

The Effect of Temporal Adverbials in the Selection of Preterit and Imperfect by Learners of Spanish L2

Jennifer L. Baker and Margaret L. Quesada
University of Georgia

1. Introduction

In general, research has shown that learners focus first on content words to process meaning and only later learn to attend to inflections (Bardovi-Harlig, 1992; VanPatten, 2004; Lee, 1999). Adverbials are lexical resources that often guide the temporal/aspectual selection of verb morphology. In the acquisition of tense and aspect, it has been shown that learners comprehend the temporal chronology of L2 input more accurately and quickly when adverbials are present in addition to verb morphology (Musumeci 1989; Lee et al. 1997; Boatwright 1999). This study examines to what extent adverbials function to help guide the interpretation and selection of Spanish preterit and imperfect by learners and native speakers (NS) of Spanish. Sixty-two intermediate and advanced English-speaking learners of Spanish and ten NS of Spanish read ten cloze passages, five with temporal adverbials and five without, and were asked to choose either preterit or imperfect. Employing online tasks, results indicated that the presence of adverbials was very significant for participants' expected responses. Further, there were significant differences in the responses of intermediate and advanced learners as well as disparity between learners' and NS's interpretations of the adverbials. Adverbials of duration or frequency prompted a much higher rate of imperfect responses among learners than among NS. This observance of adverbials reflects the underlying influence of L1 (English) on the development of the L2 aspectual system for learners and, in contrast, shows the primacy of morphology for NS of Spanish. Additionally, the results show that while current instruction methods are effective in teaching learners to associate preterit with frame adverbials and imperfect with durative and frequency adverbials, this does not necessarily correlate with the choices of NS.

2. Tense and aspect and the relationship of verb morphology and adverbials

The L2 acquisition of the two past markers in Spanish, preterit and imperfect, is notoriously difficult for English-speakers because their L1 does not mark this aspectual distinction morphologically. Often English-speaking learners attempt to equate the lexical forms of English aspectual markers to either the preterit or imperfect in Spanish. For example, English *I swam* is commonly thought to correspond with Spanish *Yo nadé* [preterit], while English *I was swimming*, *I used to swim* and *I would swim*, are often equated to the Spanish *Yo nadaba* [imperfect]. Yet, Frantzen (1995) notes that such explanations are not always reliable; *used to* can be interpreted as perfective as well as imperfective and *would* also signals the English conditional tense. Furthermore, the simple past tense of English does not always convey perfective aspect; for example, *I swam when I was a kid* [imperfective], as compared to *I swam yesterday* [perfective]. Regarding this issue, Bull (1965:170) says of the English simple past: "it is completely ambivalent, and speakers of English, as a result, are not trained to observe aspectual differences." While textbooks and instructors offer grammar rules to

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students of Spanish – such as, “the imperfect is used with verbs of emotion and mental activity,” or “the imperfect is used for two simultaneous actions” (Frantzen 1995) – these rules are not always reliable and cannot consistently predict, nor explain, NS’s use of aspectual morphology.

While tense “relates the time of the situation referred to some other time, usually to the moment of speaking” (Comrie 1976:2), aspect indicates not only when the event occurred, but also how the action developed; whether the action ceased, came into being, or existed continuously as a state, or if it occurred over several years or in an instant. Aspect is expressed in a verb by several means, through the inherent semantic meaning of the verb, known as *lexical* or *situation aspect* (Smith 1997) or *Aktionsart* (Binnick 2006), by the use of a particular morphological marker, known as *viewpoint aspect* (Comrie 1976) or *grammatical aspect* (Weist 2002), and by adverbials or other contextual clues. The inherent aspect of a verb is determined by certain semantic characteristics such as its telicity, durativity, and dynamicity (Comrie 1976) and research has shown that lexical aspect tends to guide the acquisition and use of morphological marking. That is, the inherent semantics of the verb affect learners’ morphological choices; learners associate naturally telic verbs such as *to stand* with the preterit morphology, for example, and atelic verbs such as *to be* with imperfect. There are four categories of lexical aspect defined by the inherent duration and telicity of the verb (Vendler 1957, 1967). Verbs of state (*to be*, *to know*, etc.) are the most durative, having no inherent beginning or end point; verbs of activity (*to run*, *to sing*, etc.) indicate an ongoing activity which will likely end, though the endpoint is not inherent to the verb; verbs of achievement (*to climb a mountain*, *to build a house*, etc.) have an inherent endpoint but an unspecified duration; and verbs of accomplishment (*to break*, *to stand up*, etc.) include an endpoint which is reached immediately after the action is performed. While lexical aspect influences both L1 and L2 acquisition of aspectual morphology, it is not the sole determiner of aspectual marking. Speakers choose the aspectual morphology which best communicates their perspective of an event. This, called grammatical aspect, reflects the speaker’s purpose of choosing preterit or imperfect morphology. For grammatical aspect, both the imperfect and preterit can be used interchangeably, with the same verb, to describe different perspectives on a singular situation without contradiction but rather with a different perspective on the event. For example:

1. *Juan leyó* [preterit] *el libro* (‘Juan read the book’)
2. *Juan leía* [imperfect] *el libro* (‘Juan read/was reading/used to read the book’)

In both sentences, Juan was reading a book, yet the first sentence emphasizes that Juan completed the action of reading the book, while the second sentence emphasizes incompleteness of his action.

Adverbials also affect both temporal and aspectual interpretation. Comrie (1985) discusses the importance of adverbials in general for establishing a reference point during speech. Indeed, adverbials are an important resource for everyday speech in any language, and they are also an integral factor in the tense, grammatical aspect, and inherent lexical aspect of verbs. Binnick (1991) divides temporal adverbials into three types: frame adverbials, adverbials of number and frequency, and durative adverbials. Frame adverbials (*la semana pasada* ‘last week’) refer to moments or intervals of time within which the described action took place while adverbials of number and frequency tell how many times, per unit of time, something occurred (*diez veces* ‘ten times’; *cada mañana* ‘every morning’). Durative adverbials specify the length of time an event took place (*por una hora* ‘for an hour’). In an analysis of Spanish aspect, Gonzalez (1998:160-61) explains that imperfective-inflected verbs denote events or states that occur at an open interval of time (imperfective) and cannot be used with an adverbial indicative of a closed interval (perfective) and vice versa. Thus, *Nadaba* [imperfect] *por cinco horas cuando me dio un calambre* (‘I was/had been swimming for five hours when I got a cramp’) is read as a generic or habitual action in contrast to the perfective reading of *En una ocasión nadé* [preterit] *por cinco horas* (‘Once I swam for five hours’). Because of the similarities between the semantics of durative/frequency adverbials and imperfect morphology as well as between frame adverbials and preterit morphology, adverbials have been cited as a resource for L2 learners attempting to interpret or assign aspectual morphology in Spanish (Ozete 1988; Westfall & Foerster 1996). However, both Binnick (1991) and Gonzalez (1998) assert that regardless of the duration of an event, if it occurred before the time of speech then the duration may be interpreted as an interval of time, thus permitting the use of a frame adverbial instead of a durative or frequency adverbial. For example, in

3. *Susana comía* [imperfect]/*comió* [preterit] *plátanos por una semana*
 ('Susan was eating/used to eat/ate bananas **for a week**')

the period of 'one week' allows for either morphology to be selected. On the other hand, in 4,

4. *Susana comía* [imperfect]/*comió* [preterit] *plátanos en una hora*
 ('Susan *was eating/ate bananas **in an hour**')

the adverbial, *in an hour*, only allows the preterit. Temporal adverbials are often associated with either perfective or imperfective aspect and, thus, often support the selection of aspectual morphology. However, while frame adverbials can be safely associated with perfective aspect, adverbials of duration and frequency, although often associable with imperfective morphology, can also be interpreted as frame adverbials by a speaker and, thus, require perfective morphology. Ultimately, the morphology selected by the speaker is the primary method of conveying aspect while adverbials play a secondary role. However, this is not necessarily true for L2 learners who continue to rely on lexical cues, such as adverbials, to guide their selection of morphology.

3. Second language acquisition studies

3.1. *The acquisition of tense and aspect in L2*

In the acquisition of tense and aspect in L2, several hypotheses have been set forth to explain the acquisition process, including the Aspect Hypothesis (Andersen 1991; Robison 1995; Bardovi-Harlig & Reynolds 1995) which holds that learners' acquisition and use of temporal/aspectual morphology is guided by the inherent semantics of the verb (Bardovi-Harlig and Reynolds 1995; Robison 1995; Hasbún 1995; and Comajoan 2005, among others); the Discourse Hypothesis, which maintains that learners employ aspect depending on the narrative structure to distinguish foreground information from background information (Bardovi-Harlig 1994 and Liskin-Gasparro 2000); and the Tense Hypothesis (Hasbún 1995 [unpublished dissertation cited in Comajoan (2005)] and Salaberry 1999, 2002, 2003, 2005), which proposes that tutored L2 learners first mark grammatical aspect independently of lexical aspect and use the preterit as a "default tense". Although these hypotheses and the research resulting from their proposals have shed a great deal of light on the acquisition of tense and aspect among L2 learners, other research (Bardovi-Harlig 1992; Musumeci 1989; Lee et al. 1997; Boatwright 1999; Sagarra and Dussias 2001; Lubbers Quesada 2006) has emerged which focuses on the use of additional linguistic resources by learners to interpret and express temporal/aspectual events, not simply grammatical inflections. The use of adverbials, because they are a lexical and pragmatic resource, is an example of students' ability to use means outside of grammar to convey their knowledge of aspect in L2 while their acquisition of the L2 system is still in development.

3.2. *The influence of adverbials in the acquisition of tense and aspect in L2*

It has been shown in a variety of studies (Musumeci 1989; Lee et al. 1997; Boatwright 1999) that learners comprehend the temporal chronology of their L2 input more accurately and quickly when adverbials are present in addition to verb morphology and, in fact, depend on adverbials before verb morphology to indicate both tense and aspect. This may be due, in part, to the fact that Spanish language textbooks and instructors often explicitly integrate adverbials into the introduction of the preterit/imperfect contrast as well as into classroom exercises to help students interpret the intended meaning more accurately (Ozete 1988). While adverbials are not always accurate predictors of native-speakers' use of aspectual morphology, they are an important and common resource for English-speakers learning the Spanish aspectual system. Linguistic researchers have shown that the use of adverbials is an important intermediary stage in the development of tense expression in an L2, preceded by the use of pragmatic means such as chronology and followed by the use of verb morphology (Bardovi-Harlig 1992, 1998). Furthermore, many studies that demonstrate the effect of adverbials are based on the principles of VanPatten's theory of Processing Instruction (2004) regarding

adult L2 learners' heavy reliance on lexical, rather than grammatical, cues in order to communicate in L2. According to VanPatten's Lexical Preference Principle, "learners will tend to rely on lexical items as opposed to grammatical form to get meaning when both encode the same semantic information" (2004:9). For example, in the sentence *Ayer Juan me llamó* [preterit] ('Yesterday John called me'), an L2 learner of Spanish is most likely to determine that Juan called in the past based on the most informative form *ayer* ('yesterday') rather than the less informative form *-ó* of the preterit.

Demonstrating students' attention to adverbials, Musumeci (1989) completed a study of 64 students of Italian, French, and Spanish at the beginner level in which the students listened to sentences of four types, all with verbs inflected in the perfective past. The four types of sentences 1) included only verb morphology, 2) included verb morphology and a temporal adverbial, 3) included verb morphology and a gesture – a "cultural supplement" – or 4) included verb morphology, a gesture, and a temporal adverbial. The results of a multiple-choice recall test showed that adverbials were the determining factor in tense assignment because participants who heard a temporal adverbial in addition to the verb morphology (and gesture) scored higher than those who had only heard verb morphology. Similarly, in (Lee et al. 1997), 102 beginning and intermediate learners of Spanish as an L2 were divided into two groups, one of which listened to passages with verbs inflected for tense (and, inherently, aspect) with temporal adverbials while the other listened to passages with only verb morphology. When asked to recall the events of the passages in an English multiple-choice task, intermediate students who had heard adverbials in addition to verb morphology performed slightly better than beginning students who performed the same regardless of the presence of adverbials. The lack of adverbial influence for the beginning learners (with less than 60 hours of experience) was explained as an effect of their inexperience with the terms used in the study.

Boatwright (1999) also found that adverbials were a key influence in learners' interpretation of tense. Learners listened to individual sentences 1) with verb morphology and adverbials and 2) with only verb morphology. They then decided whether the action of the sentence occurred in the future, present, or past. Results showed that the presence of a temporal adverbial in the sentence resulted not only in better accuracy from the students, but also in faster reaction times. Finally, Sagarra and Dussias (2001), cited in Sagarra (2007), showed that learners can process both verb morphology and adverbials at the same time, proving that, although adverbials may be more informative than verb morphology, learners can detect a relationship between the two. This study involved recording the eye movements of intermediate learners of Spanish as an L2 while they read several sentences. All sentences included a temporal adverbial which indicated the past tense, but some sentences 1) had verbs in the present tense while others had 2) verbs in the past tense. Eye movement measurements indicated that students spent significantly more time looking at the verb morphology that contradicted the past-tense adverbial, showing that the students attended to both the adverbial and verb morphology.

The stages of tense expression by learners of an L2 were first noted in Meisel (1987), where in the first stage there is no explicit reference to tense; in the second stage temporal adverbials are the only means of indicating tense; in the third stage verbal inflection is used but not systematically; and in the fourth stage there is complete, systematic use of verbal inflection. Meisel considers the use of adverbials as useful only in the early stages of the acquisition process, before verb morphology is fully acquired; however, he did not consider the role of adverbials in the acquisition of aspect, which is specifically considered in the present study. Contrary to Meisel's theory, many researchers are currently investigating whether adverbials maintain an important role in temporal/aspectual reference after verb morphology has been acquired.

Bardovi-Harlig (1992) investigated whether learners continued to use adverbials after having developed verb morphology. Designed as a follow-up to Meisel's work her study employed 87 written journal entries over a six-month period of eight L2 learners of English with a variety of L1 backgrounds. The participants were living in the U.S. and taking an ESL class at the time. Additionally, the study included four narrative texts invented by the learners in response to a prompt given in class as well as a final interview. An analysis of the adverbial-to-verb ratio in the written narratives showed that the number of temporal adverbials diminished over time as the learners developed the ability to inflect verbs, marking tense morphologically. Overall, the 0.4 adverbial-to-verb ratio decreased in frequency to 0.18, which approximates the ratio of the native English-speaker control group which was 0.20 adverbials per verb. It was concluded that adverbials are a pragmatic

resource most useful in the first stages of tense acquisition and which later lose this function (and may take on other lexical and grammatical functions) as past-tense verb morphology is acquired, eliminating redundancy from the students' interlanguage. However, in the study only verbs inflected for past morphology (even incorrectly, i.e. *telled*) were included and instances of temporal adverbials modifying present tense verbs were not counted.

This study of written data from English-learners in complete immersion in L2 is contradicted by Lubbers Quesada (2006), who investigated the use of temporal and frequency adverbials in the oral narratives of 30 English-speaking learners of Spanish at the beginning, intermediate and advanced levels, as well as their use by 10 native speakers of Spanish. Counter to the findings of Bardovi-Harlig (1992) the adverbial-to-verb ratios did not decrease as students' knowledge of verb morphology increased; it remained quite steady with a ratio of 0.31, 0.34, and 0.30 adverbials among the least, mid, and most proficient learner groups. These rates are comparable to the 0.39 adverbials-to-verb ratio of the native Spanish-speaker control group. Upon further investigation of these tendencies, it was found that the least proficient learners did not generally use past tense morphology to mark the past and in addition used the fewest adverbials while the more proficient learners marked verb morphology in addition to using adverbials. Ninety-nine percent of the uses of morphology and adverbials occurred in past contexts and one percent of the combined usage occurred in present contexts. Additionally, and directly related to the present study, it was found that the most proficient learners used adverbials of frequency with verbs inflected for imperfect aspect and temporal adverbials with verbs inflected for preterit aspect while less proficient learners did not use adverbials in conjunction with either aspect. It was concluded that as the learners' knowledge of past morphology increased, so did their use of adverbials. More proficient learners also used more adverbial phrases and clauses rather than simple adverbials, further suggesting the link between learners' increased proficiency and their continued, more complex use of adverbials. In summary, Lubbers Quesada (2006) indicates that both beginning and advanced learners use adverbials; however, for beginning learners, adverbials serve as lexical substitutes for verb morphology while more advanced learners use adverbials in conjunction with verb morphology to enhance expression and clarify complex temporal relationships.

Thus, it seems that beginning learners depend on adverbials before verb morphology to indicate tense, yet advanced learners continue to use adverbials to convey tense, although in a more advanced way, in addition to verb morphology. Adverbials are a resource that aid all levels of language learners in several languages to more accurately and/or quickly interpret or assign verb tense. The present study proposes to determine whether adverbials are resources that aid learners of Spanish, specifically intermediate and advanced students, in interpreting verb aspect more accurately and more quickly. This goal is similar to the previous studies mentioned here, but with an emphasis on the acquisition of aspect (as determined by preterit and imperfect morphology), as opposed to tense.

4. The present study

4.1. Research questions and hypothesis

The research questions guiding the present study were: 1) To what extent does the presence of adverbials affect NS's and L2 learners' selection of preterit and imperfect in Spanish? And 2) What, if any, differences exist between intermediate and advanced learners' responses? To answer these questions *a priori*, we hypothesized that the presence of temporal adverbials in the passages would affect the selection of aspectual morphology by all participants and would increase the selection of the expected preterit or imperfect by learners. This effect would be greatest for intermediate learners.

4.2. Participants and tasks

Sixty-two English-speaking learners of Spanish and ten NS completed 10 cloze passages and were asked to select preterit or imperfect. Five of the contexts contained adverbials and five did not. There were a total of 52 verbs; 26 with adverbials present and 26 without. There were 13 contexts in which preterit was expected to be selected by participants and 13 in which imperfect was expected to be selected. All participants were either students or faculty at a large research university in the southeastern U.S. and were volunteers. Learners were enrolled in an advanced grammar course and

completed a standardized test (the vocabulary and grammar section of the high-intermediate Diplomas de Español como Lengua Extranjera exam (Ministry of Education, Culture, and Sport of Spain); all participants also filled out a biodata form. The use of a standardized test, which focused on vocabulary knowledge and also several verb tenses, allowed for the accurate division of the learner data into groups of intermediate and advanced learners. The NS were from Peru, Puerto Rico, Colombia, Spain, and the Dominican Republic, but all had resided in the United States for several years prior to participating.

The passages (see Appendix 1 for samples) were written by the first-named author, and based on exercises from several Spanish textbooks including *Mundo Hispano* (de Castells 1981), *Puentes* (Marinelli & Mujica 2007) and *Dos Mundos* (Terrell, Andrade, Egasse, Muñoz 2005) as well as an online resource, *Spanish Language and Culture* (Kuczun Nelson 2007). The passages were designed so that the adverbial or the context (when there were no adverbials) would elicit either preterit or imperfect. The short passages focused on foreground information; thus the contrast of background and foreground information and its effect on aspectual choice as predicted by the Discourse Hypothesis (Bardovi-Harlig 1994) is not a focus of this study. Frame adverbials (*ayer* ‘yesterday’) are associated with preterit while frequency adverbials (*cada año* ‘every year’) or durative adverbials (*toda la mañana* ‘all morning’) are associated with imperfect. There was an equal number of both stative and activity verbs for both morphologies along with several verbs of achievement and accomplishment, though not in equal amounts due to the heavy preterit-bias of the lexical aspect of these verb types. Native speakers (not part of the control group) piloted the task and because of the variation in their responses, we refer to the participants’ responses as *expected* or *unexpected* and not *correct* or *incorrect*. The term *expected response* is used to refer to the selection of imperfect or preterit as expected considering the influence of the adverbial or context (when no adverbial was presented). In the passages a frame adverbial served as a prompt for expected preterit and durative/frequency adverbials for expected imperfect. In the passages with no adverbials, a context was presented that we expected would prompt one or the other morphology. The cloze passages attempted to obstruct one of the possible perspectives, but after piloting three versions of the passages some NS still selected the unexpected forms or mentioned that both forms were acceptable. Nevertheless, among the NS in the study there was a consensus for 43 of the 52 instances, and for the remaining nine instances, in all but one of these cases the *expected forms* were preferred by the NS.

The computer software application, E-Prime (Schneider 2002), was implemented in order to prevent participants from going back and changing their previous responses, to record and save all student responses, and to calculate the time between each response (although for the present study, we will not discuss these results). The data from the learners were collected in four separate sessions in a laboratory classroom. Each participant signed a consent form and received general information about the study. The data from native speakers were collected via a portable computer in the speakers’ offices or homes. Because knowledge of the research topic, adverbials, might have affected participant responses, they were informed that the investigation centered on how English-speakers chose verbs in different social contexts. After completing the task, all participants were informed of the specific nature of the study in a written debriefing statement.

4.3. Analyses

The responses of both the NS and the learners were analyzed via two logistic regressions; the first incorporated the responses of all the participants and the second only the responses of the learners. The logistic regression algorithm fits a logistic curve to the datasets according to several variables. The algorithm can then be used to estimate the probability of an event based upon several variables (Rietveld & van Hout 2005; J. Chen, personal communication, April 3, 2009); comparing this probability to the actual data aids in calculating the significance of a certain variable. The logistic regression was used to determine which of the variables, if any, would predict the selection of imperfect and preterit. The variables for this logistic regression were: non-native or native speaker, the learners’ score on the standardized exam, presence or absence of an adverbial in expected responses. The presence or absence of an adverbial was accounted for in the regression by four types of expected responses in the data: 1) adverbial present, preterit expected; 2) adverbial present, imperfect expected;

3) adverbial absent, preterit expected; and 4) adverbial absent, imperfect expected. The types were not presented in any particular order in the passages.

The learner groups were then divided into two groups based on their scores on the standardized test; those who scored below the mean (56%) were placed in the intermediate group and those who scored above the mean were placed in the advanced group. There were 32 intermediate participants and 30 advanced.

Out of the 52 instances where the participants had to choose either preterit or imperfect there were nine cases, with and without adverbials, where a significant percentage of NS (between 40% and 100%) did not choose the expected form. The role of adverbials in contrast to lexical aspect and grammatical aspect in determining NS's selections will be discussed in detail in the following section. Because of this variation in some of the NS's selections, the analysis of the data will show the relationship between the selection of the expected forms and the presence or absence of an adverbial. Using the expected forms as the standard in the analysis will allow for observations on how the presence or absence of an adverbial affects NS's decisions and how these decisions differ from learners' selections.

5. Results

5.1. Expected responses

The average rate of expected responses among all participants in contexts with an adverbial was 88% while the rate without adverbials was 74%, showing that overall the presence of adverbials influenced participants' selection of preterit and imperfect. The adverbials' effect for learners alone was greater than for NS; learners' expected response rate was 88% with adverbials, but 69% without. These figures, represented in Table 1, indicate that the presence of an adverbial had an effect on the selection of preterit or imperfect for all participants, but more so for the learners. Of the 3,744 responses from 62 learners and 10 NS there was a significant correlation between the presence of an adverbial and the participants' selection of the expected form. The presence of an adverbial was significant in a logistic regression of all participants' responses.

Table 1

Average Rate of Expected Responses from Participants

	All Participants	Learners
Adverbials present	88	88
Adverbials absent	74	69

A logistic regression test of only learners' responses found that there was no significant correlation between selection of the expected morphology and individual learner proficiency (D.E.L.E. score). However, dividing learners into two groups of 32 intermediate and 30 advanced learners showed that advanced students did perform significantly better than intermediate students in the selection of the expected forms, particularly when the adverbial was absent (see Appendix 2). The percentage of expected preterit/imperfect selections with and without adverbials is divided by proficiency level in Table 2.

Table 2

Average Rate of Expected Responses from Participants by Proficiency Level

	Proficiency Level		
	Intermediate	Advanced	Native
Adverbials present	86	89	88
Adverbials absent	64	75	84

The percentage of expected responses was similar among the three participant groups when an adverbial was present in the context, with rates of 86%, 89% and 88% for the intermediate, advanced

and native groups, respectively. When there was no adverbial present, native speakers selected the expected form at the highest rate (84%), only slightly lower than when the verb was accompanied by an adverbial. For learners, when no adverbial was present the selection rate of the expected form dropped; intermediate learners selected the expected form least often (64%), followed by the advanced learners (75%) when there was no adverbial in the context.

Not only is proficiency level a factor in determining the effect of the adverbial, but also whether the adverbial supports preterit or imperfect morphology. The expected response rates from participants are divided according to the expected morphology and presence of an adverbial, as well as proficiency level and the results of the logistic regression, in Table 3.

Table 3

Average Rate of Expected Responses by Proficiency Level and Context Type

Expected Morphology	Adverbial present?	Proficiency Level			P-values	
		Intermediate	Advanced	Native	Learners (Int & Adv)	Native
Preterit	yes	94	94	99	<.0001	0.034
	no	79	84	92	<.0001	0.014
Imperfect	yes	80	85	77	<.0001	0.032
	no	47	67	75	0.725	0.147

For all participants, responses were not random and adverbials play an important role in enhancing the selection of the expected form for both preterit and imperfect. This effect was most notable for learners, particularly in their selection of the imperfect. Learners selected the expected preterit, with adverbials, at a high rate (94%) and selected the expected preterit, without adverbials 79% (intermediate) and 84% (advanced) of the time (with a p-value <.0001 in each case). This is a difference of 15 percentage-points for intermediate learners and 10 for advanced learners. However, while learners selected expected imperfect, with adverbials, at rates of 80% (intermediate) and 85% (advanced) (p<.0001), the rate of selection of expected imperfect, without an adverbial, dropped to 47% (intermediate) and 67% (advanced); a difference of 33 percentage-points for intermediate learners and 18 for advanced learners (p=.725). Thus, the adverbial plays a role in both intermediate and advanced learners' preterit/imperfect selection, although more so for the intermediate learners. For intermediate learners it seems most difficult, as compared to the native speaker group, to interpret imperfect aspect without the cueing presence of a durative or frequency adverbial. Similarly, the presence of the adverbial in the participants' selections was significant except in contexts where imperfect was expected and no adverbial was present. Without an adverbial to reinforce the durative or frequent quality of the action, participants did not clearly select one morphology over another.

While one might expect learners to have difficulty interpreting the preterit and imperfect – a difficulty eased when lexical cues are present to reinforce their selection – it is also notable that adverbials influenced the NS to interpret aspect in variable ways. In contexts where the imperfect was expected, with an adverbial present, NS associated the imperfective-cueing adverbial with the imperfect 77% of the time (p=.032), interpreting some durative or frequent events as perfective. However, advanced learners associated these same types of adverbials with the imperfect 85% of the time and intermediate learners 80% of the time. Thus, it seems that learners are more likely to observe the aspect of the adverbial while NS are not constrained in this way; they freely interpret some imperfective-inducing adverbials as frame adverbials (Binnick 1991, Gonzalez 1998), which suggests the importance of morphology for NS of Spanish and the supremacy of lexical cues for L2 learners of Spanish with less morphologically-dependent L1s. This tendency is demonstrated in nine cases of variation and discrepancy that are discussed in the following section.

5.2. Variation among Native Speakers and Learners

This section examines the nine cases in which more than half of the NS in this study did not select the expected form and compares native speaker responses to those of learners. There was also one

instance in which at least 50% of both intermediate and advanced learners selected the unexpected morphology whereas NS did not (see Table 6, verb 9). These ten cases are presented in context in Tables 4 and 6, with the expected forms italicized. Four of these cases occurred when a frequency adverbial was present (Table 4) - three of which occurred in the same passage, in the same sentence - and six cases occurred when no adverbial was in the context (Table 6). In eight out of nine cases where at least half of the NS selected the unexpected morphology, they selected preterit when imperfect was expected. In these same nine cases only four out of 62 learners consistently selected the same forms as the majority of NS. These ten cases will be analyzed to determine how the adverbial affects NS and learners differently.

Table 4

Variation Contexts (with adverbials)

Passage 1: Por tres semanas enteras 1 (<i>viajábamos/viajamos</i>) por todo el continente y cada día 2 (<i>conocíamos/conocimos</i>) a nuevas personas que siempre 3 (<i>eran/fueron</i>) generosas. ('For three whole weeks we 1 were traveling/traveled over the whole continent and everyday we 2 were meeting/met new people who always 3 were/were generous.')
Passage 5: Toda la mañana yo me 4 (<i>sentía/sentí</i>) triste porque... ('All morning I 4 was feeling/felt sad because...')

In these four cases where the selection of imperfect was expected given the presence of durative and frequency adverbials, several NS (6 to 9 out of 10) interpreted the adverbials as frame adverbials, encompassing a specific segment of time, with a perfective aspect. In each of these four cases, learners chose the imperfect more often than did the NS. The rates of expected responses for each of the cases listed in Table 4 are detailed in Table 5 according to proficiency level.

Table 5

Rate of Expected Responses in Variation Contexts: Imperfect with Imperfective-cueing Adverbial

Adverbial	Expected Form	Proficiency Level		
		Intermediate	Advanced	NS
Por tres semanas (‘for three whole weeks’)	1) viajábamos (‘were traveling’)	69%	60%	10%
cada día (‘every day’)	2) conocíamos (‘were meeting’)	66%	57%	40%
siempre (‘always’)	3) eran (‘were’)	72%	83%	20%
toda la mañana (‘all morning’)	4) sentía (‘was feeling’)	81%	83%	40%

The presence of the adverbials *por tres semanas enteras* (‘for three whole weeks’) and *cada día* (‘every day’) resulted in learners choosing the imperfect nearly twice as often as NS; with *siempre* (‘always’) learners were four times more likely to choose imperfect than NS. Similarly, the adverbial *toda la mañana* (‘all morning’) encouraged most learners (81%, 83%) to select the imperfect while only 40% of NS chose imperfect. Intermediate learners associated the imperfect with *por tres semanas enteras* and *cada día* with the imperfect more often than the advanced learners, which may point to learners developing native-like interpretation as they become more proficient, however, advanced learners associated the imperfect with *siempre* and *toda la mañana* more often than intermediate learners; advanced learners may have been influenced by the lexical aspect of the verbs *ser* (‘to be’) and *sentir* (‘to feel’). While the role of learner proficiency is not clear, or not a factor, in these four cases of variation, it is clear that in each case the imperfective-cueing adverbial influences learners to choose the imperfect more than the adverbial influences NS.

Table 6

Variation Contexts (without adverbials)

Passage 2: Mi amigo es artista, así que él 5 (<i>examinaba/examinó</i>) la pintura con interés pero yo, como escritor, 6 (<i>leía/leí</i>) una novela. ('My friend is an artist, so he 5 was examining/examined the painting with interest but I, as a writer, 6 was reading/read a novel.')
Passage 4: Escondiéndonos, listos para sorprenderle, nosotros 7 (<i>anticipábamos/anticipamos</i>) su llamada a la puerta. ('Hiding, ready to surprise her, we 7 were anticipating/anticipated her knock at the door.')
Passage 8: Mi hermano y yo 8 (<i>íbamos/fuimos</i>) muy contentos a la playa para volar nuestro papalote. ... El día 9 (<i>era/fue</i>) largo, pero divertido. ('My brother and I 8 were going/went happily to the beach to fly our kite. ... The day 9 was/was long, but fun.')
Passage 10: ...que me comí un plato entero de espaguetis. ¡ 10 (<i>Estaba/Estuvo</i>) riquísimo! ('...that I ate a whole plate of spaghetti. 10 It was/was delicious!')

In these cases with no adverbials, four out of six were expected imperfect and two were expected preterit given the context of the sentence and passage; in passage 2 two actions occur simultaneously, in passage 4 the gerund highlights the continuity of the action, in passage 8 the narrative begins in mid-action while the final sentence sums up the events of the day, in passage 10 the last sentence of the passage reflects on the recently completed action. The rates of expected responses for each of the cases listed in Table 5 are detailed in Table 7 according to proficiency level.

Table 7

Rate of Expected Responses in Variation Contexts: Imperfect or Preterit with No Adverbial

Expected Form	Proficiency Level		
	Intermediate	Advanced	Native
5) <i>examinaba</i> ('was examining')	16%	40%	0%
6) <i>leía</i> ('was reading')	19%	40%	30%
7) <i>anticipábamos</i> ('were anticipating')	44%	60%	50%
8) <i>íbamos</i> ('were going')	66%	47%	40%
9) <i>fue</i> ('was')	50%	40%	90%
10) <i>estuvo</i> ('was')	44%	43%	20%

Overall, in these instances without adverbials, advanced learners responded at approximately the same rates as NS and intermediate learners showed more ambivalence in selecting preterit or imperfect without adverbials. For the most part, learners who selected the imperfect for one of the simultaneous actions in passage 2 also selected imperfect for the other action of the sentence, but most learners interpreted both actions as perfective, selecting preterit for each. Native speakers unanimously chose preterit for the verb *examinar* ('to examine') and 7 out of 10 chose preterit for *leer* ('to read') as well. These responses attest to the importance of adverbials the interpretation of aspect by all participants.

The two cases where preterit was expected (verbs 9 and 10), as opposed to imperfect, showed the most variation among participant groups. This may be due in part to the lexical aspect of the state verbs *ser* and *estar* – both meaning 'to be'. While 9 out of 10 NS selected the expected preterit (*fue*) in the last sentence of passage 8, only half of intermediate learners and 40% of advanced learners did so. In passage 10 approximately the same number of learners (between 43 and 44 percent) selected the expected preterit (*estuvo*), however only 20% of NS did so. Learners are more likely to select the imperfect for verbs of state, but for NS the selection of preterit or imperfect does not necessarily rely

on lexical aspect. Future research should explore further the relationship between NS's use of morphology and its relationship to lexical aspect.

6. Conclusions

The results of this study, in addition to supporting the Tense Hypotheses (Salaberry 1999, 2002, 2003, 2005), reflect that English L2 learners of Spanish rely on adverbials more than NS of Spanish do. Whether this is a natural tendency of all learners with less morphologically-dependent L1s or if this is peculiar to classroom learners is the most crucial area to assess in future research. If the results of this study are even in part driven by common classroom methods of instruction and assessment, then re-evaluation and even reform of some traditional classroom techniques may be necessary. Researchers in areas outside of language acquisition may wish to explore the communicative relationship between adverbials and morphology in Spanish when, as shown in this study, NS consider morphology to carry the most communicative weight.

The presence of adverbials resulted in significantly higher rates of selection of the expected forms among all three participant groups. However, learners were more likely to select preterit in both contexts where preterit and imperfect were expected but no adverbial was present, which supports the Tense Hypothesis and the role of preterit as a default tense for learners of Spanish. Thus, in answer to the research questions: adverbials did affect both NS's and L2 learners' assignment of aspect in Spanish, though much more so for learners. Intermediate learners' assignments were affected more than those of advanced learners, particularly in cases of the imperfect. The hypothesis proposed – that the presence of temporal adverbials in the passages would affect the selection of aspectual morphology by all participants and would increase the selection of the expected preterit or imperfect by learners – is confirmed as is the hypothesis that this effect would be greatest for intermediate learners.

Thus, our hypotheses are confirmed. With adverbials all three groups performed similarly, however, without adverbials, intermediate learners were least likely to select the expected forms, followed by advanced learners, and then native speakers, who were the most consistent in the selection of the expected forms. The presence of an adverbial was a significant factor in the selection of verb forms by both NS and learners, though more notably so for learners. While the presence of an adverbial in the sentence increased the likelihood of NS's selection of the expected form from 84% to 88% the difference for learners was much greater; from 69% to 88%, particularly for intermediate learners whose rate of expected response was 64% without adverbials, but rose to 86% with adverbials. Therefore, while it was possible for some learners to identify the expected forms in sentences without adverbials it was far more likely for them to do so in sentences with adverbials. This suggests adverbials' importance for learners' interpretation of aspect, which was again confirmed when advanced learners' rate of expected response exceeded that of NS when adverbials were present with expected imperfect. This also indicates that learners were more likely to associate durative and frequency adverbials with imperfect than NS. Adverbials' influence for learners was again visible in the ten cases of variation; learners did not agree with NS's selection of the preterit when an imperfective-cueing adverbial was present, although some did agree when no adverbial was present. This indicates that the presence of an adverbial influences English L2 learners of Spanish more than NS of Spanish.

Learners may rely upon adverbials in this way because of L1 influence; because English lacks clear aspectual markers it employs adverbials to communicate aspect effectively. For example, *I swam everyday when I was a kid* has an imperfective interpretation while *I swam last week* has a perfective interpretation. However, the responses of native Spanish speakers indicate that while adverbials often agree with aspectual morphology in Spanish, it is the imperfect or preterit morphology that fundamentally communicates aspect. This is not to say that adverbials are not important or useful; there was a slight increase in native speakers' expected imperfect responses with adverbials present and durative and frequency adverbials were associated with the imperfect 75% of the time overall by native speakers. The results of the study indicate, rather, that frequency and durative adverbials are open to interpretation, communicating either a perfective or imperfective reading and, thus, not the primary means of marking aspect in Spanish. The communicative weight of adverbials and morphology is different in English and in Spanish and, additionally, may vary in other languages. This

is relevant to Bardovi-Harlig's (1992) study of English-learners whose use of adverbials decreased as the learners acquired verbal morphology. This decrease may reflect learners' tendency to parallel the manner in which aspect is communicated (via adverbials or morphology) in their L1 (Arabic, Japanese, and Korean). This may also be relevant to Wen's (1995) study, cited in Duff and Duanduan (2002) of English L2 learners of Chinese who used perfective adverbials with a perfective marker more often than typical of native speech.

Perhaps the most important conclusions to draw from this study center on classroom instruction and assessment. Currently many textbooks and instructors present lists of adverbials, or "keywords," that can help students to determine when to use imperfect and preterit which leads to an over-reliance on temporal adverbials. To avoid this issue, instructors might consider restricting the use of keywords (adverbials) until after students have grasped the difference in perspective offered by the two morphologies. Better still, the elimination of these lists would allow students to first develop their own sense of preterit and imperfect, eventually leading to accurate usage of, but not reliance on, adverbials. Forms of assessment are another important issue in the acquisition of morphology as adverbials are often used in textbook exercises and written exams to determine if the learner can accurately use preterit and imperfect. The use of adverbials encourages students to choose one morphology over the other to earn points for the "correct" answer thus leading to students to associate their preterit/imperfect choice with adverbials. This also fosters a belief that only one morphology is correct in a given context that is not an accurate reflection of the language and denies the versatile nature of aspectual morphology. While oral and essay exams offer an effective, though time-consuming, manner of determining students' true understanding of preterit and imperfect another, simpler means of testing may be to ask students to choose the most appropriate morphology and explain their answer. This would negate the need for and eliminate students' dependence on adverbials while reinforcing speaker-choice as the crux of the Spanish past tense.

While this study on the role of adverbials in the interpretation of aspect by learners as well as NS of Spanish reveals important issues about learners' reliance on adverbials, learners' difficulty interpreting imperfect morphology without frequency/durative adverbials, and NS's use of morphology, it is limited, especially due to its size and the implements used. A study involving more participants with both classroom and non-classroom learners with a greater variety of proficiency levels may uncover more details about the influence of temporal adverbials in the acquisition of preterit and imperfect. Further, the cases of variation, though revealing, were not planned. The importance of speaker perspective, especially regarding durative/frequency adverbials that can be interpreted as frame adverbials, complicated the use of passages. An alternative manner to obtain data would be to interview participants, as done in Liskin-Gasparro (2000). However, this type of data collection is not without its own difficulties. Another suggestion, then, would be to use shorter contexts to maintain integrity without sounding unnatural, another issue prevalent when eliminating adverbials completely. Future researchers might also record learner response times, as in Boatwright (1999), as an indicator of learner proficiency in the use of preterit/imperfect.

7. Appendices

7.1. Appendix 1

Sample passage with adverbials

Ayer yo (iba/fui) a la parada de autobuses. Como siempre (esperaba/esperé) mucho cuando de repente un hombre joven (llegaba/llegó). En ese momento yo me le (presentaba/presenté) a él. Allí en la parada (hablábamos/hablamos) por horas y esta noche ¡tenemos una cita!

(‘Yesterday I went to the bus stop. Like always, I was waiting a long time when suddenly, a young man arrived. In that moment I introduced myself to him. There at the bus stop we were talking for hours and tonight, we have a date!’)

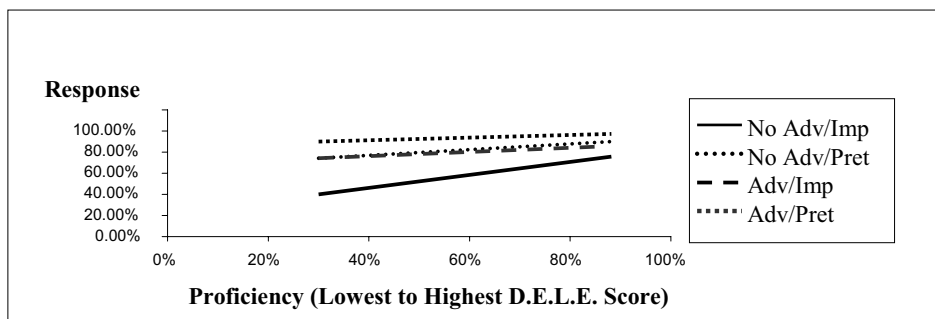
Sample passage without adverbials

A Julia no le gustan las sorpresas pero le (preparábamos/preparamos) una fiesta sorpresa para su cumpleaños. Escondidos y listos para sorprenderle nosotros (esperábamos/esperamos) su llamada a la puerta. Sin embargo nunca (ocurría/ocurrió). Nosotros (íbamos/fuimos) a la ventana para echar un vistazo y allí (estaba/estuvo) Julia, mirándonos y riéndose.

(‘Julia doesn’t like surprises but we organized a surprise party for her on her birthday. Hiding and ready to surprise her we were waiting for her call at the door. Nevertheless, it never happened. We went to the window to look out and there was Julia watching us and laughing.’)

7.2. Appendix 2

Figure 1. Linear Regression of Participants’ Selection of Morphology with/without Adverbials



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