

Non-native Recognition of the Iterative and Habitual Meanings of Spanish Preterite and Imperfect Tenses

Ana T. Pérez-Leroux, Alejandro Cuza, Monika Majzlanova,
and Jeannette Sánchez-Naranjo
University of Toronto

1. INTRODUCTION

One of the main goals of the study of second language acquisition is to provide an explanation of the different outcomes of language learning in adulthood and in childhood. One crucial problem involves ascertaining how much of the observed differences depend on the nature of the grammatical representation of non-native speakers and how much they depend on performance factors (Towell & Hawkins, 1994). Recent generative work has favored performance-based arguments for nonconvergence, primarily in the domain of morphology (Epstein, Flynn, & Martohardjono, 1996; Prévost & White, 1999). One performance-based proposal has been made in the domain of tense and aspect by Slabakova and Montrul (2002), who proposed that L2 learners have difficulties with the integration of pragmatic knowledge with their knowledge of aspectual distinctions. Slabakova (2002) suggests the alternative view that complex aspect-eventuality combinations add processing time for all types of speakers, leading to a decline in performance that would be most apparent for L2 speakers.

We explored the possibility of competence differences in past habitual and iterative meanings in a study of Spanish L2 learners' selection of past tense forms (N = 31). Learners' performance with Spanish preterite and imperfect was tested in contexts of aspectual coercion, using grammaticality judgment and translation tasks. The iterative meanings were introduced explicitly (compositionally, with an iteration adverb, as in (2b)), or implicitly (via aspectual coercion, as in (2c)). Crucially, whereas the past habitual sense is expressed in the imperfect (1), both ways of introducing the iterative sense require the preterite form (2b,c), as does the single punctual event in (2a).

Grammatical instruction does not distinguish between these senses. It simply states that “the imperfect tense is used to refer to a habitual or repeated actions in the past” (Jarvis, Lebrede, & Mena-Ayllón, 2003, p. 67).

- (1) *Jugaban en el parque.*
 ‘The children (habitually) played in the park.’ [habitual, imperfect]
- (2) a. *Los niños se cambiaron de asiento (una vez)*
 ‘The children changed seats (once).’ [punctual event, preterite]
- b. *Los niños se cambiaron de asiento repetidamente.*
 ‘The children changed seats repeatedly.’
 [iterative adverbial, preterite]
- c. *Los niños se cambiaron de asiento por horas.*
 ‘The children changed seats for hours.’
 [iterative coercion, preterite]

In a discourse representation framework (De Swart, 1998; Schmitt, 2001), cross-linguistic variation in the aspectual system does not depend on interpretable features fixed by the morphosyntax of the verbal paradigm (as in Giorgi & Pianesi, 1997), but on the selectional features of each tense head. In this view, tense/aspect morphemes are heads that semantically select for the eventuality type of its VP complement. Eventualities are semantically of two types, heterogeneous and homogeneous. Type mismatches between elements entering the aspectual composition are resolved by the free insertion of coercion operators (i.e., type-shifters), which serve to resolve aspectual transitions. In (2c), there is a mismatch between the punctual verb and the duration adverbial, neither of which intrinsically contains the property of iterativity. The iterative operator is inserted to resolve this mismatch, and the predicate acquires the interpretation of repeated events of seat-exchanging.

Under this view, acquisition is not a process of feature activation but rather of lexical acquisition of s-selectional properties of individual tense heads. This is compatible with the view that allows for treating each aspectual tense independently. We present a study that confirms the existence of specific competence differences in the intermediate L2 grammar of preterite–imperfect. In habitual contexts, L2 learners are not able to detect the ungrammaticality of the use of preterite, and in iterative contexts, performance is overall rather poor. We argue these learners’ difficulties are not the result of an impaired capacity for making implicit aspectual transitions, as failure to make a transition should retain the basic selection of the preterite form as in (2a). Furthermore, learners still exhibit difficulty when the iterative meaning is introduced compositionally via an adverb as in (2b), requiring less implicit processing. We interpret our findings as evidence that L2 speakers have nontarget lexical representations of the preterite and imperfect tenses, and that these semantic differences become apparent in the more semantically complex contexts.

2. BACKGROUND

2.1. The Challenge of Tense and Aspect

The acquisition of the semantic mappings of tense and aspect forms is a complex task for L2 learners (e.g., Bardovi-Harlig, 1999; Housen, 2002; Montrul & Slabakova, 2003). Coppieters (1987) considered aspectual meanings to be an area where L2 learners are unlikely to reach the target grammar. In a study about the possibility of ultimate attainment in a group of French L2 speakers rated as nativelike, Coppieters observed that attainment did not seem uniform across linguistic domains. Near-native subjects behaved comparably to natives with formal domains of grammar (i.e., structural behavior ruled by UG principles) but not with functional domains (i.e., parameterized semantic distinctions). His data showed quantitative differences in the intuitions native and near-native speakers of French had with regard to the *imparfait-passé composé* distinction.

Montrul and Slabakova (2003) revisited the question of specific L2 difficulties in the aspectual domain and attainment. Their evidence suggests that many (as much as 30%) high proficiency speakers not living in a Spanish-speaking country were capable of performing in a nativelike manner in all tasks. They concluded that near-native competence in the domain of aspectual interpretation is attainable in a wide range of contexts: “Although this area is certainly difficult to acquire, our results suggest that it is not universally subject to a critical period” (Montrul & Slabakova, 2003, p. 388).

The study of the imperfective–perfective distinction across lexical classes (states, processes, achievements, and accomplishments) in L2 Spanish in Montrul & Slabakova (2002) revealed that some specific contexts create more difficulty for L2 speakers. Their advanced speakers performed like natives in all conditions with the exception of imperfect with achievement predicates. Following Giorgi and Pianesi (1997), Montrul and Slabakova suggest that imperfect with achievement predicates is odd because achievements have an inherent endpoint and are incompatible with the unbounded nature of the imperfect. Additional context can save the structure, however, by shifting focus from the result to the process leading to the result, as illustrated in (3).

(3) *Juan alcanzaba la cima cuando una ráfaga de viento se lo impidió.*

‘Juan reached the top when a strong wind prevented him from [reaching] it.’

Interestingly, these advanced learners “behaved as predicted by Giorgi & Pianesi’s theoretical account [in rejecting] this particular combination of lexical class and tense, whereas the native speakers had a tendency to accept it” (Montrul & Slabakova, 2002, p. 139). Montrul and Slabakova suggest that L2

subjects fail to coerce the appropriate process reading, perhaps for principled reasons:

Even though English speakers coerce in English, and Spanish speakers do the same in Spanish, coercion might be peripheral to UG competence, and thus harder to acquire. That is, non-native speakers have the morphosyntactic and interpretive properties (features) of AspP fully intact, but, unlike native speakers, they might not have the pragmatic ability to coerce so as to avoid a conflict between the semantic features of aspectual lexical class (telic) and those of the aspectual tense (unbounded). (p. 140)

Slabakova (2002) later modifies this conclusion, suggesting that L2 pragmatic competence should be fully developed and arguably universal. Nonetheless, complex (nonbasic) combinations of grammatical aspect markers and VPs may be costly to process. Complex aspectual combinations add processing time for everyone and can lead to a decline in performance, particularly for L2 speakers.

2.2. Previous Results on Habitual and Iterative Contexts

Are certain semantic values of tense and aspect morphology more difficult than others in the context of L2 acquisition? We propose that habituality and iterativity are a good test case. Work on the role of lexical aspect in the acquisition of grammatical aspect has identified specific difficulties with habitual contexts (Bardovi-Harlig & Reynolds, 1995; Huang, 1999). For instance, Shirai (2002) finds an overextension of imperfective marker in habitual context with activity verbs and argues that the results are due to transfer from Chinese. The transfer proposal is supported by learners' consistent difficulty with the resultant state meaning of the imperfective morpheme. Shirai concludes that learners show sensitivity to habituality and that lexical semantics is not the sole predictor of learners' patterns of use.

Montrul and Slabakova's (2003) attainment study included a truth-value judgment task investigating habitual and one-time events. Subjects were asked to judge a statement in which the choice of preterite (one-time event) or imperfect (habitual event) determined the truth-value of the sentence. For one of the characters described in the stories, the statement was true in one instance but false generally, and for the other, the statement was habitually true but false in the specific instance narrated. Both near-native speakers and superior speakers in their sample performed like natives with the habitual story, but advanced speakers scored significantly lower. With the one-time stories, preterite sentences presented no difficulties, and all the L2 groups reached nativelike performance. With the imperfect sentences in this condition, the advanced speakers scored significantly lower than the other groups. These results suggest that advanced L2 speakers of Spanish correctly associate preterite with unique

events but have a certain degree of uncertainty about the expression of habitual meanings, in particular, and the use of imperfective past tense in general.

Another study (Slabakova & Montrul, 2002) explored whether L2 learners have special difficulties with selection of aspectual morphology in coercion contexts, that is, contexts where meaning discrepancies introduce a shift in the sense of one of the components. Monolingual speakers have slower processing of these sentences than of semantically transparent sentences. Participants were presented with sets of grammatically and pragmatically induced aspect shifts to judge for acceptability. The various grammatical conditions tested the role of a quantized direct object in the activity–accomplishment alternations (4a), alternations originating with the telicity marker *se* (4b), and eventive–stative shifts that depend on the association of preterite and imperfect with a predicate such as *correr* ‘to run’, which is a state in the imperfect but takes on an eventive meaning if expressed in the preterite (4c).

- (4) a. *dibujar* (activity) > *dibujar un círculo* (accomplishment)
 ‘draw/draw a circle’
 b. *leer el libro* (activity) > *leerse el libro* (accomplishment)
 ‘read /read up the book’
 c. *El río corría por la montaña* (stative) > #*El río corrió por ...*
 (eventive)
 ‘The river ran /jogged through the mountain.’

In addition to the grammatical contrast, they included pragmatic contrasts such as (5a), where the verb *correr* ‘run’ is ruled out depending on the animacy of the subject, or (5b), where the VP *cortar el pasto* ‘mow the lawn’ alternates between an activity and an accomplishment reading by virtue of the temporal PPs (*for X time, in X time*), and finally, (5c), achievement predicates such as *llegar* ‘arrive’ that are coerced into a habitual reading by virtue of a duration adverbial.

- (5) a. $\sqrt{\text{Roberto}}/\#el\ río\ corrió\ por\ la\ montaña.$
 ‘The river/Roberto ran through the mountain.’
 b. *cortó el pasto en una hora/por una hora.*
 ‘mowed the lawn in half an hour/for an hour.’
 c. *Ayer/ Durante muchos meses, el tren del mediodía llegó tarde.*
 ‘Yesterday/For many months, the noon train came late.’

Advanced speakers perform comparably to native speakers with the grammatically induced shifts and the intermediates were equally good with telicity marker *se* but not with telicity effects induced by the presence of a direct object. With the state–eventive contrast depending on selection of preterite–imperfect (5a), advanced speakers were aware of the contrast but lagged behind controls. With the temporal PPs with eventive predicates (5b), advanced

speakers showed nativelike performance. With subject animacy (5a), intermediate learners performed rather poorly, readily accepting inanimate subjects. Finally, with pragmatically induced contexts (iteration forced by duration adverbial, as in (5c)), learners failed to give high ratings to the grammatical coercion cases.

Intermediate L2 speakers in Slabakova and Montrul's (2002) study did not recognize aspectual shifts induced by grammatical or pragmatic devices, with the exception of the "for/in" adverbial tests. These results suggest that overt aspectual shifters are easier to acquire than covert signals for the initial stages. Advanced speakers, in contrast, correctly recognized the shifts in most coercion contexts (5 out of 6), but failed to do so for achievement predicate coerced by a duration adverbial into an iterative reading (labeled habitual in their article; see section 3.2). The authors conclude that L2 speakers can acquire aspect interpretations but that pragmatic and grammatical knowledge may be dissociated.

A pilot study on the effect of instruction in the acquisition of aspectual semantics in habitual-iterative contexts also points to specific difficulties with them. Pérez-Leroux (2000) examined learners' use of aspectual morphemes in unique, habitual, and iterative past events, as well as past states with durative meanings. Subjects (recruited from a third-year classroom; N = 27) were asked to translate sentences from English using simple past tense forms. These learners had received explicit teaching dictating the use of imperfective with situations in the past that extend over a period of time (i.e., states in condition (6a)), and habitual or repeated actions in the past (habitual events, in (6c)), as well as a directive that the preterite is used for actions and events completed in the past.

(6) Proportion of target usage of preterite and imperfect

<i>Condition</i>	<i>Status</i>	<i>Proportion on target</i>
a. Durative: <i>His parents were very rich.</i> IMP target: <i>Sus padres eran muy ricos.</i>	Instructed	0.93
b. Punctual: <i>The child opened the door.</i> PRET target: <i>El niño abrió la puerta.</i>	Instructed	0.97
c. Habitual: <i>In Madrid, we went every night to a different restaurant.</i> IMP target: <i>En Madrid, íbamos cada noche a un restaurante diferente.</i>	Instructed	0.63
d. Coercion: <i>The light flashed until dawn.</i> PRET target: <i>La luz se encendió.</i>	Not instructed	0.67

(Pérez-Leroux, 2000)

The textbook used was Jarvis et al. (1999), which follows standard pedagogical treatments of the preterite/imperfect contrast. Classroom instruction and practice remained within the standard curriculum. Included in the test was context (6d), which lies outside the domain of instruction. For iterative

meanings triggered by duration adverbials (6d), the repetition is episodic rather than habitual. These contexts run opposite to the standard description in pedagogical materials, which fails to distinguish episodic from habitual repeated events.

These preterite/coercion examples were modeled on Jackendoff (1997), who pointed out that the meaning of iteration in these sentences cannot be elicited by simple composition of their lexical elements, as shown in (7). Neither the punctual verb (7a) nor the duration adverbial (7b) contains the sense of iterativity. Rather, this property emerges to resolve the mismatch in the duration denoted by the adverb and the punctual (instantaneous achievement) predicate, and the sentence acquires the sense of repeated events of flashing.

- (7) a. *The light flashed.*
 b. *It rained until dawn.*
 c. *The light flashed until dawn.*

In Spanish, this episodic repetition is encoded in the preterite, whereas habituality, like characterizing predications (which are states), is encoded in the imperfect, as indicated in (6d) and (6c), respectively.

The data show that the proportion of target usage of preterite and imperfect did not match the instructed–noninstructed contrast. These classroom learners had high rates of target usage with durative and punctual senses, both instructed domains, but lower rates of target past tense selection for both iterative (noninstructed) and habitual (instructed) domains.

3. THEORETICAL PERSPECTIVES ON TENSE AND ASPECT

3.1. A Featural Approach to Tense and Aspect

Although there is wide consensus that the domain of tense/aspect is heavily parameterized and that cross-language variation must be somehow encoded in the lexicon, there is no uniform perspective in the field as to how to represent these cross-language differences in the aspectual domain. One view treats variation in the aspectual domain as featural and dependent on morphology. The leading proposal within a featural perspective is that of Giorgi and Pianesi (1997), who propose that the morphological patterns of a given language are related to specific temporal interpretations. Giorgi and Pianesi assume that [+perfective] is the only marked feature in the aspectual node ASP. In the case of English, where nouns and verbs are ambiguous with respect to categorial features, verbs only acquire their categorial value when combining with ASP. This merger lends them the [+perfective] feature inherent to English eventive verbs. This inherent perfectivity explains why the English present tense is

incompatible with achievements and why, with other eventive predicates, it only takes a habitual, characterizing meaning:

- (8) a. *#John eats an apple.*
 (with non-reportative, real present tense meaning)
 b. *John swims.* (habitually, not ongoing)

In the system of Giorgi and Pianesi (1997), the Italian imperfective is characterized as, fundamentally, an aspectually unmarked tense, and the only aspectually marked feature is [+perfective] (p. 178). The perfective feature introduced by the perfective past tense leads inevitably to a bounded interpretation, whereas the imperfective past tense can have continuous, modal, and present-in-the-past senses.

3.2. A Selectional Approach to Tense and Aspect

The other leading perspective on aspect arose from work on discourse representation theory (Kamp & Reyle, 1993). This view treats tense as heads capable of selecting different aspectual types of VPs. Rather than treating aspectual contrasts as [+interpretable] features introducing meaning directly into a numeration by a piece of morphology, the selectional approach treats present or past morphology as tense heads sensitive to the aspectuality of the lower projection. For instance, De Swart (1998) analyzes the imperfect–simple past French morphemes in French as tense heads that s-select for the aspectual type of the VP. The basic premise in her approach is that aspect is compositional and layered:

- (9) [Tense [aspect* [eventuality description]]]

The lower layer of the aspectual interpretation of a clause consists of an eventuality description, which is interpreted from the composition of verb type plus arguments as well as pseudo-arguments, as they combine to shape and delimit the basic event type. This syntactic layer reflects the interaction between the lexical class and argument structure involved in the process–achievement distinction (*to sing/to sing an aria*). The upper layer allows multiple iterations, and it involves elements traditionally understood as aspectual operators, such as the progressive and the perfect. Finally, Tense introduces existential closure over the set of eventualities and maps the event onto the time axis. In this system, grammatical aspect and lexical aspect (Aktionsart) are mapped into the same semantic domain of eventualities. Eventualities are ontologically typed as homogeneous (state and processes) or heterogeneous (achievements and accomplishments), by analogy to the mass–count distinction in the nominal domain (10).

(10) Classification of eventualities (De Swart, 1998)

Homogeneous		Quantized	
(states)	(processes)	Events	
		(accomplishments)	(achievements)
stative	dynamic		

The multilayered nature of aspect is what allows comparable events to be presented at different levels of granularity, depending on which operators and tense heads are added over the initial eventuality structure. Each morpheme is capable of shifting the event as homogeneous or heterogenous (quantized), creating different views on it (11).

(11) run/run a mile/is running a mile/has been running a mile, etc.

Aspectual differences across languages depend on the availability of various grammatical markers. These markers can be of two types. One type is the familiar aspectual operators (perfects, progressives, duration adverbials, etc.), which output a specified eventuality description. The other is aspect-sensitive tense-heads, which do not transform the semantic type of the eventuality but can impose selectional restrictions upon the type of eventuality description it selects.

Broadly speaking, the *passé simple* refers to events, and the *imparfait* refers to states and processes. For De Swart (1998), this reflects a selectional distinction between homogeneous and quantized predicates. “The interpretation of aspectually sensitive tenses explains why it is not possible to separate aspectual and temporal information in the morphology: there is simply no aspectual operator involved” (p. 372). This difference (s-selection as opposed to aspectual operator) is crucial to understanding differences that occur with certain adverbials. Some combinations of aspectual operators with temporal adverbials result in ungrammaticality, whereas the comparable aspectual tenses yield some coerced interpretation (12). Example (12a) contrasts with (13):

- (12) a. *Anne joua du piano pendant deux heures.*
 (bounded event of playing the piano for 2 hours)
- b. *Anne écrivit une lettre en une heure.*
 (event of letter-writing culminating within an hour)
- (13) *Anne était en train de jouer du piano. (#en une demi heure)*
 ‘Anne was playing the piano.’ (#in half an hour)

Aspectual operators explicitly control aspectual shifts (the present shifts from event to consequent state, the progressive from dynamic action to the state of the action in progress). Other aspectual shifts occur implicitly, triggered by aspectual coercion. For instance, transitions such as inchoativity and habituality are free as long as the context supports the meaning effects. De Swart notes that no language directly encodes habituality. Instead, habituality and iterativity are context-dependent senses. However, these senses must be compatible with the

inherent aspectuality of the sentence's tense. When a mismatch arises between the eventuality and the selectional requirements of the Tense head, an implicit type-shifting operator changes the type of the eventuality description. These aspectual transitions are freely available in semantic processing. In (14), the heterogenous events *playing the sonata* and *arriving late* both shift to accommodate to the demands of the duration adverbial.

- (14)a. *Mary played the sonata for about eight hours.* (repeatedly)
 b. *For months, the train (always) arrived late.* (habitually)

In languages with a past imperfective–perfective distinction, the imperfective associates with the habitual interpretation (i.e., they are mapped as a homogeneous, nonquantized eventuality, leading to a generic/property reading, as in (15a)), and the perfective associates with the iterative (i.e, mapped as a homogenous episode of unbounded, repeated events, as in (15b)).

- (15)a. *Maria tocó la sonata por horas.* (iterative)
 b. *Por meses, el tren (siempre) llegaba tarde.* (habitual)
 c. POR horas [C_{eh} [event of sonata playing or late-train-arrival]]

In both cases, the operator C_{eh} first maps the events onto homogeneous eventualities, allowing the VP to meet the requirements of the duration adverbial. The result is a set of quantized eventualities. At the top layer of processing, the tense imposes its selectional requirements. The preterite's selection of an eventive predication leads to a neutral reading. The imperfect triggers the additional application of the C_{eh} operator, and this last step yields the property (i.e., habitual) reading of the imperfect.

3.3. Learnability and the Representation of Aspect

The two approaches reviewed lead to different developmental perspectives. In the morphosyntactic approach, interpretable features enter into the syntactic computation, determining the aspectual interpretation. In the selectional approach, interpretation is processed compositionally by the elements involved (the VP, the aspectual operators, and the tense head). Aspectual operators can be freely introduced to resolve type mismatches by type-shifting, shifting homogeneous eventualities into heterogenous or vice versa, as required by selectional properties. The semantic component provides various ways of coercing an event into a homogeneous eventuality: Turn it into a process and ignore its culmination, or create a state by forcing iteration or habitual reading.

Schmitt (2001) points out that the morphology-based approach in Giorgi and Pianesi (1997) predicts that languages with comparable morphosyntax should belong to the same semantic type. She notes that this proposal entails that languages that conflate tense and agreement (like English) have inherently

perfective verbs, whereas languages that dissociate it (like Spanish and Italian) have aspectually neutral verbs capable of both the ongoing and the property reading in the present tense. Schmitt (2001) demonstrates that Portuguese, with a verbal system nearly identical to Spanish, has patterns of interpretation of the present tense that match English and contrasts with Spanish/Italian.

- (16) a. *Maria come manzanas.* (Spanish) √‘right now’, √‘apple eater’
 b. *Maria eats apples.* (English) *‘right now’ √‘apple eater’
 c. *A Maria come maçãs.* (Portuguese) *‘right now’ √‘apple eater’

Schmitt’s results suggest that a system that is rigidly morphology based will not suffice to describe observed language variation. The selectional approach is more flexible, allowing the two languages to have different selectional properties for the present tense: English and Portuguese present tense selects only states, whereas Spanish and Italian select homogeneous predicates. For each tense head, the learner has to figure out what is the primary selectional requirement.

Under a perspective based on formal features, such as in Slabakova and Montrul (2001, 2002) and Montrul and Slabakova (2002), acquisition depends on the activation of the [\pm perfective] feature, and the distinction should emerge as a coherent achievement. Once this feature is encoded in the morphology, the full semantics of the past tense system should be available to L2 learners, and variations from the target depend solely on performance factors. Under a selectional approach to tense and aspect interpretation, the acquisition of aspectual distinctions could be asymmetrical, as learners could in principle determine the s(ematic)-selectional features of each head independently. This opens the possibility that target performance could be attained with one morpheme, while a divergent representation is retained for the other. Several potential scenarios arise: One morpheme could remain neutral in terms of selection (such as the English *-ed*), whereas the other becomes aspectually sensitive. Alternatively, one morpheme can be misanalyzed as an aspectual operator and thus have a more rigid, narrow distribution.

4. STUDY

4.1. Purpose of Study

Our purpose is to examine the L2 acquisition of the interpretation of tense and aspect heads. We propose to compare the two approaches reviewed. In the featural model, acquisition consists of feature activation that renders the semantic contrast operative (Montrul & Slabakova, 2002), whereas in the selectional approach, acquisition has a lexical nature development, where learners must bootstrap the selectional features of each functional head

independently. Iterative and habitual contexts, which share identical lexical semantics and require coercion, are an interesting domain of comparison of these approaches. Iterative contexts are particularly relevant to the question of coercion, because if learners' difficulty depends on coercion failure, one could predict that iterative contexts are not as problematic as habitual contexts. Because eventive predicates maintain the same basic association with the preterite as in the simpler unique contexts, learners should have correct high acceptance of preterite in these cases, but without fully processing the structure. Failure to coerce with the duration adverbial should result in an unintegrated representation of the adverb but should not block acceptance of the preterite in iterative contexts. On the other hand, if learners have problems coercing the VP into a homogeneous representation, habitual contexts, in which the eventive nature of the predicate favors selection of the preterite, should be more difficult. Instructional treatments will favor habitual and unique context but not the other coercion environments. Our study framed these issues with the following questions:

1. Can error patterns be predicted from the content of instruction (in which case, habitual and unique should have lower error rates than the iterative contexts)?
2. Does learners' performance show a cost of coercion (in which case, the unique contexts should have lower error rates than all other conditions)?
3. Are the levels of difficulty with habitual and iterative readings comparable, or is one relatively more difficult than the other?
4. Is iteration more difficult when the meaning has to be recovered solely from aspectual coercion, in the absence of the semantic contribution of the iteration adverbial?

4.2. Participants

Forty-one subjects participated in the study. Participants were given a language experience questionnaire, a 50-item grammaticality judgment task, and a related 18-item translation task (reported elsewhere, Pérez-Leroux, Cuza, Majzlanova, and Sánchez-Naranjo, 2004). Completion of all instruments lasted about 50 minutes, and participants were compensated for their participation. The L2 groups were 31 classroom learners of Spanish enrolled in second- and third-year courses of Spanish at the University of Toronto (N = 13 and N = 18, respectively). Participants were recruited on the basis of the following criteria: (a) They came from an English-speaking L1 background, and (b) had no significant experience with Spanish outside the classroom. Despite the selection criteria, the language history questionnaire revealed substantial variability in background. Ten participants were simultaneous bilinguals of English and another home language, including two speakers of Portuguese, two of Greek,

and one each of French, Farsi, Arabic, Korean, Chinese, and Swedish. These bilinguals grew up speaking English and another home language, and they described English as their stronger language. In addition to these speakers, there were 10 speakers who described having French as a second language. Finally, the native-speaker participants ($N = 10$) came from a variety of regions in Latin America and were also recruited primarily from the university community. These participants had received secondary education in Spanish but had been living in Canada for several years.

4.3. Methods

Participants were instructed to rate a set of isolated sentences as acceptable or unacceptable in Spanish, in order to evaluate their comprehension of Spanish. Sentences were accompanied by a Likert scale ranging from -2 to 2 , where the numerical values indicated the following ratings: totally unacceptable, unacceptable, unsure, acceptable, or perfectly acceptable. The test included 5 items per condition, as well as 10 distractors, in addition to other items not reported here. The distractors included other semantic violations, such as use of past tense with a future adverbial, and contradictory statements. The data were collected using a self-paced, pencil-and-paper procedure. In addition to a 50-item judgment task, participants completed a 20-item translation task and a language history questionnaire. The procedure was completed in less than an hour.

The test sentences were presented for acceptability judgment in isolation (i.e., without preceding context). As a reviewer points out, using isolated sentences could render semantic processing more difficult. The purpose of our chosen approach was to avoid priming of aspectual selection, as it would necessarily occur if other clauses were included. Setting up discourse context for a habitual sentence would typically require a string of imperfect sentences. This would constraint the validity of evaluating a final target sentence, as participants would be evaluating the aspectual matching with regard to the initial context and not focusing on the effect of the adverbial components, which was our goal. This approach allows us to focus on the specific effect of temporal adverbials.

Our sentence conditions included unique contexts (18), habitual contexts (17), iterative by coercion (19), and iteratives with explicit iteration adverbials (20). Generic sentences contained a duration adverbial, referring to a long period of time *siempre, de niño*, followed by a characterizing statement. The unique condition consisted of a distinctly episodic situation and a time adverbial pointing out to a single, unique event. For the coercion contexts, we created comparable sentences using the same verbs, plus an iteration adverbial (*repetidamente* 'repeatedly', *varias veces* 'many times') for the explicit iteration contexts, and a duration adverbial for the coercion-only iteration contexts. The duration adverbial for the coercion context was different in span from those in the generic sentences ('during his childhood' vs. 'for several days'), in order to

emphasize the contrast between the characterizing habituality and episodic iteration.

- (17) Generic, habitual readings select imperfect
- a. *En su niñez, jugaban en la calle por las tardes.* (√IMP)
 - b. *En su niñez, jugaron en la calle por las tardes.* (#PRET)
'In their childhood, they played in the streets in the afternoon.'
- (18) Unique punctual events select preterite
- a. *El terremoto sacudió la ciudad a las 8.* (√PRET)
 - b. *El terremoto sacudía la ciudad a las 8.* (#IMP)
'The earthquake shook the city at eight.'
- (19) Coerced iteratives
- a. *El terremoto sacudió la ciudad por días.* (√PRET)
 - b. *El terremoto sacudía la ciudad por días.* (#IMP)
'The earthquake shook the city for days.'
- (20) Iterative with iteration adverbials
- a. *El terremoto sacudió la ciudad repetidamente.* (√PRET)
 - b. *El terremoto sacudía la ciudad repetidamente.* (#IMP)
'The earthquake shook the city repeatedly.'

The sentences with the dispreferred aspectual selection are not exactly ungrammatical: A possible interpretation can usually be processed. For instance, (17b) is not anomalous for all speakers, because the preterite could get the interpretation with the repeated events grouped together, paraphrased as 'What they did in their childhood was play in the streets.'

4.4. Results

Average subject score per condition was submitted to two ANOVAs, for grammatical and ungrammatical sentences. For the ungrammatical sentences there was a significant effect of group ($F_{2,38} = 16.180$, $p = .0002$), with native speakers giving substantially lower ratings to ungrammatical sentences than non-natives. Figure 1 summarizes these findings. Post hoc Fisher PLSD showed both L2 groups to be significantly different from control subjects. There was also a highly significant effect of the ungrammatical conditions ($F_{3,114} = 9.592$, $p < .0001$), where recognition of selectional violations for the preterite-imperfect was less evident with the iterative (noninstructed) contexts than with the more robust unique selection for past events and habitual events. There was no significant interaction of group by ungrammatical condition ($F_{6,114} = 1.381$, $p = .22$). Native speakers' mild acceptance of iterative sentences with imperfect suggest that the possibility that our sentences failed to supply enough semantic cues to rule out the habitual representation of the events portrayed; that is, not enough to decide if (19) meant something like 'the earth shook several times/the

earth had been shaking several times'. This result is not surprising: Aspectual choice allows speakers to encode different perspective on identical events.

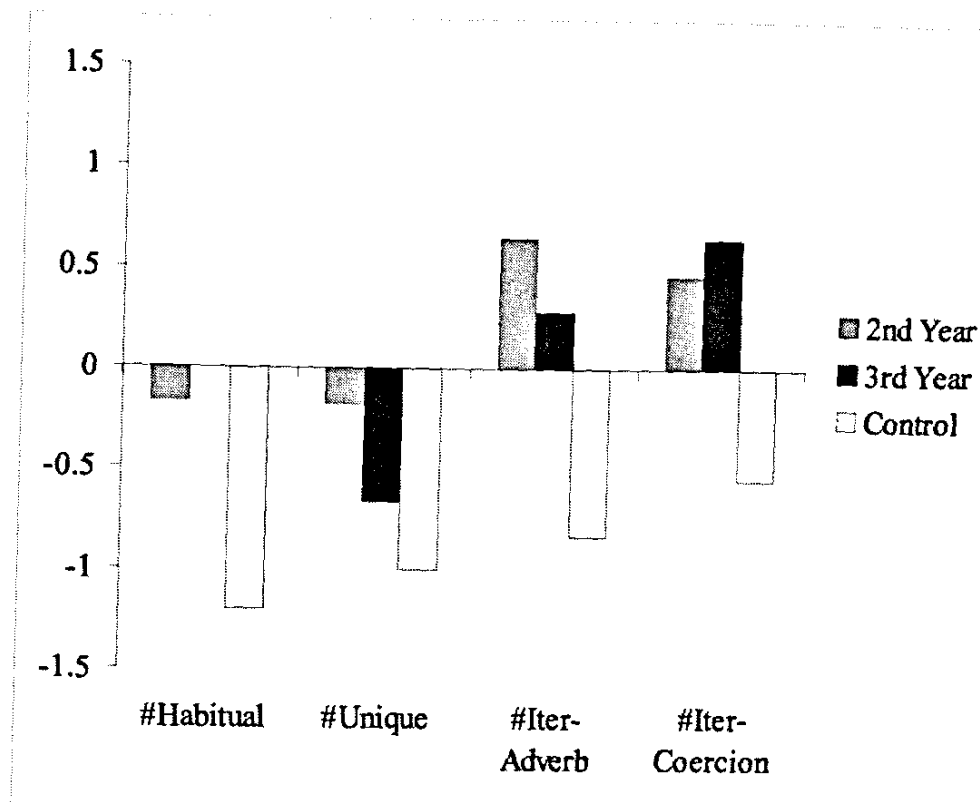


Figure 1. Average judgment per group per sentence type for ungrammatical conditions

For the grammatical sentences, there was no significant effect of group ($F_{2,32} = .204$, $p = .81$); there was significant effect of grammatical condition ($F_{3,96} = 3.907$, $p = .011$) but no significant interactions ($F_{4,96} = .580$, $p = .74$). Again, as shown in Figure 2, the highest ratings were accorded to the habitual and the unique event conditions, and, as in the analysis of ungrammatical sentences, the data suggest there was uncertainty with the iterative conditions.

These experimental results suggest an asymmetry in learners' attainment of the selectional properties of the imperfect and preterite past tenses. Where there is positive evidence (matched conditions), L2 learners behave in a manner comparable to that of native speakers, with respect to the unique and habitual conditions, and assign positive but lower ratings to the iterative coercion cases. However, when sentences contained mismatches in aspectual selection, the data showed clear and significant differences between non-natives and natives. L2 speakers were generally not able to reject the aspectual mismatches. They were uncertain about habitual and unique contexts and gave high ratings to iteratives with adverbs and via coercion only. There was one single exception to this general insensitivity to aspectual mismatches: Advanced speakers were able to clearly reject the use of imperfect in unique contexts.

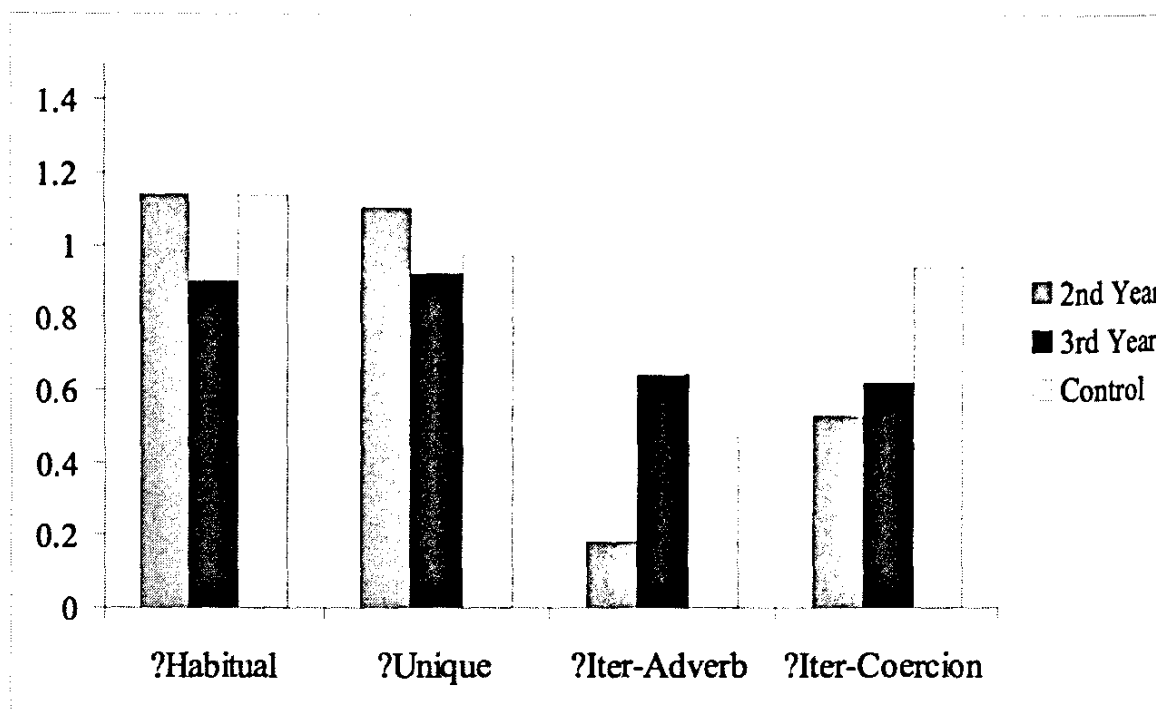


Figure 2. Average judgment per group per sentence type for grammatical conditions

To evaluate the issue of the relative level of discrimination between conditions, we analyzed the difference score in individual subjects' ratings of preterite and imperfect. This score was obtained by subtracting, for each participant, his or her average score on the matched versions of one condition from the average on mismatched sentences for the same condition. The average difference score per group per condition is presented in Figure 3. We conducted separate group ANOVAs for each condition. There were no substantial differences between groups in the unique condition: All three groups showed substantial mean levels of discrimination between preterite and imperfect matches ($F_{2,38} = .940$, $p = .3994$). In the coercion condition, the difference between groups was significant ($F_{2,38} = 4.083$, $p = .0256$). Here native speakers show sizable levels of discrimination, but the two L2 groups treated the conditions randomly (i.e., their difference score approximates zero). Similar results characterized the contrast with iteration adverbials, but the data failed to reach significance ($F_{2,38} = 3.040$, $p = .0606$). Results for the contrast in the habitual condition show all groups having sizable difference scores, showing a strong preference for the imperfective in this condition. However, the average size of the difference score is double for native speakers than for non-natives. This effect also approached significance: ($F_{2,38} = 3.080$, $p = .0586$).

To summarize, the data show that non-native speakers find it easier to reach the target aspectual association between preterite and unique events. Next, they show mastery of preference for the imperfective with the habitual condition. Because they did not actively reject the preterite in habitual contexts, they failed to reach native-speaker levels of contrast. Finally, iteration was problematic for L2 speakers, particularly when it is processed implicitly, via aspectual coercion, in the absence of the iteration adverbial.

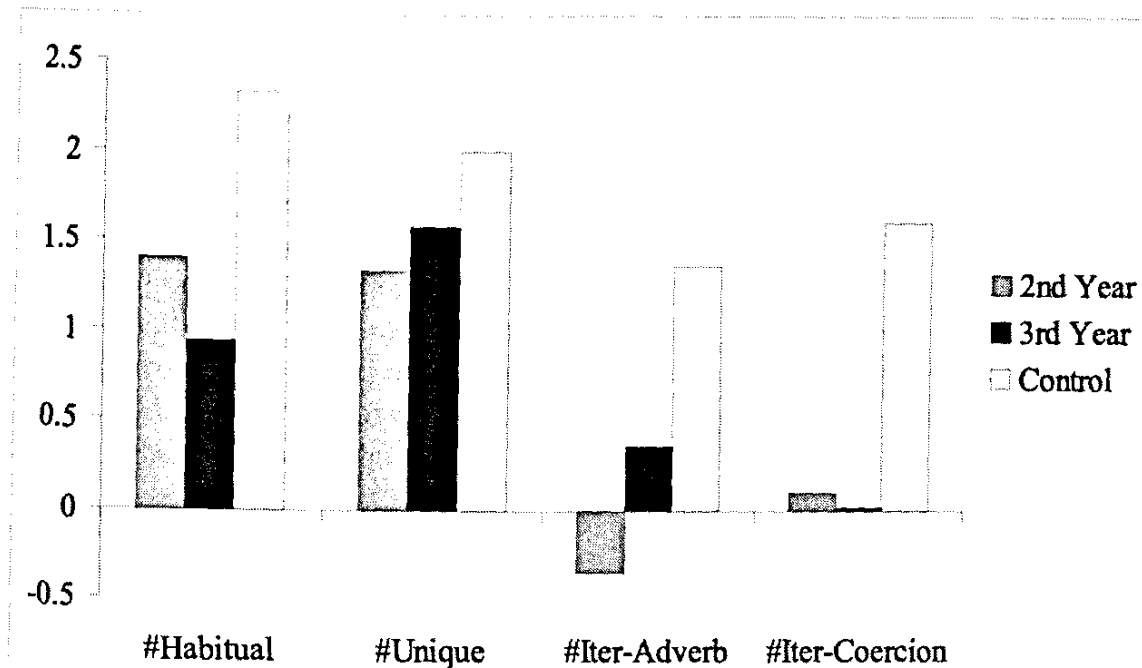


Figure 3. Average difference score between grammatical and ungrammatical aspectual combinations per group for each of the four semantic conditions

5. DISCUSSION

The data show a differentiated course of development, allowing us to answer the questions in 4.1. For the well-matched conditions, second-year students accepted habituais and unique contexts at high rates but show low acceptance of the adverbial and coercion conditions. For the mismatched conditions, they seemed undecided about unique and habitual condition, and willing to accept the adverbial and coercion condition. Third-year students had increased their acceptance of the preterite (matched) adverbial condition and also had learned to reject the unique condition with imperfective (mismatched). These learners still showed uncertainty with the mismatched habitual, adverbial, and somewhat accepted the mismatched adverbial, and slightly more the mismatched coercion.

No single-factor account can explain this pattern of development. Instruction can explain the data partially but not as a whole. The two instructed conditions elicited better performance in L2 speakers (unique and habitual) than the noninstructed iterative contexts, particularly with regard to acceptance of the grammatical matches rather than rejection of ungrammatical mismatches. However, an instruction-based account cannot explain the contrast between the clear success of the preterite in the unique contexts coupled with the lesser success in the equally well-taught imperfect-habitual. In fact, this discrepancy is mysterious considering that the contexts are taught side-by-side as examples of the grammatical contrast.

The coercion-failure approach could distinguish between the unique contexts and the others but has no clear explanation for the sharp differences between the habitual and the two iterative conditions. We argued that the coercion model would predict higher rates of success in the coercion contexts, as failure to coerce should preserve and not disrupt the basic, lexically based association of the preterite with eventive predications. A learner who fails to coerce a sentence such as *the light flashes until dawn* would treat the aspectuality of the sentence in the same way as the simple, unique-event sentence *the light flashes*. Coercion-failure would have resulted in the nonintegration of the temporal meaning, along with an inflation of correct scores for the preterite sentences. Also note that the performance view does not differentiate between habituals, iteration with adverbials, and coerced iteration: They should be equally problematic.

One could build an explanation for our findings by combining both accounts (instruction and coercion). We reject this mixed route in favor of an alternative approach, seeking to provide a formal semantic representation of the imperfective-perfective distinction. For an alternative account, we rely on the adoption of the selectional approach to tense and aspect, and we assume full performance capacity in the pragmatic domain. We agree with Slabakova and Montrul (2002) that the capacity to coerce (i.e., to make sense by reconciling potentially incompatible meanings encountered in semantic processing) is likely to be something L2 learners can rely on. This is supported by recent work by Felser, Roberts, Marinis, and Gross (2003), suggesting that L2 learners are more likely to rely on meaning than on structural cues in their online processing.

If this is correct, learners' difficulty with coercion contexts arise not because of failure to coerce, but because of uncertainty in the selectional properties of preterite-imperfect. Our results could be explained if a learner could determine that the preterite selects a single event but has a nontarget representation of the imperfect. That is, for the simple eventive contexts, knowledge that preterite selects events would lead to a preference for the preterite sentence in these contexts. Another possibility is that learners would perhaps attribute no selectional restrictions to the imperfect, that is, all lexical types would be possible under an imperfect tense. When presented with coerced interpretation of eventive predications, learners who treat imperfective as selectionally neutral would accept it and show no preference for the preterite in iterative contexts. The same representation can account for the lack of rejection of adverbials and coercion contexts. This proposal could not account for Montrul and Slabakova's (2002) result of learner's rejection of imperfective with achievement predicates (**alcanzaba la cima*; see (5), above), where natives would accept them in a temporally complex situation. Alternatively, if the imperfective is treated as an aspectual operator (C. Schmitt, personal communication, July 22, 2003), the temporal adverbial would have wide scope over it, and imperfective in iterative contexts would be natural because the eventuality would be unbounded.

Salaberry (2002) found nonassociation between selection of past tenses and the lexical aspect classes and suggested an analysis that seems compatible with the selectional approach. In his data, the effect of lexical aspect in L2 Spanish increased with level of experience in the target language (p. 407). He proposed that preterite is like a default in instructed L2 Spanish, due to transfer: Spanish L2 learners associate preterite with English simple past tense but imperfect only with the periphrastic constructions (such as the gerund and the generic *used to*). Our results are congruent with this latter suggestion.

6. CONCLUSION

In this chapter, we examined the difficulties learners exhibit with certain coercion contexts, and we considered performance and competence explanations of these difficulties. We observed a differential degree of difficulty, where the intermediate learners we studied had nativelike mastery of the use of preterite with punctual event and knowledge of the possibility of imperfect with habituals that approached, but did not match, that of natives. An initial neutral representation of the preterite could account for the second-year group's lack of rejection of preterite habitual contexts. The development observed in this context suggests an early move to an aspectually sensitive representation of it. The core test of this development would be performance on preterite with stative predicates, a condition not considered here.

Finally, learners had substantial difficulties with the iteration contexts. We have argued that the optimal account of learners' difficulties is not easily described within the morphosyntactic view of the aspectual tenses as representing featural oppositions (\pm perfective). Instead, we propose that each tense morpheme can be treated separately, and learners are capable of determining the selectional restrictions of one morpheme in isolation from the other. Learners may more easily achieve the target representation of the selectional properties of the preterite, that is, [-homogeneous eventualities], without necessarily concluding that the imperfective has the contrasting selectional property, [+homogenous eventualities].

As Slabakova (2002) points out, it is essential to examine the role of L1 in the interpretation of aspectual difficulties in the L2 speaker. We have proposed that transfer may affect the representation of selectional properties of some morphemes, while leaving others unaffected. The selectional account presents a more fine-grained view of L2 difficulties, one that is very compatible with the protracted development observed in L2 attainment of aspect, as well as with the transfer-sensitive picture revealed in attrition studies (Cuza, 2004). Whereas these facts force the necessity of performance-based accounts under the morphosyntactic view, they are naturally accounted for as part of development and transfer of the lexical semantics of tense morphemes under the selectional view.

REFERENCES

- Bardovi-Harlig, K. (1999). From morpheme studies to temporal semantics: Tense and aspect research in SLA. *Studies in Second Language Acquisition*, 21, 341–382.
- Bardovi-Harlig, K., & Reynolds, D. W. (1995). The role of lexical aspect in the acquisition of tense and aspect. *TESOL Quarterly*, 29, 107–131.
- Coppieters, R. (1987). Competence differences between native and near-native speakers. *Language*, 64, 544–573.
- Cuza, A. (2004, October). *La atrición y adquisición del tiempo y aspecto en la gramática adulta del español nativo*. Presented at the 8th Hispanic Linguistics Symposium, University of Minnesota, Minneapolis.
- De Swart, H. (1998). Aspect shift and coercion. *Natural Language and Linguistic Theory*, 16, 347–385.
- Epstein, S., Flynn, S., & Martohardjono, G. (1996). Second language acquisition: Theoretical and experimental issues. *Behavioral and Brain Sciences*, 19, 677–714.
- Felser, C., Roberts, L., Marinis, T., & Gross, R. (2003) The processing of ambiguous sentences by first and second language learners of English. *Applied Psycholinguistics*, 24, 453–489.
- Giorgi, A., & Pianesi, F. (1997). *Tense and aspect: from semantics to morphosyntax*. Oxford, U.K.: Oxford University Press.
- Housen, A. (2002). The development of tense and aspect in English as a second language and the variable influence of inherent aspect. In R. Salaberry & Y. Shirai (Eds.), *The L2 acquisition of tense-aspect morphology* (pp. 155–197). Amsterdam: John Benjamins.
- Huang, C. (1999). Tense-aspect marking by L2 learners of English and native English speakers: Inherent lexical aspect and unitary vs. repeated situation types. *Issues in Applied Linguistics*, 10, 113–130.
- Jackendoff, R. (1997). *The architecture of the language faculty*. Cambridge, MA: MIT Press.
- Jarvis, A. C., Lebrede, R., & Mena-Ayllón, F. (2003). *¡Continuemos! Intermediate Spanish. Instructor's Edition*. Boston: Houghton Mifflin.
- Kamp, H. & Reyle, U. (1993). *From discourse to logic*. Dordrecht: Kluwer.
- Montrul, S., & Slabakova, R. (2002). The L2 acquisition of morphosyntactic and semantic properties of the aspectual tenses preterite and imperfect. In A. T. Pérez-Leroux & J. Liceras (Eds.), *The acquisition of Spanish morphosyntax* (pp. 113–149). Dordrecht, Netherlands: Kluwer.
- Montrul, S., & Slabakova, R. (2003). Competence similarities between native and near-native speakers. *Studies in Second Language Acquisition*, 25, 351–398.
- Pérez-Leroux, A. T. (2000, May). *Dejar hacer ó hacer que hagan: causación directa e indirecta en el español como L2*. Paper presented at the Canadian Learned Societies Meeting, Edmonton, Alberta.
- Pérez-Leroux, A. T., Cuza, A., Majzlanova, M., & Sánchez-Naranjo, J. (2004). *Aspectual learning as s-selection: Iteratives and habituais in L2 acquisition*. Unpublished manuscript, University of Toronto, Ontario, Canada.
- Prévost, P., & White, L. (1999). Accounting for morphological variation in second language acquisition: truncation or missing inflection? In L. Rizzi & M. A. Friedemann (Eds.), *The acquisition of syntax: Issues on comparative developmental linguistics* (pp. 202–235). London: Longman.

- Salaberry, R. (2002). Tense and aspect in the selection of Spanish past tense verbal morphology. In R. Salaberry & Y. Shirai (Eds.), *The L2 acquisition of tense-aspect morphology* (pp. 397–415). Amsterdam: John Benjamins.
- Schmitt, C. (2001). Cross-linguistic variation and the present perfect: the case of Portuguese. *Natural Language and Linguistic Theory*, 19, 403–453.
- Shirai, Y. (2002). The prototype hypothesis of tense-aspect acquisition in second language. In R. Salaberry & Y. Shirai (Eds.), *The L2 acquisition of tense-aspect morphology* (pp. 455–478). Amsterdam/Philadelphia: MIT Press.
- Slabakova, R. (2002). Recent research on the acquisition of aspect: an embarrassment of riches? *Second Language Research*, 18, 172–188.
- Slabakova, R., & Montrul, S. (2001). Acquiring semantic properties of preterite and imperfect tenses in L2 Spanish. In S. C. Howell, S. A. Fish, & T. Keith-Lucas (Eds.), *Proceedings of the 24th Boston University Conference in Language Development* (pp. 534–545). Somerville, MA: Cascadilla Press.
- Slabakova, R., & Montrul, S. (2002). Aspectual shifts in L2 Spanish. In B. Skarabela, S. Fish, & A. H.–J. Do (Eds.), *Proceedings of the 25th Boston University Conference on Language Development* (pp. 631–642). Somerville, MA: Cascadilla Press.
- Towell, R., & Hawkins, R., (1994). *Approaches to second language acquisition*. Clevedon, U.K.: Multilingual Matters.