect object pronouns. This will be a discussion where students propose what they think about

placement of direct object pronouns and what entities the pronouns can refer to. They will have access to the sentences used in the attention stage. I will first have students create "rules" in small groups, and then have a large group discussion. I will guide the discussion with questions such as:

¿Qué reglas podemos formar para los pronombres de complemento indirecto? (What rules can we form for indirect object pronouns?), ¿Dónde podemos ponerlos en una oración? (Where can we put them in a sentence?), ¿A qué pueden referirse estos pronombres? (What can these pronouns refer to?), etc.

As meta-linguistic information is presented through the discussion, I will write the students answers on the board. I will then help students reanalyze any misguided hypotheses about the forms by looking at the paragraphs from the show and pointing out discrepancies in their hypotheses. When they are correct, I will praise them and reinforce their correct assumptions by pointing out other examples of the correct forms from the show script.

I expect that some students might say that *le* refers to humans and that *lo* and *la* refer to inanimate objects. If this happens I will show them a few examples where *le* refers to an inanimate object and where *lo* and *la* refer to humans and ask questions such as:

¿De verdad?, Pero, ¿qué pasa con esta oración? (Really? But what is happening in this sentence?) ¿Debemos cambiar la regla? ¿Cómo? (Should we change the rule? How?)

Also, if students say that pronouns always come before verbs, I will show examples that they come after verbs (infinitives, present participle). They may also say that they always come after verbs, which might be accepted since English object pronouns are post verbal. I will turn the attention to differences in the sentences when object pronouns come before and after the verb.

Overall, I will guide the students to revise their hypotheses until they reach the correct hypothesis by calling attention to language that falsifies their hypothesis until they come up with the correct patterns.

EXTENSION: Language use (8 minutes)

Students will complete one activity in class and one homework assignment that will help them use direct object pronouns.

H.3 CONTROL GROUP (GUSTAR)

Lesson objectives

- Functional: Comprehend how to talk about your likes and dislikes.
- Grammar: Identify and attend to *gustar* and use of the pronouns used with *gustar* in input (a short video).

Language Foci:

- Gustar: conjugations of gustar
- Placement of: before main verb, after infinitives and present participles
- Viable referents of pronouns with gustar: experiencer

Conceptual L2 Knowledge:

- Students' understanding of how *gustar* agrees with the direct object and the pronoun agrees with the experiencer.

Lesson Materials: video of *Me gusta, le gusta, nos gusta*, the viewing and extension activities, as well as the PowerPoint for the attention and co-construction phases.

Lesson Sequence:

Opening (2 minutes)

I will greet students and show the objectives using PowerPoint in Spanish.

Today's Objectives

- Comprender cómo hablar de los gustos
- Formar reglas para el uso del verbo gustar
- Comprender dónde poner los pronombres y a qué se refieren
- Comprender cómo conjugar los verbos que indican gusto

PRESENTATION: Building background (5 minutes)

I will start a short conversation with students about psychologists using the following questions as starters:

¿Qué hacen los psicólogos?(What do psychologists do?), ¿Quieren conocer nuestros gustos? (Do they want to know about our likes?),¿Cómo ayuda esto? (How does that help?).

I will then tell students in Spanish that today we will watch a short video about a young man telling a psychologist about his and his girlfriend's likes.

PRESENTATION: Video viewing (10 minutes)

I will present the video and students will have an activity to complete while viewing. Instructions will be in Spanish, as follows:

Durante este video, tienen que anotar lo que dice el paciente sobre los gustos. Vamos a ver el programa dos veces, así que no se preocupen si no puedes escribir todo la primera vez. (During this video, you need to note what the patient says about his likes. We will watch the program two times, so don't worry if you can't write everything down the first time.)

PRESENTATION: Re-cap video (5 minutes)

I will have a brief conversation to discuss student answers in the viewing activity. I will post the following questions using PowerPoint to star the conversation:

¿Cuáles son los gustos del chico? (What are the young man's likes?), ¿Tienen los mismos gustos, el chico y su novia? (Do the young man and his girlfriend have the same likes?).

ATTENTION: Gustar (8 minutes)

I will tell students that we are going to now look at a few parts in the video and show them that there are certain words we use to talk about our likes. Using a PowerPoint slide, I will show sentences and paragraphs taken from the video and ask students (in pairs) to try and find the words used to talk about likes. I will then ask them to discuss how these verbs are different from other verbs, and how the pronouns used are different than other pronouns. Instructions will be as follows:

Veamos estos párrafos en la pantalla. Están sacados directamente del video que vimos. En parejas, tienen que encontrar unas palabras que se usen para hablar de los gustos. Discutan: ¿Cómo son diferentes estos verbos de otros verbos? ¿Cómo son diferentes estos

pronombres de otros pronombres? (Let's look at these paragraphs on the screen. They are taken directly from the video we just saw. In pairs, you need to find the words that are used to talk about likes. Discuss: How are these verbs different than other verbs? and how are these pronouns different from other pronouns?)

Once students have noticed the verbs and pronouns and their forms and functions, I will have them pay attention to where they are in the sentence and what they are referring to by asking if they can guess where they go in different sentence types and what the different forms can refer to. I will use the following questions:

¿Dónde podemos poner estos pronombres? (Where can we put these pronouns?), ¿A qué se refiere "le/les"? (What does le/les refer to?), ¿Cómo conjugamos este verbo? (How do we conjugate this verb?), etc.

CO-CONSTRUCTION: Explicit form-meaning relationships (10 minutes)

I will tell students that we are now going to create the "rules" of how to use *gustar*. This will be a discussion where students propose what they think about placement of pronouns and what entities the pronouns can refer to, as well as how *gustar* is conjugated. They will have access to the sentences used in the attention stage. I will first have students create "rules" in small groups, and then have a large group discussion. I will guide the discussion with questions such as:

¿Qué reglas podemos formar para los pronombres de complemento directo? (What rules can we form for direct object pronouns?), ¿A qué se refiere "le/les"? (What does le/les refer to?), ¿Cómo conjugamos este verbo? (How do we conjugate this verb?), etc.

As meta-linguistic information is presented through the discussion, I will write the students answers on the board. I will then help students reanalyze any misguided hypotheses about the forms by looking at the paragraphs from the show and pointing out discrepancies in their hypotheses. When they are correct, I will praise them and reinforce their correct assumptions by pointing out other examples of the correct forms from the show script.

Overall, I will guide the students to revise their hypotheses until they reach the correct hypothesis by calling attention to language that falsifies their hypothesis until they come up with the correct patterns.

EXTENSION: Language use (10 minutes)

Students will complete activities in class that will help them use *gustar*. They will talk with a partner about their likes and then talk to others in the class about the likes of their partner as well as their own.

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