

The Interaction between Lexical-Semantics and Morphosyntax: A Study on the Development of Verbal Forms in L1 and L2 Spanish

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1. Introduction

It is well known that L2 learners differ from L1 learners in the acquisition of the target language. One of the areas of the grammar in which L2 learners exhibit variability is in the production of verbal morphology, in particular, tense and agreement markings are often found to be optional in L2 data. The contrast in attainment between L1 and L2 has led some researchers to propose that the variability found in L2 grammar is the result of some form of impairment in the functional category domain (Hawkins and Chan, 1997; Eubank, 1993; Meisel, 1997; among others). Others have argued that the interlanguage grammar of L2 learners contains abstract functional categories and features, as shown by the manifestation of syntactic operations, such as verb-raising, case-assignment, presence/absence of null subjects that the L2 learners demonstrate (Grondin and White, 1996; Lardier 1998; Prevost and White, 2000; among others). More recently, research in L2 has shown that aspects of grammar that require the integration of two linguistic systems, such as syntax and semantics, and syntax and discourse, are more difficult to acquire than properties of the grammar that are within one linguistic system (Sorace 2004, 2005; Tsimpli & Sorace 2006; among others).

The present study continues this line of research by investigating L1 and L2 knowledge of the interaction between lexical-semantics and morphosyntax of Spanish verbal forms using the same methods in both groups of learners. In particular, the study examines the production and comprehension of (telic + preterite), (telic+ imperfect), (atelic + preterite), and (atelic+imperfect). The main research question the study addresses is, to what extent is the development of verbal forms (similar) or different in L2 from L1 when identical methodology is used in both groups? The study shows that linguistic deficiencies found in the comprehension of certain verbal forms in L2 might not be the result of feature values not selected in early childhood since both, child L1 and adults L2 show similar linguistic delay patterns. Instead, it appears that lack of knowledge of how properties interact at the interface between lexical semantics and morphosyntax might be the cause of the comprehension delay. The broader aim of the study is to contribute to theoretical accounts on the interface between lexical-semantics and morphosyntax from an acquisition perspective that includes L1 and L2. The study also suggests the need to compare developmental patterns between L1 and L2 by using the same methodology with both types of learners.

This article is divided as follows. Section 2 presents background on Spanish lexical and grammatical aspect. Section 3 introduces a brief summary on previous studies on the production and comprehension of verbal morphology in L1 and L2. The predictions for the current study are introduced in section 4. The study is presented in section 5. Section 6 presents the results, and section 7 discusses the data and concludes the study.

2. Spanish Lexical and Grammatical Aspectual Properties

The lexical aspectual properties expressed in Spanish verbs can be described as contrasting sets. A verb can be telic or atelic, stative or dynamic, instantaneous or durative. However, the properties that distinguish the telic/atelic contrasting set have been regarded as the basic semantic feature determining the lexical aspectual properties of a verb and a predicate (Dowty 1986; Smith 1991, 1997; Verkuyl 1993). A predicate is telic when the event that it denotes reaches its point of culmination (e.g., write a letter). A predicate is atelic when the event that it denotes does not reach its point of culmination, instead, it presents an arbitrary ending (e.g., play the piano). In Spanish, the entailment of completion expressed in a telic predicate is determined by the entire verb-phrase. That is, in addition to the lexical properties of the verb, the notion of completion is expressed when the verb's direct object is in the form of a count noun in a transitive verb frame, as the examples in (1) demonstrate (the verbs are in the infinitive form to illustrate their lexical aspectual properties). The entailment of non-completion expressed in an atelic predicate is also determined by the type of verb and the direct object's non-countable reference, as the sentences in (2) illustrate. Thus, we can see that the verb's information can be modified by other elements in the verb phrase, such as adverbs and properties of the noun phrase:

- (1) a. Comer una manzana.
'Eat an apple.'
- b. Jugar al baloncesto por una hora.
'Play basketball for one hour.'
- c. Escribir una carta.
'Write a letter.'
- (2) a. Comer manzanas.
'Eat apples.'
- b. Jugar al baloncesto.
'Play basketball.'
- c. Escribir cartas.
'Write letters.'
- d. Juan corre mucho.
'John runs a lot.'

The other element within the verb that provides aspectual information is the verb's morphology. Aspectual morphology or grammatical aspect is usually marked by auxiliaries, and by the inflectional or derivational morphology of the language. Aspectual markings are referred as perfective or imperfective aspect. In Spanish, grammatical aspect and tense are fused in the same morpheme. For instance, a perfective reading can be expressed by the use of the 3rd person morpheme *-ó* (used in the preterite tense), while an imperfective reading is expressed by using the morpheme *-aba* and *-ía* (used in the imperfect tense) as the examples in (3) below illustrate:

- | | | |
|--------|---|-----------------------------|
| (3) a. | Comió una manzana.
'(He) ate an apple.' | Telic—Perfective reading |
| b. | Comió manzanas.
'(He) ate an apples.' | Atelic—Perfective reading |
| c. | Comía una manzana.
'(He) was eating an apple.' | Atelic—Imperfective reading |
| d. | Comía manzanas.
'(He) was eating apples.' | Atelic—Imperfective reading |

While perfective aspect focuses on the initial and final boundary of the event, imperfective aspect, on the other hand, focuses on an ongoing action without indicating the initial or final boundary of the event. Thus, the meaning of a predicate depends on the interaction between the lexical-semantic properties of the verb phrase and the morphological markings on the verb. The use of perfective aspect

in a telic verb phrase emphasizes the completion of the event, whereas in an atelic verb phrase, it emphasizes an arbitrary end, that is, an event that has terminated but not necessarily completed, as the examples in (3a) and (3b) show respectively. By contrast, the use of imperfective aspect in either telic or atelic verb phrase entails an event in progress, as shown in (3c) and (3d). The interaction of lexical aspect with imperfective grammatical aspect has shown that imperfective aspect overrides or cancels the lexical properties of the verb, a phenomenon known as the Imperfective Paradox (Dowty 1979).

3. The Production and Comprehension of Grammatical Aspect in L1 and L2

3.1. Review of L1 Production and Comprehension

Research on the production of children's verbal morphology has shown that children as young as 2;6 years-old distribute perfective and imperfective verbal morphology according to the lexical properties of verbs (Bronckart and Sinclair, 1973; Antinucci and Miller, 1976; Bloom, Lifter and Hafitz, 1980, among others). The research revealed that inherently telic verbs such as *break* and *make* are used with perfective markers and inherently atelic verbs such as *play* and *run* are used with imperfective markers. In other words, young children produce verbal forms like *broke* and *made* (telic + perfective) and *playing* and *running* (atelic + imperfective) and not *breaking* and *making* or *played* and *ran* in their early grammar. The distribution of grammatical aspect according to lexical aspect led some researchers to propose the Aspect before Tense Hypothesis (Bloom et al., 1980). One of the claims that the hypothesis makes is that the type of aspectual encoding that children use in their early production is lexical aspect and not grammatical aspect. For instance, the early production of *-ing* by English-speaking children does not mark progressive aspect which is a form of grammatical aspect, but rather, the lexical aspectual properties that define the predicate, that is, [+/- dynamic] [+/- durative] [+/- atelic]. Overall, the studies showed that children are sensitive to the lexical properties of verbs and use those properties as a guide in their production of verbal morphology.

Although a great number of studies on the acquisition of tense and aspect have focused on children's production, there are few studies that have considered whether children's production of verbal morphology corresponds to children's comprehension of the semantics of verbal forms. Among some of the languages investigated are Polish (Weist, 1991; Weist, Wysocka and Lyytinen, 1991; Weist, Lyytinen, Wysocka, and Atanassova, 1997), Russian (Stoll, 1998; Vinnitskaya and Wexler, 2001), Finnish (Weist et al. 1991, 1997), English (van Hout, 1997; Wagner, 1997, 2002), Dutch (van Hout, 1998a, and b, 2003). While the results of children acquiring Polish and Russian showed that young children as early as 2;6 performed like the adults in the comprehension of verbal forms—children were able to differentiate a completed situation from an ongoing situation as marked by the perfective—children acquiring Finnish, English, and Dutch did not.

In these studies, children differed significantly from the adults in the comprehension of lexical and grammatical aspectual properties. For instance, the studies on the comprehension of lexical aspect in Dutch and English showed that while adults interpreted telic predicates as predicates that denote a completed event, young children, on the other hand, differed from the adults' interpretation by allowing the same predicates to denote a complete and an incomplete event (van Hout, 1998a, and b, 2003). Studies on the comprehension of verbal morphology also showed that children did not succeed until approximately age five in matching a perfective sentence to a completed event and had even more difficulties in matching an imperfective sentence to an incomplete event (Wagner, 1997, 2002). The studies indicated that the differences in the pace of development of particular aspects may depend on the manner in which aspect is marked in the language. For example, languages like Dutch and English in which lexical aspect is encoded by the combination of the verb and its arguments appear to be more difficult to be acquired than languages in which aspectual information is encoded by prefixes on the verb itself, like Polish and Russian.

To summarize the overall findings in production and comprehension, L1 learners distinguish types of events by paying attention to the lexical properties that describe the overall event, that is, whether the completion of the event is entailed or whether the event contains an arbitrary ending. Children make a clear distinction in their selection of verbal morphological forms in production. However, the performance in production does not match the performance in comprehension in English, Dutch, and Finnish. In these languages, adult-like comprehension of telicity and comprehension of perfective and

imperfective aspect takes place around the age of 5, even though children produce these forms at a much earlier age.

3.2. Review of L2 Production and Comprehension

Following the observations of the early studies on the production of tense and aspect in L1, several studies considered the implications for second language acquisition, in particular, the claim on the distribution of verbal morphology according to lexical aspect became a growing point of interest in many studies (Andersen, 1989; Andersen and Shirai, 1994, Bardovi-Harlig, 1999; Hasbun, 1995; among others). More specifically, the data that emerged evaluated Andersen's (1989) Lexical Aspect Hypothesis, which proposed that in the beginning stages of L2 language acquisition, verbal morphology encodes lexical aspect rather than tense or grammatical aspect. Although the studies that investigated the predictions of this hypothesis reported different findings, most studies generally supported the notion that perfective morphology is acquired first and is used with verbs that are predominantly telic, while imperfective morphology is acquired later and is mapped to verbs that do not denote a clear endpoint of culmination.

In recent years, generative L2 research has demonstrated that despite the variable morphological performance exhibited by L2 learners, studies have revealed that syntactic operations associated with verb-raising, knowledge of abstract features, and knowledge of certain semantic entailments are present in the interlanguage of L2 grammars (Grondin and White, 1996; Lardier 1998; Prevost and White, 2000; Dekydtspotter and Sprouse 2001; Slabakova and Montrul, 2003; Montrul and Slabakova 2002; Slabakova, 2006; among others). A relevant study to the present research is the work conducted by Montrul & Slabakova (2002) on learners' semantic knowledge of formal features of the functional category of Aspect. Their study investigated whether learners have knowledge of Spanish aspectual tenses *Preterito* and *Imperfecto* as markers of perfective and imperfective grammatical aspect features. The study revealed that advanced learners have knowledge of the morphological properties of the preterite and imperfect and their semantic distinction, but intermediate learners do not. Their results showed that learners who had not acquired the morphology, had not acquired the semantic contrast between the tenses, and learners that had knowledge of the morphology showed signs that the semantic distinction was emerging.

Thus, recent research in L2 reveals that contrary to early studies, learners may have abstract knowledge of linguistic properties. However, although several studies have investigated the comprehension of semantic entailments and the relation between the lexical properties of verbs and morphological markings, none of them have tested L1 and L2 learners with the same experimental methodology in production and comprehension. The present research is one of the first studies that uses L1 methods on L2 learners and compares the results from both groups.

4. Predictions

After considering the data from previous research, we are now in a position to discuss the specific predictions with regards to L2 acquisition of Spanish verbal morphology and compare it with L1. In L1, the distribution of Spanish morphology according to the lexical properties of the verb has already been attested in a study conducted by Hodgson (2005). The production results from that study are reported in this study. Since the present study investigates and compares production as well as comprehension, the following outcomes can be predicted:

In Production

1. If L2 intermediate and advanced learners have knowledge of the underlying properties of lexical aspect, they should perform like L1 in their selection and distribution of verbal morphology, especially since the lexical aspectual properties of verbs are similar in both languages. That is, they should apply perfective morphology to telic verbs and imperfective morphology to atelic verbs.
2. If L2 intermediate and advanced learners do not have knowledge of lexical properties, then they would not distribute verbal morphology according to lexical properties, but instead they may produce all verbal forms regardless of the type of verb.

In Comprehension

In L1

1. If children have knowledge of the interaction between lexical-semantics and morphology, then they should perform like the L1 adults interpreting the semantic entailments of the combination sets that have a cancelling effect (telic+imperfect) and (atelic+preterite), and the semantic entailments of the sets that have an emphasis effect (telic+preterite) and (atelic+imperfect).

In L2

1. If L2 learners have knowledge of the interaction between lexical-semantics and morphology, then they should perform well interpreting all four combinations and should perform like the L1 counterparts.

These predictions were tested in L2 English learners of Spanish studying in Intercultura, Heredia, Costa Rica, and Catawba College, North Carolina, and in L1, in Barcelona, Spain.

5. Methodology

The study will report the results of four experiments: two experiments on the production of perfective and imperfective grammatical aspect, one in L1 and one in L2, and two experiments on the comprehension of perfective and imperfective grammatical aspect, one in L1 and one in L2.

5.1. Participants

The total number of participants involved in the L1 comprehension study were forty-five native Spanish speakers: fifteen adults that served as controls and thirty children. The child subjects range in age ages from 3;6 to 7;8: fifteen 3;6 to 4;11, and fifteen 5;1 to 7;8. All subjects were native speakers of Spanish.

The total number of participants involved in the L2 study were twenty-six adult English speakers who had learned or were learning Spanish in a formal setting and whose proficiency ranged from intermediate to advanced. Most participants were recruited from intermediate and advanced Spanish classes at college in the U.S. and some were recruited from a language school in Costa Rica, who were deemed to have an advanced level of proficiency in Spanish. Participants were divided into two proficiency groups: thirteen intermediate and thirteen advanced. The fifteen adults that served as controls for the L1 experiment also served as controls for the L2.

5.2. Test Instruments

In order to assess the L2 participants' knowledge of Spanish, two proficiency tests were used. The tests consisted of a cloze passage in which the participants had to supply twenty missing words selecting from three choices, and a multiple choice vocabulary test in which the participants had to select a missing word. The test contained thirty sentences. The maximum score in the proficiency tests was fifty.

The test instrument for the production task was a short silent video, which the participants had to describe when it was over. This type of test instrument has been used successfully in first language acquisition. The videos described three telic type situations alternated with three atelic type situations presented in a computer. The three events that represented telic type situations were: a cow crosses a river, a horse jumps an obstacle bar, and a girl stacks two blocks. The actions that represented the atelic type situations were: a girl rides a scooter, a dog plays with a ball, and a boat sails in the river.

The comprehension task consisted of a story and pictures that introduced four animal characters and eight situations. The characters and pictures were presented on a computer screen. The verbs used were four telic and four atelic verbs. The telic verbs were: *dibujar* 'draw', *pintar* 'paint', *construir* 'build', *poner* 'put'. The atelic verbs were: *barrer* 'sweep', *jugar* 'play', *caminar* 'walk', *estudiar* 'study'. The type of verb was alternated with the Spanish *Pretérito* and *Imperfecto* aspectual tenses. The test statements and the story are presented below:

Table 1. Test Statements

Test statements	Type of lexical verb & tense/aspect morphology
Dibujé los planos del colegio. 'I drew the map of the school.'	Telic + Pretérito
Pintaba la pared. 'I painted (IMP) the wall.'	Telic + Imperfecto
Construí la torre. 'I built the tower.'	Telic + Pretérito
Ponía la puerta. 'I put (IMP) the door.'	Telic + Imperfecto
Barrí el suelo. 'I swept the floor.'	Atelic + Pretérito
Jugaba con la pelota. 'I played (IMP) with the ball.'	Atelic + Imperfecto
Caminé el camino. 'I walked the path.'	Atelic + Pretérito
Estudiaba la lección. 'I studied (IMP) the lesson.'	Atelic + Imperfecto

(3) The Story:

La vaca, la oveja, el caballo y el cerdo quieren ir al colegio, pero no pueden porque no hay colegios para ellos. Los animales deciden construir un colegio. Cada animal quiere hacer una parte.

La vaca dice: Yo construí la torre del colegio.

Experimenter asks: *¿De qué torre está hablando la vaca?*

El caballo dice: Mientras tanto, yo pintaba la pared.

Experimenter asks: *¿De qué pared esta hablando el caballo?*

‘The cow, the sheep, the horse, and the pig want to go to school, but they can’t because there isn’t a school for them. So they decide to build their own school. Each animal wants to do a part.

The cow says: ‘Yesterday, I built (PERF) the school tower.’

Experimenter asks: Which one of the towers is the cow talking about?

The says: ‘In the meantime, I painted (IMP) the wall.’

Experimenter asks: Which one of the walls is the horse talking about?

5.3. Procedure

In the production task, the silent videos depicted events that either had a clear endstate, or an arbitrary ending. For example, in the horse-jumps-an-obstacle event, a hand-guided horse toy runs towards two obstacles, jumps each one at a time, turns around, and jumps another obstacle, thus the video presents an event that contains a clear endpoint of culmination. In the girl-rides-a-scooter event, a hand-guided toy rides a scooter around a park. In this case, the video presents a situation that does not have a specific endpoint of culmination, but rather, a situation that can end at any moment. The task of the participant was to produce the type of verb (telic/atelic) and the type of grammatical morphology (perfective/imperfective) that would describe the events he or she just observed. All the other events were acted out in a similar way, on a table that had a background of a park and a small river. Before the experiment started, each individual subject was told the following: we are going to watch a short movie on the computer screen about some toys. I need you to pay a lot of attention because when the video is over, you are going to describe it. Each individual participant was then presented with the six videos. At the end of every video, the subject was asked *cuéntame* ‘tell me’. At that point, the subject described the event.

The comprehension experiment consisted of a statement-picture matching task. For every story, the participants had to match the statement the character of the story gave with one of the three pictures presented next to each other on the computer screen. One picture depicted a complete event, another depicted an incomplete event, and another depicted an event that had not even started. Thus, the only time that a picture that presents a complete event can be selected is when a (telic + preterite) statement is expressed. Any other expression that combines (telic + imperfect, atelic + preterite, atelic + imperfect) can only describe an event that has terminated and not completed.

6. Results and Discussion

The presentation of results is divided into production and comprehension. The L1 production results are taken from Hodgson (2005).

6.1. Production Results

L1 and L2 results are presented in the figures below. The production results for telic type situations are shown in figures 1 and 2. The production results for atelic type situations are presented in figures 3 and 4:

Figure 1. L1 Telic Type Verb Production
% of tenses produced

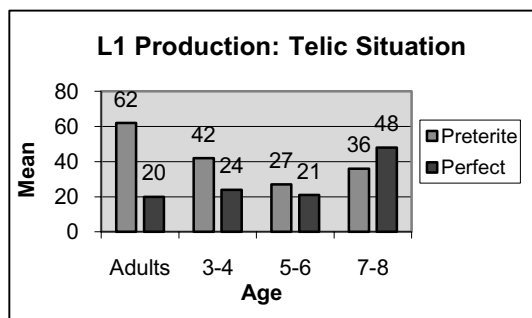


Figure 2. L2 Telic Type Verb Production
% of tenses produced

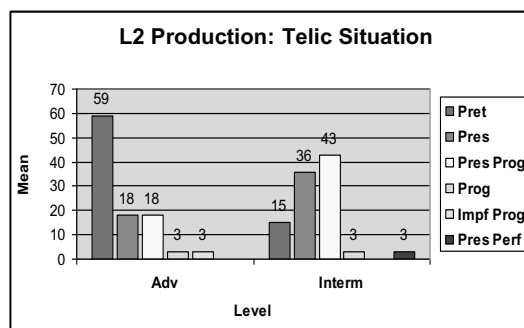


Figure 3. L1 Atelic Type Verb Production
% of tenses produced

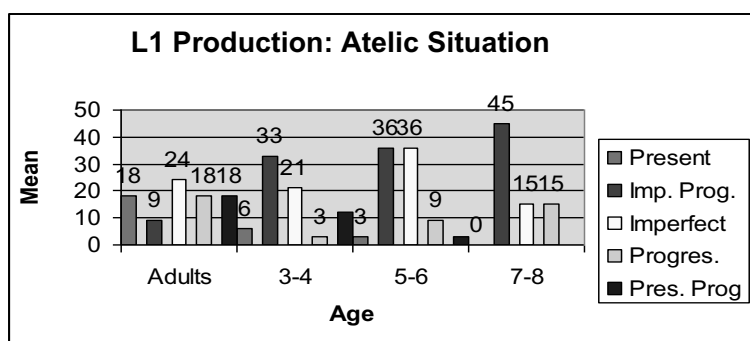
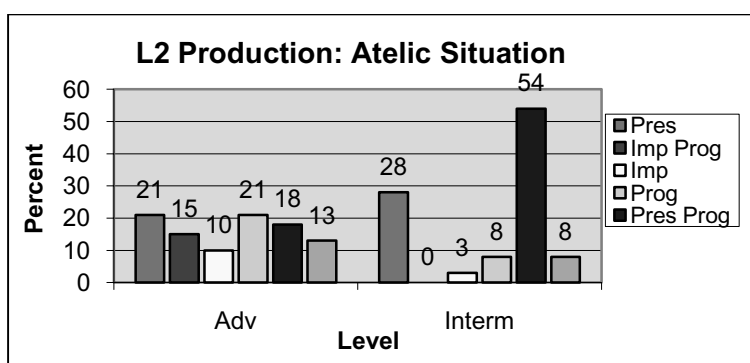


Figure 4. L2 Atelic Type Verb Production
% of tenses produced



The production results for telic type situations, figure 1 above, show that adults L1 used perfective morphology in 82% of their verbs, namely, the preterite 62% (*cruzó* 'he crossed'), and the present perfect 20% (*ha cruzado* 'he has crossed'). The 3-4 year-olds used perfective forms in 66% of their

verbs, 42% preterite, 24% present perfect. On the other hand, the 5-6 year-olds only used perfective morphology in 48% of their verbs, which is below chance, 27% of the forms were in the preterite, and 21% were in the present perfect. The 7-8 year-olds performed like the adults, 84% of the verbal forms produced by this group contained perfective tenses.

Figure 2 presents L2 advanced and Intermediate production data in telic type situations. We can see that when these groups were presented with the same identical experiment as the adults and children L1, only the advanced group produced and distribute a similar rate of perfective verbal forms as the L1 groups. 60% of the verbs produced by the L2 advanced group were perfective forms, namely, the preterite. The intermediate group, on the other hand, only 18 % of the forms produced were perfective, of those, 15% were in the preterite.

Let's consider now the production in the atelic type situations, figures 3 and 4 above. Again, the adults and children L1 tend to make a clear distinction between complete and incomplete events and select verbal morphology according to the type of event presented as it is shown by the percentages of imperfective tenses used in the incomplete situations. 91 % of the verbs produced by the L1 adults contained imperfective morphology. The tenses used were: present, imperfect progressive, imperfect, progressive, and present progressive. The children also patterned like the adults, 78% of the verbal forms used by the 3-4 year-old group were imperfective forms, and 87% of the forms used by the 5-6 year-olds were imperfective forms. The 7-8 year-olds also performed like the adults, using 81% of their verbs with imperfective morphology. The tense used the most to describe incomplete actions by the children was the imperfect progressive (*estaba cruzando* 'he was crossing'), followed by the progressive (*cruzando* 'crossing').

The L2 advanced and intermediate groups also used imperfective morphology to describe incomplete events. 98% of the verbs used by the advanced L2 were imperfective forms, while the intermediate learners used imperfective morphology in 99% of their verbs. The main difference between the advanced and the intermediate learners was in the spread of the tenses used. While the advanced group didn't particularly chose one tense more than another, the intermediate learners produced the present progressive (*está cruzando* 'he is crossing') at a much higher rate than any other morphological forms. According to this data, the picture that is beginning to emerge in L2 is that they show sensitivity to properties of lexical aspect and tend to produce grammatical morphology according to the properties of the verb.

6.2. Comprehension Results

The results for the comprehension task are presented below. Figure 5 presents L1 data and figure 6 presents L2 data.

Figure 5. L1 Comprehension
% Accuracy on tense x statement type

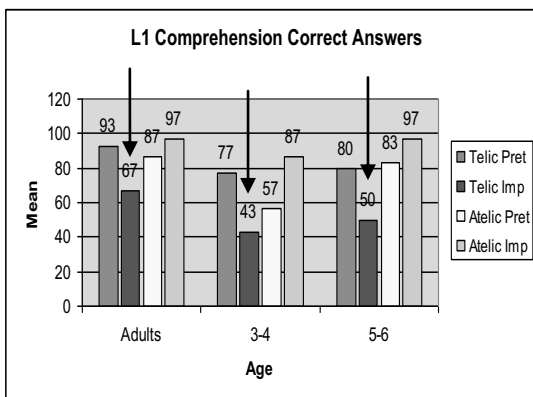
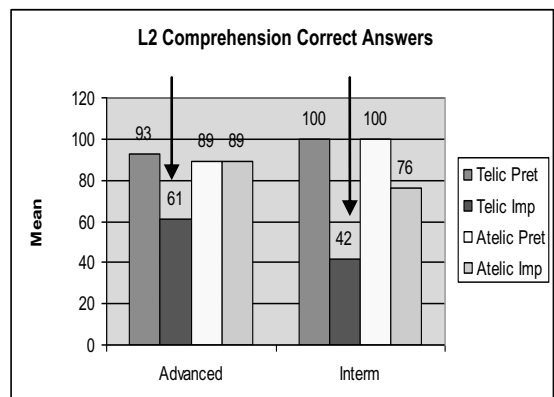


Figure 6. L2 Comprehension
% Accuracy on tense x statement type

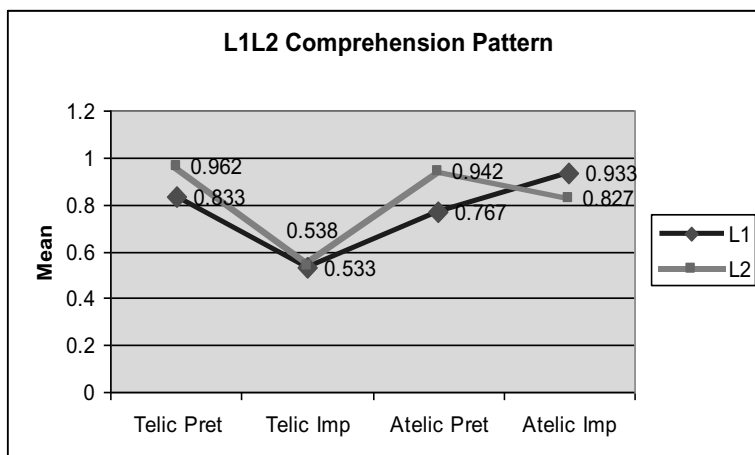


As shown by figures 5 and 6, overall, the L1 adults performed as expected in comprehending the entailments expressed by the combination of verb (telic/atelic) and morphology (preterite/imperfect).

However, the data indicates that this group not always selected the incomplete event in the (telic + imperfect) set as it would have been expected. Only 67% of their answers referred to incomplete events. The children groups performed well in the combination of (telic + preterite) and (atelic + imperfect), but the 3-4 year-olds did not perform well in the (telic + imperfect) combination, 43% correct or in the (atelic + preterit) combination, 57% correct. The 5-6 year-olds also didn't perform well in the (telic + imperfect) combination. Only 50% of their answers were correct. The L2 data also shows a similar pattern of development, both, advanced and intermediate learners had difficulties comprehending the semantic entailments of the set (telic + imperfect): 61% of the answers were correct for the advanced group, and only 42% for the intermediate group. Thus, it appears that for both L2 groups, as well as, for all L1 groups, including the adults L1, the semantic entailments of the (telic+imperfect) set pose a problem.

In order to know whether the difference in comprehension between the items and between the groups was statistically significant, Analyses of Variance were conducted for both language groups. The one-way ANOVA showed that there was a significant repeated measures effect of item type, items: (telic+ preterite), (telic + imperfect), (atelic+ preterite), (atelic+ imperfect) ($F(1, 69)= 4.480, p < .038$), which suggest that the subjects performed differently depending on the item. Statistical analyses also indicate that there is no significant effect for L1 versus L2 ($F(1,69)= 1.560, p > .216$), which suggests that the L2 performed as well as the L1. However, the significant interaction between item type and L1-L2 ($F(1, 69)= 4.480, p < .038$) suggests that performance on the different items was somewhat different for the two language groups. The combined comprehension results for both groups is presented in the graph below:

Figure 7. Comprehension Results Pattern
L1 combined groups and L2 combined groups



7. Discussion of Data and Conclusion

The goal of this study was to investigate and compare the acquisition of Spanish verbal morphology of L2 with that of L1 in production and comprehension. Now that the results have been presented, we are ready to discuss them according to the predictions.

Prediction 1 stated that if learners have knowledge of the lexical properties of the verb, then they would use verbal morphology according to those properties. Overall, the data indicates that both L2 learners appear to show sensitivity towards the lexical properties of the verb and tend to produce aspectual morphology according to the type of event being observed. This was particularly attested in the advanced group, who distributed verbal morphology according to the type of verb almost like the L1 counterparts children and adults. However, while the L1 learners used mostly the preterite and the present perfect in their distribution, the L2 advanced learners only used the preterite. By contrast, intermediate learners did not perform like the children L1, nor did they perform like the advanced learners in describing complete events—most of the verbal forms used were imperfective forms.

According to the production results in the telic type situation condition, only the advanced L2 data conforms to prediction 1. The intermediate group appears to have very little knowledge or no knowledge of the lexical/grammatical properties of verbs, thus their results do not conform to prediction 1. However, neither do the results from the intermediate group conform to prediction 2 since the learners did not use morphology in a random way as suggested by the prediction.

On the other hand, when we look at the production data in the atelic type condition, the intermediate learners performed almost like the L1 counterparts. None of the verbs produced were perfective forms. The forms used the most were present progressive and present tense. Thus, the data does confirm with prediction 1. The results indicate that the lack of production of certain types of morphology does not mean a complete lack of knowledge, but rather suggests that knowledge of lexical aspect outpaces production of grammatical morphology in L2. Both groups, advanced and intermediate displayed patterns of response similar to that of the native speakers.

The comprehension data indicates that the entailments of the (telic+imperfect) set appear to be more problematic for all the groups. Even the adults L1 did not perform at ceiling (67%). While the children data in the 3-4 year-old group indicates that this group performed rather well in the (telic+preterit) condition, 77% correct, they did not perform well in the (telic+imperfect), 43% correct or (atelic+preterit) set, 57% correct. A similar pattern is also found with the 5-6 year-olds. Therefore, the data partially conforms with prediction 1.

However, the most interesting findings that the study reveals are the comprehension results from the L2 groups. The data shows that the advanced L2 learners pattern like the adults L1, and the intermediate L2 learners pattern like the 3-4 year-olds. The data strongly suggests that for the two groups of learners, the semantic entailments of (telic+ imperfective) appear to be more difficult to comprehend than the other combinations. Thus, the results reported in the L2 comprehension experiment partially conform to prediction 1. According to these results, the pattern of development of verbal morphology tends to be similar between the L1 and L2. Thus, the claim that says that linguistic deficiencies found in L2 are the result of feature values not selected in early childhood does not receive support from the results obtained in this study since all groups of learners L1 and L2 tend to have difficulties comprehending the (telic+imperfect) combination. Instead, the results indicate that L2 learners are sensitive to properties of lexical aspect and have abstract knowledge on the mapping between the lexical properties of the verb and morphosyntax. One way to analyze these results is by considering the properties that these two sets (telic+imperfect) and (atelic+ preterite) combine. Both, lexical and grammatical aspectual properties are opposites of each other, that is, they cancel each other. Thus, it appears that properties at the interface between lexical-semantics and morphosyntax either allow grammatical markers to be visible to semantic interpretation (telic+preterite), (atelic + imperfect) or conceal their properties (telic + imperfect), (atelic + preterit), making their entailments more difficult to acquire.

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