

## Acquiring Semantic Properties of Preterite and Imperfect Tenses in L2 Spanish

Silvina Montrul  
University of Illinois  
at Urbana-Champaign

and

Roumyana Slabakova  
University of Iowa

### 1. Acquiring Interpretations: The Logical Problem of L2 Acquisition

The leading question of generative research on non-native language (L2) acquisition has been whether interlanguage grammars are “constrained” by Universal Grammar (UG). Crain & Thornton (1998) define UG constraints as “sanctions against certain ways of putting a message, or sanctions against assigning certain meanings to sentences that are themselves well-formed” (C&T, 1998: 20). How do L1 and L2 speakers acquire knowledge of constraints? From the inception of the generative enterprise, the claim has been mainly supported by the Poverty of the Stimulus argument. It takes the following form:

- (A) All native speakers know some particular aspect of their language, call it property P.
- (B) Knowledge of property P could not have been learned on the basis of primary linguistic data.
- (C) Knowledge of property P must be innately specified (i.e., part of Universal Grammar)

The following graphic (C&T 1998: 27) illustrates the fact that certain aspects of linguistic knowledge (e.g. binding, *wanna* contraction, etc.) have to be mastered in the absence of primary linguistic data.

**Input (primary linguistic data) → LAD → Final state**

<sentence, meaning>

<sentence, meaning>

<sentence, {meaning<sub>1</sub>, meaning<sub>2</sub>}>

<sentence, {meaning<sub>1</sub>, \*meaning<sub>2</sub>}>

\*sentence

The child hears (predominantly) grammatical sentence-meaning pairs. The final state grammar generates not only unambiguous sentence-meaning pairs, but also ambiguous sentences, pertaining to two meanings. Knowledge of unavailability of certain meanings, as well as of ungrammaticality is also part of the final state grammar. In the absence of negative evidence, there must be an innate language faculty constraining knowledge of syntactic and semantic interpretations in L1 acquisition.

The strong UG hypothesis assumes that adult L2 acquisition is also constrained by UG. As seen above, UG constrains both the syntactic form and the semantic interpretation of sentences. Most of the existing research in L2 acquisition has concentrated predominantly on the formal syntactic properties of interlanguage grammars. The present experiment tests the strong UG hypothesis in the acquisition of

meaning. This type of research has been pioneered by Dekydtspotter and Sprouse's investigations of the syntax-semantics interface. Dekydtspotter, Sprouse & Anderson (1997) and Dekydtspotter, Sprouse & Leininger (1999) provide empirical evidence showing that L2 learners of French acquire subtle properties of the interpretative interface in the absence of relevant input. The experimental study presented below extends this approach to the domain of aspect and investigates to what extent English-speaking learners of Spanish develop intuitions about the subtle semantic implications of the Preterite and Imperfect tenses.

## 2. Background

The term 'aspect' refers to the internal temporal structure of events as described by verbs and phrases (Comrie 1976, Chung & Timberlake 1985, Smith 1991/97). It is the property which makes it possible for a sentence to denote a complete or an incomplete event. 'Lexical aspect' (also termed 'situation aspect' by Smith 1991/97) refers to aspectual classes of verbs. The well-known Vendler (1967) classification includes the following classes:

- |     |                 |                                       |
|-----|-----------------|---------------------------------------|
| (1) | states          | <i>know, belong, be young</i>         |
|     | activities      | <i>run, eat pie</i>                   |
|     | accomplishments | <i>run a mile, eat a piece of pie</i> |
|     | achievements    | <i>die, notice</i>                    |

'Grammatical aspect' (also known as 'viewpoint aspect' (Smith 1991/1997), or 'sentential aspect') is indicated by perfective and imperfective tense morphemes. Comrie (1976: 3) argues that they represent "different ways of viewing the internal temporal constituency of a situation".

The following definitions and diagrams are from Smith (1991/97). The perfective viewpoint as in (2a), represented by the past simple tense, looks at the situation from outside and disregards the internal structure. On the other hand, the imperfective viewpoint, as represented by the progressive tense (cf (3a)), looks at the situation from inside and is concerned with its internal structure without specifying beginning or end.

- |        |  |              |
|--------|--|--------------|
| (2) a. | Laura <b>built</b> a house.  | [//////////] |
| b.     | Laura construy- <b>ó</b> una casa.<br>Laura build-PRET a house<br>'Laura built a house.'       | I F          |
| (3) a. | Laura <b>was building</b> a house.   | [...//...]   |
| b.     | Laura constru- <b>ía</b> una casa.<br>Laura build-IMP a house<br>'Laura was building a house.' | I F          |

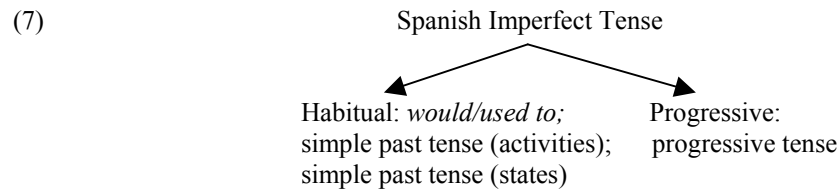
In Spanish, the [±perfective] distinction is manifested with overt tense morphology. In the example in (2b) the Preterite tense exemplifies the perfective value of the

viewpoint distinction, while in (3b) the Imperfect exemplifies the imperfective value.

According to Comrie (1976: 25), the imperfective value of the [±perfective] opposition subsumes at least one more opposition: that between progressive and habitual. Both view the situation from within, omitting to specify initial and final point. In addition, a progressive event is by definition a dynamic event, unfolding over a period including the reference point (cf (3a) with a past reference point). The habitual, on the other hand, is usually a series of finished events, and can be expressed in English by the combination of activities and past tense, as in (4), or by adding the modal verbs *would*, *used to* as in (5). States are imperfective in the simple tenses, either present, past or future (cf 6).

- (4) Colin wrote travel books (for a living).
- (5) Maria would/used to visit her mother at least once every month.
- (6) The room is /was /will be white.

The imperfective viewpoint tenses in Spanish and English and their relationship can be summarized as in (7). In the previous discussion, it is important to note that the imperfective viewpoint value is not represented by a single tense in English, while it is represented by the Imperfect tense in Spanish. This fact crucially affects the learning task of English native speakers acquiring Spanish.



The following three syntactic and semantic properties are being tested in the present experiment. First, with some verbs (e.g. *poder* ‘be able to’, *saber* ‘know’) the choice of tense has an effect on the semantics of the event: these verbs are stative with the Imperfect but eventive with the Preterite.

- (8) a. Juan sab-**ía** la verdad. STATIVE  
Juan know-IMP the truth  
‘Juan (already) knew the truth.’
- b. Juan **supo** la verdad. EVENTIVE  
Juan know-PRET the truth  
‘Juan found out the truth.’

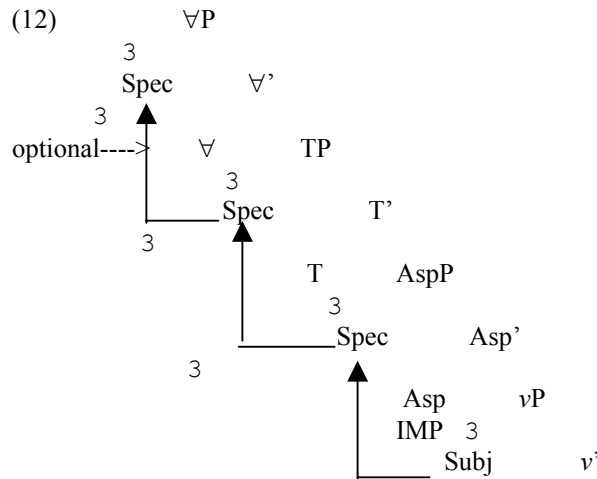
Secondly, in the absence of adverbials, the Preterite and Imperfect have different implications for the one-time, completed or habitual nature of the event, while the English past tense interpretation depends on whether the verb phrase is an activity or an accomplishment.



The temporal connective *quando* 'when(ever)' splits the sentence into a restrictive clause, which specifies the property identifying a set of objects/events; and a main, or matrix clause, which specifies the property attributed to these objects/events. The logical form of the sentence is as follows:

$$(11') \forall e([\text{Cont}(e) \wedge \text{the-janitor-see-me}(e)]_R \rightarrow [\exists e'(\text{the-janitor-open-the-door}(e') \wedge \succ\langle e, e' \rangle)]_M).$$

The universal quantification of the Imperfect is determined by the presence of a phonetically empty quantifier whose syntactic manifestation is the imperfective morphology. The entire when-clause is often left implicit, but the analysis is basically the same. Following Grohmann and Etxepare (to appear), we assume that the universal quantifier involved in the imperfective tense in Spanish (lets call it  $\forall P$ ) is positioned above the TP projection. The partial tree in (12) illustrates our analysis.



This analysis explains the two available interpretations of the subject pronoun with Imperfect (cf 12a,b). When the subject pronoun raises to the Spec of the  $\forall P$ , the generic interpretation obtains. When the subject is in the scope of deictic tense (which is similar to a definite marker in the verbal system, cf Baker and Travis 1997) the specific interpretation obtains. The subject pronoun in Preterite tense sentences cannot raise to a  $\forall P$  spec, simply because  $\forall P$  does not exist.

### 3. Experimental Hypotheses

Under the assumption that L2 acquisition is constrained by UG, we hypothesized that L2 learners would be sensitive to the semantic distinctions between Preterite and Imperfect in Spanish, regardless of the explicitness of information in the input. Recall that the contrasts in (8) and (9) are explicitly taught in language classrooms while the

contrast in (10) is not. If L2 learners can only learn those properties of Preterite and Imperfect for which they receive extensive information in the classroom, then a strong case for UG cannot be made. However, if they demonstrate knowledge of subtle semantic distinctions underrepresented in the input and never taught in language classrooms, then a strong case for the availability of UG can be made.

#### 4. The Study

##### *Participants*

Sixty-nine English-speaking learners of Spanish took part in the experiment, divided into two proficiency groups: 40 intermediate and 29 advanced (see below). Eighteen Spanish native speakers served as controls.

##### *Test Instruments*

We administered a Proficiency Test, adapted from *Diploma de Español como Lengua Extranjera (DELE*, Embassy of Spain, Washington DC) and a Preterite/Imperfect fill-in the blanks test (adapted from Salaberry (1997)). In the latter, the subjects had to choose which of the two supplied forms goes well in the context.

- (13) El jefe le (1) daba/dio el dinero a la empleada para depositarlo en el banco. La empleada (2) trabajó/trabajaba para la compañía pero no (3) estuvo/estaba contenta con su trabajo y (4) quiso/quería otro trabajo. . . .  
'The boss gave the money to the employee to be deposited in the bank. The employee worked for the company but was not happy with her job and wanted another job . . .'

The main task of the study was a Truth Value Judgment Task (Crain & Thornton, 1998; Grimshaw and Rosen, 1990). This task has been used successfully in SLA by Bruhn-Garavito 1995; White, 1995; White, Hirakawa & Kawasaki, 1996; White, Bruhn de Garavito, Kawasaki, Pater & Prévost, 1997). The subjects had to choose whether the sentence following each story is true or false.

- (14) La navidad pasada Carmen hace una fiesta e invita a todos sus viejos amigos. Entre todos los invitados están Susana y Marcos, que no se ven muy seguido. Cuando Marcos conversa con Susana le pregunta por su familia. Susana le cuenta a Marcos que su familia está viviendo en Barcelona ahora.

Marcos conoció a Susana.

V

(F)

- (14') La navidad pasada Carmen hace una fiesta e invita a todos sus viejos amigos. Entre todos los invitados están Susana y Marcos, que no se ven muy seguido. Cuando Marcos conversa con Susana le pregunta por su familia. Susana le cuenta a Marcos que su familia está viviendo en Barcelona ahora.

Marcos conocía a Susana.

(V)

F

‘Last Xmas Carmen gives a party for all her old high-school friends. Among all the guests are Marcos and Susana who don’t see each other very often. When Marcos and Susana chat with each other, Marcos asks Susana about her family. Susana tells him that her family is now living in Barcelona.’

Marcos met Susana (for the first time) FALSE FOR STORY (14)  
 Marcos knew Susana TRUE FOR STORY (14)

(15) Ana va a la boda de sus amigos Carlos y Carolina. Ana no tiene novio. Carolina le presenta a Roberto. Ana y Roberto bailan toda la noche.

Ana conocía a Roberto. V  F

(15’) Ana va a la boda de sus amigos Carlos y Carolina. Ana no tiene novio. Carolina le presenta a Roberto. Ana y Roberto bailan toda la noche.

Ana conoció a Roberto.  V F

“Ana goes to the wedding of her friends Carlos and Carolina. Carolina introduces Roberto to Ana. Ana and Roberto dance all night long.”

Ana knew Roberto FALSE FOR STORY (15)  
 Ana met Roberto (for the first time) TRUE FOR STORY (15)

In each quadruple of story-sentence combinations, Preterite and Imperfect test sentences were crossed with stative and eventive context stories, as shown above, and depending on the condition. There was a total of 80 stories, 40 with a sentence in the Preterite and 40 with a sentence in the Imperfect, 12 of which were distractors. Three main conditions were tested: Condition A: change of meaning Preterites (*saber, poder, querer*, etc); Condition B: habitual vs. one time events; and Condition C: generic versus specific subject interpretation (*se* and *tú*).

### Results

**Table 1: Proficiency Test (max = 50)**

	Intermediate (n = 40)	Advanced (n = 29)
mean	25.90	33.88
sd	6.36	3.87

ANOVA:  $F(1,67) = 168.92, p < .0001$

**Table 2: Morphology Test (max = 30)**

	Intermediate (n = 40)	Advanced (n = 29)
mean	22.67	27.44
sd	3.88	3.06

ANOVA:  $F(1,67) = 38.937, p < .0001$

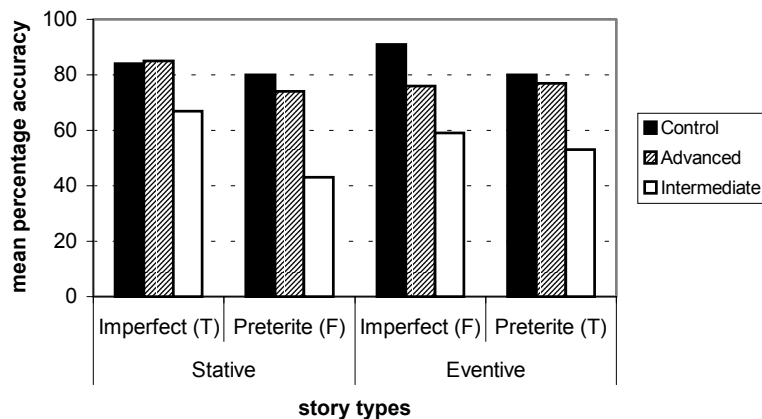
Tables 1 and 2 give the mean score and standard deviation of the subjects on the proficiency test and on the morphology test, respectively. The two groups' means are statistically different, as indicated below the tables.

The subjects' scores on the Truth Value Judgment Task were submitted to a Factorial ANOVA (GLM, Multivariate Repeated Measures Analysis), with Group as between factor (control, advanced, intermediate) and Sentence Types (A, B & C), Tense (P vs. I) and Response (T vs. F) as within factors. The overall results show that there is a main effect for Group ( $F(2,84) = 56.75, p < .0001$ ); main effect for Sentence Type ( $F(3,84) = 23.803, p < .0001$ ); main effect for Tense ( $F(1,84) = 16.704, p < .0001$ ); but crucially, there was no main effect for Response ( $F(1,84) = 1.96, p < .164$ ). It was important to establish that the subjects had no response bias to either true or false answers, before looking at their aspectual interpretation choices.

Condition A tests the acquisition of verbs that change meaning depending on the tense. Looking at the accuracy of subjects on the two different tenses, we found that intermediate learners were significantly more accurate with the Imperfect than with the Preterite with verbs such as *poder* 'be able to', *saber* 'know', *conocer* 'be acquainted with', *no querer* 'not to want' and *tener* 'have'. Note that learners have to acquire each meaning separately, as is the case for other ambiguous lexical items.

Figure 1 below breaks down the results depending on the story type (establishing stative or eventive context). The intermediate learners were significantly more accurate with the Imperfect than with the Preterite on the stative stories ( $p < .0001$ ); while the controls were significantly more accurate with the Imperfect than with the Preterite on the eventive stories ( $p < .004$ ). All other groups were equally accurate with both tenses. Since the Imperfect tense is the default tense with these (stative) verbs, higher accuracy on the Imperfect was expected. This was supported by the findings for the Intermediate group.

**Figure 1: Mean Accuracy on Tense by Story Type on Condition A (Change of Meaning Preterites)**



Condition B tests subjects' interpretation of the two tenses' semantic entailments. The Preterite denotes a one-time event in the past while the Imperfect denotes a habitual event. Overall accuracy on Preterite was significantly different from the Imperfect for the advanced and intermediate learners.

**Figure 2: Mean Accuracy on Tense by Story Type on Condition B (Habitual vs. One-time Event)**

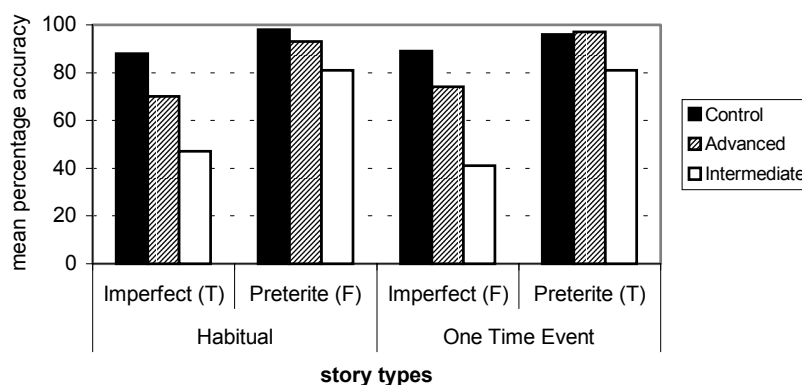
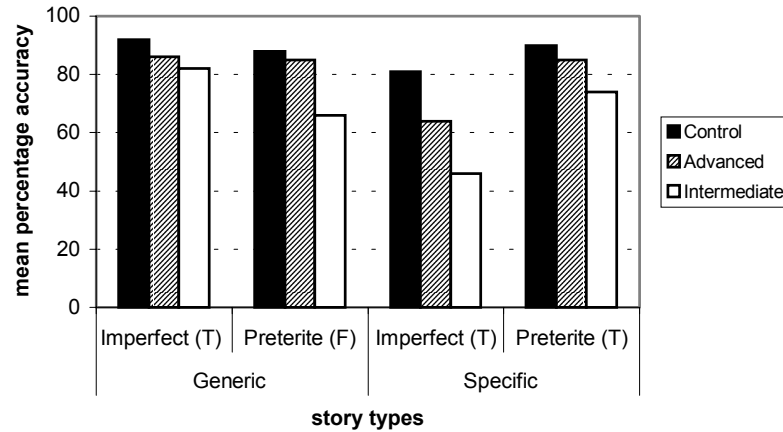


Figure 2 presents subjects' accuracy broken down into story type. On habitual stories, both the advanced and the intermediate learners were more accurate with the Preterite than with the Imperfect ( $p < .002$  and  $p < .0001$ , respectively). On one-time-event stories, again the advanced and the intermediate learners were more accurate with the Preterite than with the Imperfect ( $p < .002$  and  $p < .0001$ , resp). These results suggest that the subjects have acquired the fact that the Preterite can describe a one-time event in the past, and cannot describe a habitual activity. The knowledge of the Imperfect semantics, however, develops later.

On Condition C, testing the subject pronoun interpretation, there were no significant differences for any of the groups when we looked at the overall accuracy by tense. But the more detailed picture is, again, somewhat different. On the generic stories (see Figure 3), the intermediate learners were more accurate with the Imperfect than with the Preterite ( $p < .0001$ ). The Preterite is false in this condition, since the generic interpretation of the subject is unavailable, and the advanced subjects are well aware of this fact. On the specific stories, both the advanced and the intermediate subjects were more accurate with the Preterite than with the Imperfect ( $p < .0001$  and  $p < .0001$ , respectively) although both test sentences with this story type are actually true. Thus, although the semantic effects tested in this condition are extremely subtle and not explicitly taught, our learners already show sensitivity to the contrast.

**Figure 3: Mean Accuracy on Tense by Story Type on Condition C (Subject Interpretation)**



Let us turn to individual results now to see how many subjects have acquired the Preterite-Imperfect contrast within each condition. These were calculated in the following way. Since some controls had 4 correct out of 6 story-sentence combinations, or they were 66% accurate, we accepted that percentage as the cutoff point for successful acquisition for the learners. The individual results by group and story type are given in Table 3. As the table illustrates, the individual results support our group accuracy findings. It is important to notice that the advanced group's percentage of successful acquisition on Condition C is quite comparable to that of the control group.

**Table 3: Individual Results: Percentage of Subjects per group who have acquired the Preterite/Imperfect Contrast**

Condition	Story Type	Control (n = 18)	Advanced (n = 29)	Intermediate (n = 40)
A	Eventive	17 (94%)	19 (65%)	10 (25%)
	Stative	15 (83%)	23 (79%)	9 (23%)
B	One Time	18 (100%)	21 (72%)	12 (30%)
	Habitual	17 (94%)	23 (79%)	16 (40%)
C	Specific	15 (83%)	24 (82%)	10 (25%)
	Generic	16 (84%)	22 (75%)	22 (55%)

## 5. Summary and conclusion

The results of the intermediate and advanced groups reveal a steady developmental trend in the acquisition of semantic interpretations of Preterite and Imperfect in all three conditions. The contrast in Condition C (the Imperfect can have both a generic and specific subject interpretation while for the Preterite the generic is ruled out) presents a clear poverty of the stimulus situation. The results of the advanced group suggest that L2 learners are able to learn properties of the grammar that are neither explicitly taught in language classrooms, let alone obvious in the input. The contrast starts to emerge with the intermediate group. The most important finding of the study is that the non-taught property of Spanish aspectual tenses is equally well acquired as the properties taught in language classrooms.

Contrary to what Coppiters (1987) has claimed for French near-natives, this study shows that advanced L2 learners can eventually acquire the subtle semantic properties of Preterite and Imperfect aspectual tenses (see also Montrul & Slabakova and Slabakova & Montrul, in preparation). Thus, our results lead us to conclude that knowledge of semantics is constrained by Universal Grammar (see also Dekydtspotter, Sprouse & Anderson, 1997 and Dekydtspotter, Sprouse and Leininger, 1999).

## Acknowledgements

The authors' names are in alphabetical order. We would like to thank all the subjects who took part in the experiment, and our colleagues and teaching instructors at SUNY Albany and the University of Iowa for help with the testing and useful suggestions. The financial support of the University of Iowa VP (Research) is gratefully acknowledged. This study was conceived when the two authors were postdoctoral associates at McGill University, Montreal. We are grateful to Lydia White and our colleagues at the McGill Functional Categories Acquisition Project for insightful comments and suggestions.

## References

- Baker, M. and Travis, L. (1997) Mood as verbal definiteness in a tenseless language. *Natural Language Semantics* 5, 213-269.
- Bonomi, A. (1997). Aspect, quantification and when-clauses in Italian. *Linguistics and Philosophy*, 20: 469-514.
- Bruhn-Garavito, J. (1995). L2 acquisition of verb complementation and Binding Principle B. In F. Eckman, D. Highland, P. Lee, J. Mileman & R. Rutkowski (Eds.), *Second Language Acquisition Theory and Pedagogy* (pp. 79-99). Hillsdale, NJ: Lawrence Erlbaum.
- Chung, S. & A. Timberlake. (1985). Tense, aspect, and mood. In T. Schopen (Ed.), *Language Typology and Syntactic Description*. Cambridge University Press.

- Comrie, B. (1976). *Aspect*. Cambridge, UK: Cambridge University Press.
- Coppieters, R. 1987. Competence differences between native and near-native speakers. *Language*, 63: 544-573.
- Crain, S. & R. Thornton (1998). *Investigations in Universal Grammar*. Cambridge, MA: MIT Press.
- Dekydtspotter, L., Sprouse, R., & B. Anderson (1997). The interpretive interface in L2 acquisition: The process-result distinction in English-French interlanguage. *Language Acquisition*, 6,4: 297-332.
- Dekydtspotter, L., Sprouse, R., & Leininger, A. (September 1999). Interpretation in L2 acquisition: quantifiers and tense in English-French interlanguage. Paper presented at SLRF' 99, University of Minnesota.
- Grimshaw, J. & Rosen, S. (1990). Knowledge and obedience: The developmental status of the binding theory. *Linguistic Inquiry*, 21, 188-221.
- Grohman, K. and Etxepare, R. (to appear) Root Infinitives: A comparative view. *Probus*.
- de Miguel, E. (1992). *El aspecto en la sintaxis del español: perfectividad e impersonalidad*. Madrid: Ediciones de la Universidad Autónoma de Madrid.
- Montrul, S. & Slabakova, R. (under review). Acquiring morphosyntactic and semantic properties of aspectual tenses in L2 Spanish. In A-T. Pérez-Léroux & J. Liceras (Eds.). *The Acquisition of Spanish Morphosyntax: The L1/ L2 Connection*. Dordrecht: Kluwer.
- Salaberry, R. (1997). The development of Spanish Past Tense aspect among adult academic L2 learners. Unpublished PhD dissertation, Cornell University, Ithaca, NY.
- Schmitt, C. (1996). Aspect and the syntax of noun phrases. Unpublished PHD dissertation, University of Maryland, Maryland.
- Slabakova, R. & Montrul, S. (under review). Aspectual tenses in L2 Spanish: A UG perspective. In R. Salaberry & Y. Shirai (Eds.) *The Acquisition of Aspect*. Philadelphia: John Benjamins.
- Smith, C. (1991/1997). *The Parameter of Aspect*. Dordrecht: Kluwer.
- White, L. (1995). Input, triggers and second language acquisition: Can binding be taught? In F. Eckman, D. Highland, P. Lee, J. Mileman & R. Rutkowski (Eds.), *Second Language Acquisition Theory and Pedagogy* (pp. 63-78). Hillsdale, NJ: Lawrence Erlbaum.
- White, L., Hirakawa, M. & Kawasaki, T. (1996). Effects of instruction on second language acquisition of the Japanese long-distance reflexive *zibun*. *The Canadian Journal of Linguistics*, 41 (3), 201-294.
- White, L. Bruhn-Garavito, J., Kawasaki, T, Pater, J. & Prévost, P. (1997). The researcher gave the subject a test about himself: Problems of ambiguity and preference in the investigation of reflexive binding. *Language Learning*, 47, 1: 145-172.