Instructed L2 Acquisition of Differential Object Marking in Spanish

MELISSA BOWLES AND SILVINA MONTRUL
University of Illinois at Urbana-Champaign

It is widely held that second language (L2) learners restructure their interlanguage grammars on the basis of input. But what form must input take to promote restructuring? Many studies find that input in the form of positive evidence is not sufficient for successful second language acquisition (SLA) and that some focus on language form is necessary to lead the learner to notice certain features of the input. That is, instructed L2 learners may benefit from some type of form-focused instruction, defined by Spada (1997, 73) as consisting of “events which occur within meaning-based approaches to L2 instruction in which a focus on language is provided in either spontaneous or predetermined ways.” Form-focused instruction has been proven effective in many face-to-face classroom settings (Rod Ellis 2001, 2002; Lyster 2004a, 2004b), but many language programs have now begun to offer hybrid, or technology-enhanced, language courses, in which grammar instruction is offered via self-instructional units online. In such courses, face-to-face class meetings are reserved for learners to engage in communicative activities in the L2. But in these hybrid delivery contexts, how effective is grammar instruction that involves explicit rule presentation and practice with corrective feedback? This study seeks to answer this question, focusing on the instruction of one particularly problematic structure for native English-speaking L2 learners of Spanish, differential object marking, or a-personal.

Explicit Rule Presentation and Negative Evidence in L2 Acquisition

Researchers propose that first language (L1) acquisition is driven solely by positive evidence, or exemplars of possible utterances in the language, which are present in all grammatical speech. However, research on L2 acquisition (especially in immersion contexts) has suggested that positive evidence alone may not be sufficient for the acquisition of certain L1–L2 contrasts or structures that are not present in the L1 (Trahey and White 1993; White 1989, 1991; for discussion, see Lightbown 1998 and Long 1996). That is, learners may benefit from some type of form-focused instruction.

One way of delivering form-focused instruction is by providing learners with explicit information before or during exposure to L2 input, by means of either
grammatical explanation or negative evidence in the form of corrective feedback (Sanz and Morgan-Short 2004). A substantial body of research investigating the role of explicit grammatical explanation or rule presentation in SLA has generally found it beneficial (Alanen 1995; Carroll and Swain 1993; de Graaf 1997; DeKeyser 1995; Nick Ellis 1993; Nagata 1993; Nagata and Swisher 1995; Robinson 1996, 1997; Rosa and Leow 2004a, 2004b). Furthermore, corrective feedback has been directly linked to the process of hypothesis formation and testing, which has been shown to facilitate restructuring and system learning (e.g., Rosa and O’Neill 1999; Rosa and Leow 2004a). Russell and Spada’s (2006) meta-analysis synthesizes the research on corrective feedback to date, finding overall support for it for L2 acquisition of morphosyntax, as does Ellis, Loewen, and Erlam’s (2006) review of studies. This finding suggests that even if negative evidence is not crucial for acquisition of some syntactic features of L2 grammar, it does facilitate SLA by speeding up the process of acquisition, as does explicit grammatical explanation or rule presentation.

Differential Object Marking

In Spanish, direct objects are marked differentially based on animacy, with inanimate objects being unmarked and animate objects being marked with the dative preposition *a* in a phenomenon referred to as differential object marking (DOM). In general, objects that are specific and animate are obligatorily marked with this preposition, as shown in (1), while other objects are obligatorily unmarked, as shown in (2) and (3):

(1) a. Marcelo vio *a* Mónica. [+animate, +specific]
    Marcelo vio prep *a* Mónica
    “Marcelo saw Mónica.”
    b. *Marcelo vio Mónica.

(2) a. La crisis destruyó la moral del pueblo. [-animate, +specific]
    “The crisis destroyed people’s morale.”
    b. *La crisis destruyó *a* la moral del pueblo.

(3) a. La bomba destruyó una iglesia. [-animate, -specific]
    “The bomb destroyed a church.”
    b. *La bomba destruyó *a* una iglesia.

In some contexts, grammatical sentences with indefinite determiners are possible with either a marked or an unmarked animate object, and the use of the preposition *a* determines whether a specific or nonspecific reading is possible, as shown in (4).

(4) a. José necesita *un* médico. [+animate, -specific]
    “José needs a doctor.” (any doctor)
    b. José necesita *a* un médico. [+animate, +specific]
    José needs prep *a* doctor
    “José needs a doctor.” (a particular doctor)
Sentence (4a), with an unmarked object, provides the [-specific] interpretation that José needs any doctor he can find, not one particular doctor. However, the preposition a must be used if a [+specific] interpretation, that José needs a particular doctor, is intended, as in the case of (4b).

The exact semantic and syntactic conditions regulating when objects should be marked with the dative preposition a are quite complex (Aissen 2003; Leonetti 2003; Torrego 1998; Zagona 2002). Current analyses of DOM maintain that semantic notions such as specificity, agentivity, telicity, and topicality seem to play a role in explaining the optionality of the preposition a with animate and inanimate objects. However, because this study focuses on L2 learners’ acquisition of only the clearest, prototypical cases of DOM [those with human objects, as in (1)], the specific details of those analyses are not necessary. Crucially, following Torrego (1998) we assume that a specific functional category for DOM does not exist in English, the native language of the learners tested in our study.

Acquisition of Differential Object Marking
There is virtually no research on the L1 acquisition of DOM in Spanish, with the exception of a recent study by Rodríguez-Mondoñedo (2006). Rodríguez-Mondoñedo conducted an analysis of the spontaneous production of four Spanish-speaking children (between the ages of 0;9 and 2;11) from the CHILDES database (López Ornat, Linaza, Montes, and Vila corpora). All sentences containing V-O structures were analyzed. From a total of 991 examples, the children made 17 errors (8 cases of a present but not required and 9 cases of a omitted when required with animate, specific objects). This amounts to a 98.38 percent accuracy rate with DOM before age three. Therefore this study suggests that Spanish-speaking children acquire the semantic constraints on the distribution of this preposition with direct objects easily and quickly, at least with the prototypical, clear uses of DOM.

The situation for L2 acquisition is different, however, especially when the native language the learners speak does not mark direct objects the way Spanish does. SLA research findings show that even the unambiguous cases of DOM, like those in (1), are difficult for English-speaking L2 learners of Spanish to acquire, despite their frequency in the L2 input (VanPatten and Cadierno 1993; Johnston 1995). Perhaps this difficulty is partially due to the polyfunctionality of the dative preposition a, which also appears with ditransitive verbs that take indirect objects (Juan le dio un libro a Pedro, “Juan gave a book to Pedro”), and with gustar-type psychological verbs that are inherently marked with dative case (A Juan le gusta este libro, “Juan likes this book”). To date, there has been just one empirical SLA study to investigate the effects of instruction on DOM—Farley and McCollam (2004). At the outset of the study, participants were classified as either developmentally “ready” or “unready” to acquire DOM (Johnston 1995; Pienemann 1998). Twenty-nine adult learners of Spanish enrolled in a fifth-semester course were randomly assigned to either a control group or one of three instruction groups that provided varying degrees of explicitness and practice with DOM. Learners’ knowledge of DOM was assessed based on their performance on a pretest and immediate posttest consisting of a grammaticality judgment task (GJT) and a picture description task. The study’s results showed that readiness
did not constrain learners’ acquisition of the structure, as learners in all instruction groups improved in their ability to recognize and produce grammatical sentences on the posttest as compared with the control group that received no instruction on the form. However, the small number of participants who completed the pretest, instruction, and posttest (fewer than ten per group) limits the generalizability of the study’s findings and necessitates further research on the L2 acquisition of DOM.

Research Questions
Given the limited research into the acquisition of DOM in Spanish, this study set out to answer the following research questions:

- Does explicit instruction and practice (with corrective feedback) significantly affect intermediate-level L2 Spanish learners’ ability to distinguish between grammatical and ungrammatical sentences involving DOM?
- Significantly affect their ability to produce grammatical sentences with animate objects?

Theoretical Assumptions and Hypotheses
We assume the full transfer/full access hypothesis (Schwartz and Sprouse 1996), according to which the initial state of L2 acquisition is the entirety of the L1. That is, especially at the earliest stages of development, L2 learners impose the structural architecture of their L1 onto the L2 and may filter out relevant L2 input accordingly. Only when L2 learners realize that the L1 structure can no longer accommodate L2 input do they restructure their interlanguages accordingly and resort to other options (i.e., parameter values, features, functional categories) made available by universal grammar.

Based on this theoretical assumption, we hypothesize that, in general, low-intermediate proficiency L2 learners of Spanish will be quite inaccurate with DOM and will assume that Spanish, like English, does not mark animate, specific direct objects. If instruction helps them notice the presence of the object marker a in the input, they will restructure their interlanguages accordingly.

The Study

Participants
In this study, there was a native speaker baseline group consisting of twelve native Spanish speakers from a variety of countries. This group was included to verify that native speakers have clear, determinate judgments with respect to the grammaticality and distribution of DOM in sentences like (1). The original sample of experimental participants included 329 low-intermediate L2 learners of Spanish enrolled in a hybrid delivery fourth-semester language course. In the course, students review grammar concepts and complete practice exercises online prior to face-to-face class meetings, where they engage in communicative activities. Only native English speakers who completed all sessions (pretest, instruction, and both immediate and delayed posttests) were included in the final sample. These restrictions yielded a final experimental sample of 145 L2 learners.

During the period of the study, the a-personal was not formally presented in class, and related coursework did not focus on that structure. In fact, the a-personal is no-
noticeably absent from the intermediate-level textbook used in the course. It is mentioned only briefly in the section on direct object pronouns, where just a two-line explanation is given.

Tests
Two different tests were used to elicit data from the participants in this study, as the research questions investigated both recognition and production of DOM in Spanish. A written grammaticality judgment test was used to determine whether learners could distinguish between grammatical and ungrammatical sentences involving DOM, and a controlled written production test was used to evaluate their ability to use DOM productively.

Grammaticality Judgment Test. The GJT contained seventy-five sentences, twenty of which targeted the a-personal. Of those sentences, ten were grammatical and ten were ungrammatical, and there were an equal number of sentences with animate and inanimate objects. The remaining fifty-five sentences in the GJT targeted the preposition a with ditransitive verbs and psych verbs, thereby functioning as distractors and simultaneously providing more information about participants’ knowledge of the uses of a with other verbs requiring structural and inherent dative case. Due to scope limitations, only the results of sentences targeting DOM will be presented here. Participants were instructed to rate each sentence on a scale of 1 (incorrect) to 5 (correct).

Controlled written production test. In the controlled written production test, learners were instructed to use the words provided to form a complete, grammatical sentence in Spanish. Ten items included psych verbs (five with animate themes and five with inanimate themes), five included ditransitive verbs, and ten included transitive verbs (five with animate objects and five with inanimate objects). Because of space constraints, only the results of the transitive verb stimuli will be presented in this chapter.

Participants were instructed to use all of the words in the prompt to create grammatical sentences. They could combine the words in any way they wished; however, only those sentences for which transitive verbs were used were counted in the results. For instance, a student response of El estudiante y la profesora se visitan, “The student and the professor visit each other,” although grammatical, would not be counted in the tallies because the student did not attempt to use the target structure.

The production data were scored for correct (non)use of the preposition a. Other errors, such as those having to do with verb inflection, were not taken into account. Therefore a student response of *Patricio visitaré el museo del Prado would be scored correct for the purposes of this study because the target structure was used appropriately, even though the verb is incorrectly inflected.

One rater scored all of the production data, and a second rater independently scored 20 percent of the data. Interrater reliability, calculated using Cohen’s kappa, was $\kappa = .91$.

Instructional intervention. The instructional intervention consisted of an explicit grammatical explanation of the a-personal, followed by a practice exercise in which corrective
feedback was provided. The intervention contained both positive and negative evidence. Specifically, the grammatical explanation provided learners with positive evidence about a-personal in the form of grammatical sentences, which contained both animate and inanimate objects. In addition, it provided negative evidence, as it alerted learners to the contrast between Spanish, which requires the animacy marker a, and English, which does not differentially mark objects on the basis of animacy. An excerpt of the instructional intervention follows:

From the perspective of an English speaker, the “a” appears to be an “extra” word. From the perspective of a Spanish speaker, the “a” is required, and to not use it is an error. So you could never say “Conozco María” in Spanish.

After reading the grammatical explanation, learners completed a twenty-item practice exercise online. Each item consisted of a sentence with a drop-down menu immediately preceding the object, from which the learners chose either a or —. Of the twenty items, ten had animate objects and ten had inanimate objects. Following each response, participants received feedback that indicated whether their response was correct and provided a grammatical explanation. Participants were allowed to review the explanation and complete the practice task as many times as necessary to achieve 90 percent accuracy. The participants were all familiar with the presentation of the explanation and practice activities (and with the 90% cutoff score), as this was standard practice for all of the online materials in the course.

Design. The study followed a classic pre-/post-test design. In week 1, both native speakers and L2 learners completed a language background questionnaire, followed by the written production and GJT pretests. Then, in week 2, the L2 learners completed the instructional module online, followed by the immediate posttests. Three weeks later, the L2 learners completed the delayed posttests.

Results

Research Question 1: GJT Results

To answer the first research question, mean grammaticality judgment scores from the native speaker baseline group were examined first. Native speakers performed as predicted, accepting grammatical DOM sentences (with the a-personal) ($M = 4.95, SD = .09$) and rejecting ungrammatical ones (without the a-personal) ($M = 1.1, SD = .35$).

Given this pattern of behavior by native speakers, the L2 learners’ GJT data were then examined. On the pretest, the L2 learners’ mean grammaticality judgment rating for ungrammatical DOM sentences (without the a-personal) was 3.92 ($SD = .89$). For grammatical DOM sentences (with the a-personal) their mean rating was lower, 3.76 ($SD = .62$), indicating that at the time of the pretest the L2 learners in fact found ungrammatical DOM sentences slightly more acceptable than grammatical ones. Nevertheless, the difference in their ratings for grammatical and ungrammatical DOM sentences did not reach statistical significance, $t(146) = –1.749$, $p = .08$.

The L2 learners’ ability to distinguish between grammatical and ungrammatical DOM sentences improved markedly as a result of the instructional intervention, although certainly not to nativelike levels, as the graph in figure 17.1 shows.
The L2 learners’ mean GJT scores were analyzed using a factorial repeated-measures ANOVA with three within-subjects factors—time, grammaticality, and animacy. There were significant main effects for all three factors—time, $F(2,145) = 6.512, p < .002$; grammaticality, $F(1,145) = 43.252, p < .0001$; and animacy, $F(1,145) = 30.247, p < .0001$. Specifically, the learners’ scores differed significantly over time, and a post hoc Scheffé test indicated that pretest and immediate posttest scores were significantly different from each other, but immediate and delayed posttest scores were statistically similar. Furthermore, there were significant interactions between time and grammaticality, $F(2,290) = 52.012, p < .0001$, and between time and animacy, $F(2,290) = 82.810, p < .0001$. These interactions indicate that learners’ sensitivity to grammaticality and animacy was a function of the point in the study when the test was taken. Specifically, learners behaved differently on the pretest than they did on both posttests. Whereas on both posttests learners rated grammatical sentences higher than ungrammatical sentences, on the pretest they did the opposite. Similarly, on both posttests learners rated animate sentences higher than inanimate sentences, but on the pretest they rated inanimate sentences higher. The interaction between grammaticality and animacy, $F(1,145) = 43.479, p < .0001$, is a result of the fact that learners rated inanimate grammatical sentences higher than animate grammatical sentences and that they rated animate ungrammatical sentences higher than inanimate ungrammatical sentences. The significant interaction between time, grammaticality, and animacy, $F(2,290) = 10.631, p < .0001$, indicates that whereas on the posttests, learners rated animate grammatical sentences higher than animate ungrammatical sentences, on the pretest they rated the animate ungrammatical sentences higher.
These patterns are to be expected, as they show that prior to instruction learners were treating animate and inanimate objects the same way, just as they do in their L1. The change in behavior after instruction and the durability of the effects (as evidenced by the similarity of scores on the two posttests) indicates that instruction was able to influence their ability to distinguish between grammatical and ungrammatical DOM sentences.

Further analysis of the individual sentence types shows that instruction had a significant effect on learners’ ratings on all but the inanimate ungrammatical sentences (*Joaquín vio a la última película de Batman). This result indicates that instruction was effective on the target structure, sentences with animate objects. Specifically, effect sizes were small for animate ungrammatical sentences ($d = .21–.25$) (*Jorge ama Carolina apasionadamente) and large ($d = .67–.83$) for animate grammatical sentences (El estudiante visita a la profesora). Small effect sizes ($d = .29–.36$) were also observed for inanimate grammatical sentences (Mi hermana vio una exposición de arte).

Summary of GJT results. The first research question, whether instruction would enable learners to distinguish between grammatical and ungrammatical DOM sentences, was answered affirmatively—specifically, after instruction learners became more accepting of grammatical sentences and less accepting of ungrammatical ones. The largest effect sizes were found for animate ungrammatical sentences, indicating that instruction had the greatest impact on sentences that require DOM in Spanish.

**Research Question 2: Written Production Results**

To answer the second research question, participants’ raw scores on the written production test were examined. Figure 17.2 represents the percentage of sentences for which the preposition $a$ was used correctly.

![Figure 17.2 L2 Learners’ Use of the Preposition $a$ in Obligatory Contexts](image-url)
The L2 learners’ written production scores were then analyzed using a factorial repeated-measures ANOVA with two within-subjects factors—time and animacy. There were significant main effects for time, $F(2,292) = 28.757, p < .0001$, and for animacy, $F(1,146) = 460.705, p < .0001$, and a significant interaction between time and animacy, $F(2,292) = 23.715, p < .0001$. These results indicate that production scores increased over time, with a significant difference between the pretest and the immediate posttest, but no significant differences between scores on the two posttests. In addition, grammatical *inanimate* sentences were produced more frequently than grammatical *animate* sentences. Further analysis revealed that instruction had a significant effect on learners’ ability to produce sentences with animate objects, $F(2,292) = 48.120, p < .0001$, $d = .71$, between the pretest and immediate posttest and $.78$ between the pretest and delayed posttest. However, instruction did not significantly affect learners’ ability to produce sentences with inanimate objects, $F(2,292) = 1.190, p = .306$, although after the instruction there was evidence of slight overgeneralization, indicated by a slightly higher tendency for learners to use the preposition *a* with inanimate objects than before instruction.

Summary of results: Written production. The second research question, whether instruction would enable learners to produce grammatical sentences involving animate and inanimate objects, was also answered affirmatively. As the effect sizes indicated, the gains were quite substantial, with learners averaging just 16.76 percent use of the *a*-personal in obligatory contexts on the pretest to between 39 percent and 42 percent use on the posttests. Furthermore, there was only a slight tendency to overgeneralize the rule, with 8.69 percent use of the *a*-personal with inanimate objects on the delayed posttest.

Discussion and Conclusion
Overall, the results of this study indicate that intermediate-level L2 learners of Spanish were able to improve in their ability to distinguish between grammatical and ungrammatical sentences involving DOM and to produce those sentences, after receiving explicit instruction and practice involving corrective feedback. Also, the online instruction in this study was modeled after the types of instructional modules used throughout a hybrid delivery Spanish course that uses online modules as a unit of grammar instruction, reserving face-to-face class time for communicative activities. Therefore the study found that students made gains with respect to the target structure from interacting with the self-instructional grammar unit. Although this study provides only written measures of learning and tests the efficacy of just one module of instruction, it seems to provide support for this type of hybrid instruction. Certainly further research in this area, and in the area of computer-assisted language learning (CALL) in general, is warranted to determine precisely which aspects of technology-enhanced instruction are most effective on which grammatical targets.

Despite the effects found for instruction in this study, it is important to note that the instructed L2 learners’ posttest GJT ratings and production rates for DOM sentences were still significantly different from those of the native speakers. That is, although the instruction substantially improved learners’ ability to distinguish between grammatical
and ungrammatical sentences involving DOM, it did not make them perform like native speakers. Similarly, although the instruction caused them to supply the a-personal in obligatory contexts (with animate objects), their posttest percentages of use near 40 percent do not make them comparable to native speakers. These results should not be unexpected given the short duration of the instructional treatment and the difficulty of the structure for L1 English speakers, evidenced anecdotally by language instructors and in previous SLA research (VanPatten and Cadierno 1993; Johnston 1995).

Because the participants in this study received instruction that included explicit rule presentation, positive evidence, and negative evidence in the form of corrective feedback, our data do not allow us to make claims about which particular aspect(s) of the instructional intervention led to the gains. Future research could investigate the relative effects of each aspect, as Sanz and Morgan-Short (2004) did in their study on the acquisition of clitics in L2 Spanish.

Overall, results support the claim that L2 learners can restructure their interlanguages and overcome the structure imposed by their L1 (Schwartz and Sprouse 1996). Nevertheless, it is clear that these low-intermediate learners have not yet completely learned the rules for DOM and do not have nativelike grammars in this respect. Because of this, the data from the present study are not sufficient to determine whether full access is entirely possible in this grammatical domain. However, future research could weigh in on the issue by testing advanced and near-native L2 learners’ ability to distinguish grammatical and ungrammatical sentences involving DOM. Such tests with advanced learners would reveal whether the problems attested here with low-intermediate level learners persist and whether instruction would be beneficial for learners at these levels as well. Perhaps most important, such tests would reveal whether learners’ knowledge of DOM fossilizes.

REFERENCES


INSTRUCTED L2 ACQUISITION OF DIFFERENTIAL OBJECT MARKING IN SPANISH


