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**The acquisition of English past tense forms
by monolingual and simultaneous bilingual children**

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DECLARACIÓN DE AUTORÍA Y ORIGINALIDAD DEL TRABAJO FIN DE MÁSTER

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Abstract

This study investigates how English monolinguals and English-Spanish simultaneous bilinguals acquire the simple and compound past tense forms in English and whether they follow a similar or a different developmental path. Three corpora from CHILDES have been used in order to analyse the early stages of linguistic development of 2 English monolinguals and 2 English-Spanish simultaneous bilinguals. In the case of the bilingual children, the analysis also focuses on determining whether there is crosslinguistic influence manifested through transfer, acceleration or delay in the acquisition of English. Results show that, the age of onset of regular and irregular simple and compound past forms is the same for both the monolinguals and the simultaneous bilinguals. Regarding order of acquisition all the children maintain the same order of production, producing simple irregular past forms before any other, even if the amount of production is different for both the monolinguals and the simultaneous bilinguals. Overgeneralization only appears in the case of the English monolinguals and not in the case of the simultaneous bilinguals. These results suggest that there is no crosslinguistic influence in the case of the bilinguals and that, in some respects, acceleration appears when compared to the monolinguals' development.

Keywords: English monolinguals, English-Spanish simultaneous bilinguals, English past tense, developmental path, crosslinguistic influence.

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1. Introduction

Throughout the years, first language (L1) acquisition has been explored thoroughly in order to understand how children begin to acquire their first language or their first languages. One of the topics that has often been discussed in the case of L1 acquisition is natural order. Natural order is understood as a consistent order in which grammatical morphemes start being used and are acquired (Kwon, 2005).

This study takes as a point of departure previous works on natural order in the acquisition of the L1 and in the developmental process followed in the case of simple regular and irregular past forms. The focus is placed on both children acquiring English as an L1 (i.e., monolinguals) and children acquiring English as one of their L1s (i.e., simultaneous bilinguals). Therefore, the present work aims to contribute to previous findings by analysing the acquisition process both English monolinguals and simultaneous bilinguals follow in the acquisition of past forms in English. The objective is to detect whether differences in the acquisition of English past forms appear when comparing monolinguals and simultaneous bilinguals and to determine whether, in the case of simultaneous bilingualism, the children's other L1 (i.e., Spanish) has an influence on the acquisition of English in this particular area of grammar.

The present study analyses, in particular, the acquisition of regular and irregular simple and compound past forms in English. A comparison of their acquisition in English monolinguals and Spanish-English simultaneous bilinguals will be offered through the analysis of data comparing adult-like and non-adult-like forms from 2 monolingual children and 2 simultaneous bilingual children from the age of 2;00 until up to the age of 4;07.

Before presenting the empirical work, the literature review section includes information relative to the formal account of past forms (section 2.1) and the acquisition

of past forms (section 2.2). Both formal and empirical accounts on past forms help contextualize the present study. In the first case, information relative to how past tense is expressed in English is provided, with a focus on those expressions that are actually past forms, as these are the focus of the present study. Given that bilinguals' data are also analysed, information about the bilinguals' other L1 is also provided. And so, information about past expression in Spanish is included. In the second case, an account of previous studies discussing monolinguals' (section 2.2.1) and bilinguals' (section 2.2.2) acquisition of English past forms is provided.

Sections three and four include the empirical study carried out. The basis for the empirical study is developed in section three through the presentation of the objectives and hypotheses that guide the investigation, the corpora and the selection of the participants and the actual data selection and data extraction and classification procedures.

In section four, the data analysis starts with a general approach to the data in order to give the total number of simple and compound past forms that have been dealt with in the data analysis, and also the total production of regular and irregular past forms. Subsequently data analysis focuses on a more fine-grained approach to the data by providing both a developmental approach as well as an account in terms of (non)-adult-like production.

Section five states the conclusion, in which a summary of the study and its results is offered as well as some proposals for further research.

2. Literature Review

This section comprises a two-fold review: a formal account of how past forms in English and Spanish have been described (section 2.1) and an account of previous empirical studies that have dealt with the acquisition of past forms (section 2.2) in the case of both monolingual L1 English acquisition (section 2.2.1) and bilingual L1 English acquisition (section 2.2.2). Although the focus of this investigation is on the acquisition of English past tense by bilingual children, given that these children have another L1 (i.e., Spanish), an account of Spanish past formation is also provided.

2.1. English and Spanish past formation

Past formation in English is achieved through regular and irregular marking of the simple past form.

Regular past inflection is formed by the addition of a dental suffix [-d] to an otherwise unchanged verbal root. Depending on the final segment of the verb, the affix is realized as /d/, as illustrated in example (1a), /t/, as in (1b), or as /ed/, as in (1c) (Magen, 2013):

(1)　　a.　　*Sneeze-sneezed; care-cared.*

　　　　b.　　*Kiss-kissed; hope-hoped.*

　　　　c.　　*Wait-waited; state-stated.*

Irregular past inflection, on the other hand, does not follow a rule-based system. Even if verbs that need to be marked using the irregular past inflection are less in number, they are considered to be the most commonly used words in English. In fact, according to Bloch (1947), there are approximately 200 irregular verbs, and they are

among the most frequent verbs of the language. With respect to irregular marking, verbs present different irregularities and many variations in the suffix or stem as in the following examples (Bybee & Slobin, 1982, p. 268-269). Some verbs do not present changes at all in the past tense form, as in (2a), while other verbs involve some variations: some verbs change a final –d to –t, as in (2b), other verbs undergo an internal vowel change and also add a final –t or –d to the past tense form, as in (2c), and some verbs whose stems end in a dental /d/ or /t/ present an internal vowel change, as in (2d):

(2)   a.   *Beat-beat; cut-cut.*

        b.   *Send-sent; build-built.*

        c.   *Feel-felt; tell-told.*

        d.   *Bite-bit; find-found.*

There are many other irregular past marking variations that do not present any of the previous changes, but rather undergo an internal vowel change. The change is no longer in the suffix of the verb but in the stem. These verbs do not end nor add –t or –d. In this group, there are verbs that go through a vowel change from /i/ to /ae/ or to /u/, as in (3a), verbs that go through an internal vowel change, as in (3b), and verbs that suffer a vowel change and end in a diphthongal sequence, as in (3c):

(3)   a.   *Sing-sang; sting-stung.*

        b.   *Give-gave; break-broke.*

        c.   *Blow-blew; fly-flew.*

These regular and irregular marking of the past tense affects the only simple past form in English, the simple regular past, as in (4a), and the simple irregular past as in (4b):

(4)   a.   John <u>waited</u> for the fish.

        b.   John <u>ate</u> the fish.

However, reference to the past can be made using compound tenses, some of which do not involve past forms, such as the present perfect in (5a), while some others do involve past forms, such as the past perfect or the past continuous, in (5b) and (5c) respectively:

(5)   a.   John <u>has eaten</u> fish.

        b.   John <u>had eaten</u> fish.

        c.   John <u>was eating</u> fish.

Past formation in Spanish is achieved through two simple past forms: preterit and imperfect. Preterit denotes a bounded (one-time) event, as in (6a). Imperfect, as in (6b), is used for unbound events, and it also denotes habitual action in the past:

(6)   a.   Juan <u>comió</u> pescado.

                (John ate fish).

        b.   Juan <u>comía</u> pescado.

                (John ate fish).

The dichotomy between regular and irregular verbs in Spanish is not as clear-cut as in English, as it is quite frequent that Spanish irregular verbs combine the regular and irregular forms within the same paradigm. For example, for the Spanish verb "probar"

("to try"), its preterit and imperfect forms are fully regular, but the present indicative forms include both regular and irregular forms (with irregular stems found for all singular forms and third person plural [prueb-], regular stems for first person plural, [prob-]). The same verb in Spanish can be, then, regular or irregular depending on whether we are dealing with present or past tense (González, 2012).

As in English, in Spanish reference to the past can also be made using compound tenses, some of which do not involve past forms, such as the present perfect in (7a), which is formed by using the present tense of the auxiliary verb "haber" (conjugated in the present indicative), and the past participle; while some others do involve past forms, such as the past perfect, as in (7b), which is formed by using the imperfect tense of the auxiliary verb "haber" and the past participle, the imperfect progressive (7c), and the preterit progressive (7d) (Nur, 2015):

(7)   a.   <u>He</u> <u>comido</u> el pescado.

            (I have eaten the fish).

      b.   <u>Había</u> <u>comido</u> el pescado.

            (I had eaten the fish).

      c.   Juan <u>estaba comiendo</u> pescado.

            (John was eating fish).

      d.   Juan <u>estuvo comiendo</u> pescado.

            (John had been eating fish).

The present investigation is concerned with the expression of past tense using past forms. Table 1 provides a summary of the past forms that will be dealt with in our study where reference to specific examples discussed above is included, too:

Table 1. Past forms dealt with in this study

| Past forms	English		Spanish	
Simple past	-regular past	(4a)	-preterit	(6a)
	-irregular past	(4b)	-imperfect	(6b)
Compound past	-past perfect	(5b)	-past perfect	(7b)
	-past continuous	(5c)	-imperfect progressive	(7c)
			-preterit progressive	(7d)

2.2 Previous Empirical Studies on the Acquisition of Past Formation

Given the formal description of past formation in the previous section, we present next a review of previous empirical studies on the production of L1 English monolinguals and bilinguals. The objective is to focus on the developmental path they follow in order to acquire the past tense and, in particular, on how they acquire the morphological issues that characterize past formation (i.e., the irregular and regular past tense forms, as well as the different verbal forms as in table 1), and the age of acquisition of these past tense forms.

2.2.1 Monolingual L1 English

Brown's (1973) pioneer work on the acquisition of grammatical morphemes included both regular and irregular past forms, as figure 1 shows. Brown analysed the spontaneous production of three L1 English children from the United States, Adam, Eve and Sarah. The 3 children were comparable in terms of their grammatical development as indicated by their similar Mean Length of Utterance (MLU) values:

Figure 1. Order of acquisition of grammatical morphemes
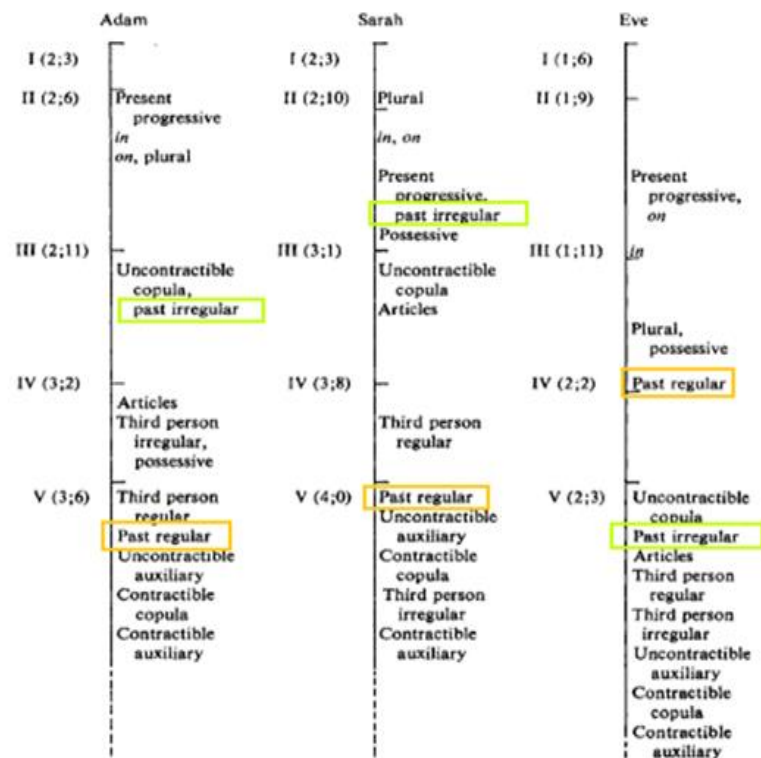
(Brown, 1973, p. 271)

Figure 1 shows that the three children start using past tense morphemes on verbs around the age of 2 years and both Adam and Sara developed the irregular past tense before the regular past tense. In the case of Eve, even if regular past tense appears in the production of this child before that of irregular past tense, there is a just a month difference (2;02 and 2;03, respectively). Furthermore, most of the verbs that these L1 English children produce at around this age are irregular (e.g., "ate").

These findings led Brown to propose a natural order for morpheme acquisition in L1 English. This refers to a consistent pattern in which L1 speakers acquire grammatical properties and develop linguistic proficiency in the use of grammatical

morphemes. This natural order although initially proposed for L1 acquisition has also been used to examine L2 development (Kwon, 2005).

De Villiers and de Villiers (1973) also researched on the acquisition of grammatical morphemes. They focused on the analysis of the spontaneous production of 21 L1 English children between 1;04 and 3;04 years of age with similar MLU values. The cross-sectional study of speech samples revealed the mean order of acquisition of 14 morphemes that appears in figure 2:

Figure 2 Mean order of acquisition of morphemes

| Morpheme	Average Rank
1. Present progressive	2.33
2-3. *in, on*	2.50
4. Plural	3.00
5. Past irregular	6.00
6. Possessive	6.33
7. Uncontractible copula	6.50
8. Articles	7.00
9. Past regular	9.00
10. Third person regular	9.66
11. Third person irregular	10.83
12. Uncontractible auxiliary	11.66
13. Contractible copula	12.66
14. Contractible auxiliary	14.00

(De Villiers and de Villiers 1973 as in Brown, 1973, p. 274)

De Villiers and de Villiers' (1973) results proved to be similar to Brown's (1973) findings. The irregular past tense inflection appeared earlier than the regular inflection in the production of these children.

Marcus *et al*. (1992), by analysing data on the production of English simple past forms from the speech of 10 English speaking children taken from the CHILDES database (MacWhinney, 2000), revealed that once children have acquired the regular past tense, a process of overgeneralization appears in the use of the irregular past tense.

As also shown in previous works, the regular past tense appeared after the irregular past tense and the latter went through a process of overgeneralization. This involves children applying the past suffix [-ed] to irregular past tense verbs (e.g., "come" – "*comed"), instead of the correct form ("come" – "came"). This suggests the typical U-shaped learning illustrated in the figure 3:

Figure 3. U-shaped curve in the learning of irregular grammatical items
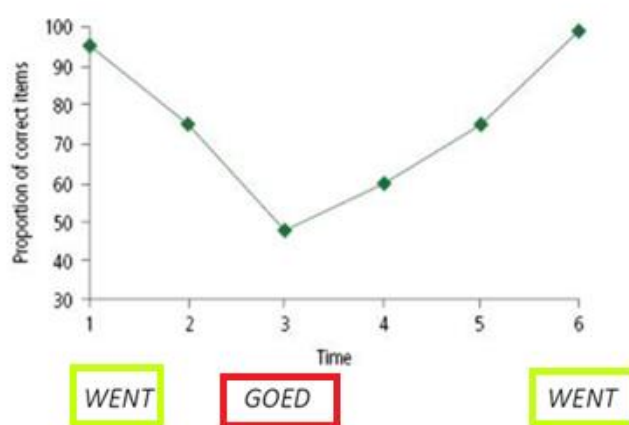
(Hummel, 2014, p. 13)

The curve that appears in figure 3 illustrates a three-step process in the development of irregular past tense form (Carlucci & Case, 2013): initially children produce the correct irregular form; next, because of a process of overgeneralization, they use irregular verbs marked as regular verbs; and finally they produce the correct irregular form as in the initial stage but with a more rounded knowledge of past marking.

Kuczaj (1978), by analysing spontaneous speech samples of 14 children around the ages of 2;06 to 5;06 years, revealed also a process of overgeneralization in the use of the irregular past tense. Two types of error were found. Children attached the regular

past marking [-ed] to an irregular verb, resulting in mistakes like (e.g., "*eated") and also the regular past marking attached to the irregular past tense form itself (e.g., "*ated"). These types of errors appeared in every child. Also, these errors emerged once children had already acquired the regular past tense. Illustrated in figure 4, results show how there is a greater tendency towards the use of the base form [-ed] (e.g., "*eated"), when compared to that of the past tense marking to an irregular past tense form [-ed] (e.g., "*ated").

Figure 4. Overgeneralization of the irregular past tense form

Subject	Overall proportion of overgeneralization	Proportion of overgeneralizations consisting of generic irregular verb and -ed (e.g., eated)	Proportion of overgeneralizations consisting of past form and -ed (e.g., ated)
N.E.	36.6	26.9	9.7
M.Z.	5.3	5.3	0
D.N.	33.3	33.3	0
I.B.	31.5	25.0	6.5
H.K.	32.0	26.0	6.0
V.Q.	38.9	31.1	7.8
K.M.	14.1	12.9	1.2
G.D.	26.5	13.7	12.8
F.Y.	26.1	15.2	10.9
L.R.	11.8	1.1	10.7
A.B.	35.5	14.5	21.0
H.L.	1.3	0	1.3
J.W.	2.8	0	2.8
C.P.	1.1	1.1	0

(Kuczaj, 1978)

These findings also suggest that the youngest participants from this cross-sectional study manifest a higher tendency of this overgeneralization process, suggesting the same as previous works, children acquire irregular past tense forms before they acquire regular past tense leading then to a process of overgeneralization, where children produce correct irregular past tense forms, then they begin to overgeneralize leading to a bad performance and at the final stage they acquire the

correct form of the irregular past tense, confirming a U-shaped development sequence as suggested in Marcus *et al.*'s (1992) work.

Brown's (1973), De Villiers and de Villiers' (1973), Marcus *et al.*'s (1992) and Kuczaj's (1978) studies on simple regular and irregular past forms all revealed that English monolingual children all start producing the irregular past tense inflection by the age of 2;05 years old, and this emerges earlier than the regular past tense. Moreover, children go through a process of overgeneralization, suggesting the typical U-shaped learning sequence (figure 3).

The previous studies are all concerned with the developmental path English monolingual children follow when acquiring simple past forms. None of these previous works deal with compound past forms. Our study will focus on the acquisition process of both simple and compound past forms in English, contributing new findings to this area of research.

2.2.2 Bilingual L1 English

Research has also been carried out on simultaneous bilinguals to determine whether they follow the same developmental path as L1 monolinguals or if having two L1s might influence the acquisition of certain morphological traits.

Nicholls *et al.*'s (2011), aimed to investigate the potential differences between L1 monolingual and L1 bilingual children in the production of regular and irregular simple past forms focusing on the mastery of acquisition of past forms at the age of 3 years old, and not on age of emergence of past tense forms. The first group consisted of 74 children acquiring English simultaneously with another language prior to 3 years old. The second group consisted of 74 monolingual English speaking children. This study

focused specifically on monolingual and simultaneous bilingual children of the age of 3 years old.

Data were collected by audio-recordings and then transcribed by using orthographic transcription. Results show that neither simultaneous bilinguals and nor monolinguals had mastered the irregular past tense at the age of 3 years old, which stands in contrast with previous works on L1 monolingual acquisition (section 2.2.1).

Figure 5 illustrates the percentages of mastery attained in the regular past tense by both groups.

Figure 5. Correctness rates of morphemes in Simultaneous Bilingual and Monolingual children at age 3
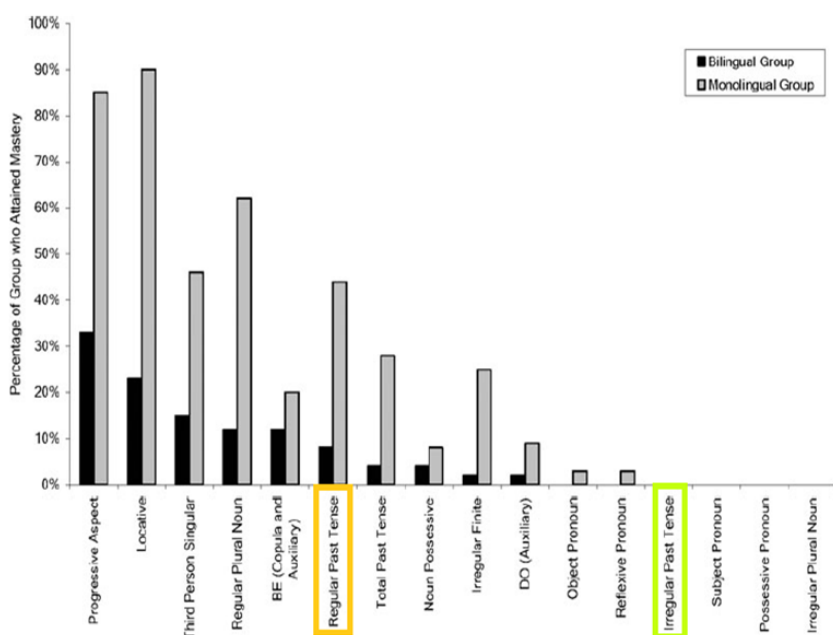

(Nicholls *et al.*'s, 2011, p. 458)

Results in figure 5 show that at the age of 3 years old fewer bilingual children attained mastery in the regular past tense when compared to the monolingual group.

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This is so because the monolingual children had a total of 49.5% of mastery when using the regular past tense while the bilingual group had a total of 22.1%. Therefore, this shows a significant difference between both groups. These findings suggest crosslinguistic effects manifested through delay and affecting bilingual children's acquisition of English regular past tense.

Nicoladis *et al.*'s (2007) studied data from French-English simultaneous bilinguals and English monolinguals. The participants were children between the ages of 4 and 6 years old. Data were collected from children's speech when re-telling a short cartoon. This way children would have to re-tell the film by using English simple past forms.

Results showed no difference between both groups on the number of word types and tokens. In fact, both groups produced more irregular verb tokens than regular verb tokens. Figure 6 illustrates the rates of accuracy in the production of both regular and irregular past tense verbs in English.

Figure 6. Accuracy rates of regular and irregular past tense verbs in English
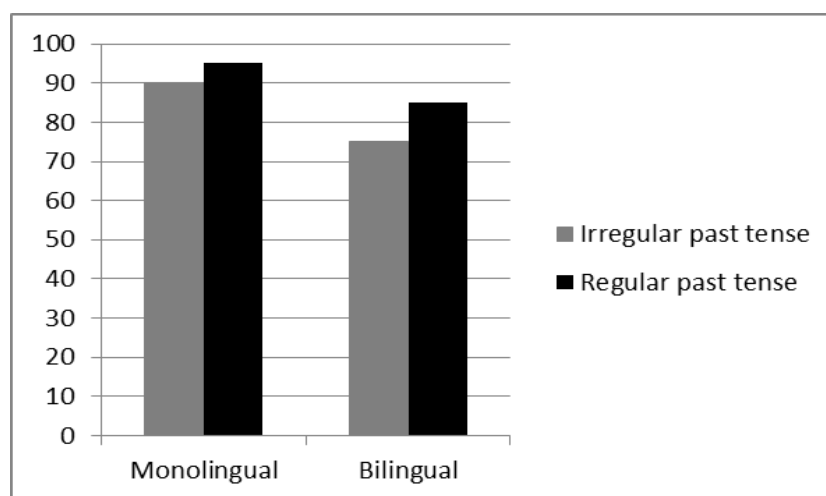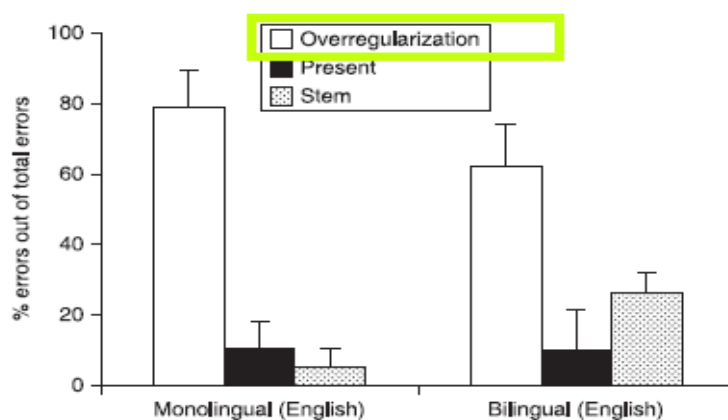

(Nicoladis *et al.*, 2007, p. 247)

Figure 6 shows that monolingual children have a 90% accuracy rate for irregular past tense and a 95% accuracy rate for regular past tense. The simultaneous bilingual group show lower rates of accuracy for both regular (85%) and irregular (75%) past forms.

The figure 7 illustrates the range of error rates for irregular verbs in both groups The range of error rates for irregular verbs by the monolingual group was 0-33% and for the simultaneous French-English bilinguals 0-44%.

Figure 7. Average percentage of errors for irregular past tense verbs in English

(Nicoladis *et al.*, 2007, p. 247)

Results in figure 7 show that French-English simultaneous bilinguals were less accurate in producing irregular past tenses than monolinguals. However, although the percentages revealed higher accuracy for the English monolingual group when producing irregular past tense, the error rate of overgeneralization of the irregular past

tense in the English monolinguals showed a higher percentage of errors than that in the French-English simultaneous bilinguals. This suggests crosslinguistic influence from the bilingual children's L1 French to their L1 English. Simultaneous bilinguals showed no signs of overgeneralization in their L1 French, and this would explain the lower rate of overgeneralization in their English production of the irregular past tense.

Nicholls *et al.*'s (2011) and Nicoladis *et al.*'s (2007) research revealed that monolinguals and simultaneous bilinguals acquired simple past form differently to monolinguals. Both studies showed higher accuracy rates in monolingual groups and different error rates in the process of overgeneralization by simultaneous bilinguals, suggesting in both works crosslinguistic effects manifested through delay and transfer.

Overall and looking at the previous works on monolingual and simultaneous bilingual acquisition of English simple past forms, results showed that monolingual children acquire irregular past tense by the age of 2;05 and that regular past tense appears later than irregular past tense.

Studies on simultaneous L1 bilingual children revealed that not always irregular past tense emerges sooner than regular past tense or at 2;05 years old but later. Fewer bilingual children are reported to have attained mastery in using the regular past tense at the age of 3 years old (later than monolingual children). This suggests crosslinguistic effects manifested through delay leading to a lag in the process of using the regular past tense in the case of simultaneous bilingual children.

Moreover, other studies showed a process of overgeneralization when acquiring irregular past tense in both monolingual and bilingual children. However, overgeneralization was less frequent in simultaneous bilingual children, a fact that has

been attributed to positive crosslinguistic effects manifested through transfer from L1 French to the L1 English leading in this case to acceleration.

It is evident that more research on the development of English simple past forms and compound forms in (English-Spanish) simultaneous bilinguals is necessary, in order to determine whether L1 bilinguals follow the same developmental path as monolinguals or rather not. In this last case, differences might be attributed to crosslinguistic influence from one L1 to the other.

In fact, the issue of crosslinguistic influence has been central in the analysis of simultaneous bilinguals. Paradis and Genesee (1996) identify three different manifestations of crosslinguistic influence, as presented below:

● Transfer: transfer involves the use of a property from language A into the production of language B. It has been often linked to dominance in the sense that the more dominant language will guide transfer and the non-dominant language will be the source of transfer. Dominance can vary throughout the acquisition process, as this depends on issues such as the amount of exposure to both languages and the amount of input received.

● Acceleration: bilingual children may develop certain linguistic properties before monolinguals. It has often been linked to bootstrapping effects in that a property that has already been acquired in language A (as in monolingual acquisition) may bootstrap the acquisition of this same property in language B even if monolinguals of language B acquire it later.

● Delay: bilingual children may develop certain linguistic properties later than it would be the norm in monolingual acquisition. It has often been linked to the so-

called bilingual effect, that is, the burden of acquiring two languages may slow down the acquisition process in bilinguals.

These three manifestations of crosslinguistic influence are explored in the present dissertation. In order to do so, an empirical study has been designed and the corresponding methodology is presented in section three. The objective is to perform an analysis of the simple and compound past forms that appear in the data gathered from both English monolinguals and English-Spanish simultaneous bilingual children in order to reveal whether crosslinguistic influence affects the acquisition of English past tense in both simple and compound forms and, if so, whether it is manifested through transfer, acceleration or delay as seen in the previous studies.

3. Methodology

This section is divided into three parts. In section 3.1 the objectives and the research questions and hypotheses that guide this investigation are outlined. In section 3.2 the selection made in terms of corpora and participants is presented. Section 3.3 includes the actual data selection on both the English monolingual and the English-Spanish simultaneous bilingual children. In the case of the simultaneous bilingual children, only one of their L1s (i.e., English) is analysed, leaving aside their other L1 (i.e., Spanish), since the focus of the present study is placed on the formation of English past tenses. Finally, section 3.4 focuses on the data extraction and classification procedures.

3.1 Research Questions and Hypotheses

The purpose of this study is to select data from both English monolinguals and English-Spanish simultaneous bilingual children and to perform an analysis on the spontaneous production of English regular and irregular past forms. As opposed to previous studies (see section 2.2) where only simple past forms have been analysed, this study considers both English simple and compound past forms. Through this analysis we will determine how the monolingual and the bilingual children acquire past tense forms in English, and whether they follow a similar or a different developmental path. In the case of the bilingual children, the analysis will also focus on determining whether there is crosslinguistic influence manifested through transfer, acceleration or delay in the acquisition of English, as seen in previous works (see section 2.2.2).

This study is guided by the following research questions, and it will attempt to confirm the hypotheses established in each case. Two main topics will be addressed here: on the one hand, the developmental path the monolingual children follow in the acquisition of simple and compound past form with a focus on the amount and type of production when comparing regular and irregular verbs and; and on the other hand, focusing on the simultaneous bilingual children, the comparison between the monolinguals and the simultaneous bilinguals in order to detect whether bilinguals pattern is like monolinguals, and, if not so, whether the bilinguals' production can be characterized by crosslinguistic influence. These two main topics lead to the following three sets of research questions and hypotheses: age of onset, order of onset and overgeneralized forms.

1.   Age of onset. Section 2.2.1 discussed age of onset of regular and irregular past forms in English monolinguals. Also, section 2.2.2 discussed age of onset of both regular and irregular simple past forms by the simultaneous bilinguals. Taking this into account, the following research questions are addressed:

When will regular and irregular past forms in both simple and compound past forms start to be produced by the English monolinguals and the simultaneous bilinguals? In particular, and given that the bilinguals have another L1, will their age of onset of past forms be the same or different from that of the monolinguals? Taking Paradis and Genesee's (1996) proposal, as presented in section 2.2.2, four possible scenarios can be suggested regarding the comparison between the monolinguals and the bilinguals in the case of age of onset. These scenarios give way to the following four alternative hypotheses:

Hypothesis 1. Age of onset: Transfer. If transfer takes place in the data from the English simultaneous bilinguals, this means that the bilingual children will use a property from their L1 Spanish into their L1 English. This would derive in differences in the age of onset when comparing the bilingual's and the monolingual's production of the regular and irregular past tense in English simple and compound past forms.

Hypothesis 2. Age of onset: Acceleration. If acceleration takes place, it will result in the English simultaneous bilinguals producing both regular and irregular past tense in English simple and compound past forms at an earlier stage than the English monolinguals. This process of acceleration could be attributed to their

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other L1 (i.e., Spanish) which is a highly inflected language. This fact will help the bilingual children acquire regular and irregular past tense in both simple and compound past forms in their other L1 (i.e., English) faster. That is, if they have already acquired the past forms property in one of their L1s (i.e., Spanish as a highly inflected language), this will facilitate the same process of acquisition in their other L1 (i.e., English as a poorly inflected language).

Hypothesis 3. Age of onset: Delay. If delay takes place, the simultaneous bilingual children will produce regular and irregular past tense in both simple and compound past forms later than it would be the norm in monolingual acquisition. This may be linked to the burden of acquiring two languages simultaneously and to the fact they are receiving less input in English than a monolingual (as the input they received is shared by their two L1s).

Hypothesis 4. Age of onset: No bilingual effect. The monolingual and the simultaneous bilingual children will acquire regular and irregular past tense in English simple and compound past forms at the same time. That is, the bilingual children will show no signs of bilingual effect in their English production of regular and irregular tense in simple and compound past forms, so their acquisition of the English past tense will proceed like in the case of monolinguals.

2.   Order of onset. Will the same order of onset appear in the monolinguals' production and the bilinguals' production of simple and compound past forms

when it comes to comparing regular and irregular verbs? As seen in the literature review (sections 2.2.1 and 2.2.2), the order of acquisition of simple past forms in English by monolinguals and simultaneous bilinguals differed. Studies showed that monolinguals acquired the irregular simple past forms earlier than the regular past forms and that, in the case of the simultaneous bilinguals, the order of onset was different to that of the monolinguals. Therefore, and in line with previous research, the following hypotheses can be established:

Hypothesis 5. Same order of onset: The English monolinguals and the simultaneous bilinguals are expected to present similarities in the order of acquisition of both regular and irregular past tenses in both simple and compound past forms. All the children selected for this study are L1 speakers of English, and the amount of production of English simple and compound past forms should be similar for both groups. Furthermore, the English monolinguals are expected to produce irregular past tenses before regular past tenses and the simultaneous bilinguals are expected to show the same pattern.

Hypotheses 6. Different order of onset: The English monolinguals and the simultaneous bilinguals are expected to present differences in the order of acquisition of both regular and irregular past tenses in both simple and compound past forms. The English monolinguals are expected to produce irregular past tenses before regular past tenses and the simultaneous bilinguals are expected to produce regular past tenses before irregular past tenses, showing reversed patterns in the production of these past forms.

3.	Overgeneralized forms. Following Marcus *et al.*'s (1992) study, as presented in section (2.2.1), and Nicoladis *et al.'s* (2007) work, the following research questions are established:

Will signs of overgeneralization appear in both the English monolinguals and the simultaneous bilinguals' production of simple and compound irregular past forms? Or will signs of overgeneralization only appear in the monolinguals' production of simple and compound irregular past form? Both scenarios lead to the following hypotheses:

Hypothesis 7. Same overgeneralization patterns: Both the English monolinguals and the English simultaneous bilinguals will overgeneralize simple and compound irregular past forms; that is, overgeneralization is expected in the case of irregular verbs for simple and compound past forms for both groups. This involves children applying the suffix [-ed] to irregular past tense verbs (e.g., "come" > "*comed"), instead of the correct irregular form (e.g., "come" > "came"). These overgeneralized forms will only appear at initial stages of development of irregular past forms in both groups.

Hypothesis 8. Different overgeneralization patterns: Overgeneralization will only appear in the production of the English monolinguals, because the simultaneous bilinguals will be influenced by their other L1 (i.e., Spanish), skipping the process of overgeneralization, and, therefore, leading to a correct use of irregular past tense verbs from the initial stages of development. This could be attributed to the highly inflectional nature of Spanish, and this would

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suggest transfer from the bilinguals L1 (Spanish) to their other L1 (English) resulting in a correct use of both simple and compound irregular past tense and from the initial stages of development. This instance of interlinguistic influence will, therefore, have positive effects as it will make the simultaneous bilinguals reach the adult requirement (i.e., no overgeneralization) sooner than the monolinguals.

In the section 3.2, a description of the participants and the data selected to address the previous research questions and hypotheses are presented.

3.2 Corpora and Participants Selection

In order to carry out this study, data from the CHILDES (Child Language Data Exchange System) project (MacWhinney, 2000) has been used. The data selected for this study are found in three different corpora: the Sachs corpus and the Brown corpus, which were both used to analyse data from North American English monolingual children, and the FerFuLice corpus which was used to analyse data from the Spanish-English simultaneous bilingual children.

Consequently, a description of these corpora and the participants' linguistic profiles will be provided including information regarding the age range selected as well as their MLU values as indicators of linguistic development.

The Sachs corpus consists of a longitudinal study of the linguistic production of Naomi, an English monolingual child born in North America and brought up in a monolingual English context. This corpus contains the longitudinal production of Naomi, who was recorded from the age of 1;01 until 5;01. The files contain spontaneous data recorded in a naturalistic setting, and later transcribed into CHAT

(Codes for the Human Analysis of Transcripts) format, the format of the CHILDES project.

The Brown corpus contains transcripts from 3 different English monolingual children, and for the present study one child has been selected, Adam. Adam who was the child of a minister and an elementary school teacher and had been brought up in a monolingual English context. The recordings collected in this corpus and corresponding to Adam contain 55 files and Adam's age ranges from 2;03 to 5;02 years old.

For the English-Spanish simultaneous bilinguals, the FerFuLice corpus has been chosen, where data from a set of identical twins, who go by the pseudonyms Leo and Simon, are collected. Both children have been selected for this study. The children were brought up in a monolingual Spanish context because the family lives in Spain. The father who is a native speaker of Peninsular Spanish addressed the children in Spanish; their mother, who is a native speaker of American English, speaks to the children in English. The children were also exposed to American English when they travelled to the United States during the summer and during the frequent visits by the maternal grandparents' who spoke to both children in English. At the age of 1;10 for three hours a day on weekends the twins began to go to day care where the language that surrounded them was Spanish. The corpus contains spontaneous data that covers the age range of 1;01 until 6;11 years old.

The criteria used for the selection of these three corpora and these three children are the following. First, data from all children must come from a similar age range so that data are comparable across children; second, data have to cover the initial stages of acquisition (around the age of 2) since the focus of the present investigation is on the onset; and third, the same variety of English for the monolinguals and the bilinguals was used, in this case the American variety, so that, if differences were found, they could not

be attributed to the type of English they have been exposed to (e.g., American versus British English).

3.3 Data Selection

For this study, given that the focus is on the production of regular and irregular simple and compound past forms in English in the early stages of acquisition, and taking previous studies (section 2.2) as a point of reference, data from the corpora and the participants presented in section 3.2 above have been selected, as shown in table 2 below:

Table 2. Data Selection

Type of Participant	Corpus	Participants	Corpus Age Range	Study selection Age Range	MLU range
Monolingual	Sachs	Naomi	1;01-5;01	2;00-4;07	2.7-4.7
Monolingual	Brown	Adam	2;03-5;02	2;06-3;11	2.7-5.0
Bilingual	FerFuLice	Leo	1;01-6;11	2;07-4;01	2.7-4.8
Bilingual	FerFuLice	Simon	1;01-6;11	2;07-4;01	2.8-4.9

As in table 2, the age range that has been considered for this study is from 2;00 until 4;07 years old. This age range has been selected taking into consideration previous studies, such as Brown's (1973), which points the emergence of past tense at around the age of 2;05 (see Figure 2). Furthermore, the consideration up to age 4 ensures that development could be studied. Also, looking at the MLU values for each participant, it is clear that the language of every participant has developed to a similar extent (starting at around MLU 2.7 and going up to around MLU 5). This ensures that the data selected are comparable as children are matched not only in terms of age but also in terms of linguistic development, as suggested by the similar MLU values.

Table 3 shows the different developmental stages that have been considered for each participant in a total of 3:

Table 3. Developmental stages

Participant's profile	Corpus	Participants	Stage 1		Stage 2		Stage 3	
			Age	MLU	Age	MLU	Age	MLU
Monolingual	Sachs	Naomi	2;00	2.7	2;11	3.7	4;07	4.7
Monolingual	Brown	Adam	2;06	2.7	3;03	3.9	3;11	5.0
Bilingual	FerFuLice	Leo	2;07	2.9	3;00	3.7	4;00	4.6
			2;10	2.7	3;02	4.1	4;01	4.8
Bilingual	FerFuLice	Simon	2;07	2.9	3;01	3.7	4;00	4.9
			2;11	2.8	3;02	4.0	4;01	4.5

Stage 1 comprises data from the ages of 2;00-2;11 and an MLU of 2.7-2.9. Stage 2 comprises data from the ages of 2;11-3;03 and an MLU of 3.7-4.1. And finally, stage 3 comprises data from the ages of 3;11-4;07 and an MLU of 4.5-5.0.

Two clarifications are at hand given the information in table 3, one pertaining to the age range selected for stage 1 and one pertaining to the number of files selected. With respect to the first issue, in stage 1, there is almost a year difference between the monolingual children and the simultaneous bilingual children. This age range difference has been so selected because of the initial delay simultaneous bilinguals have with respect to monolinguals. In fact, in spite of this age difference, the MLU values do not show a difference when comparing the bilinguals and the monolinguals in stage 1, even though the monolingual children are younger. As for the second issue, an extra file has been selected in the case of the simultaneous bilinguals for all 3 stages. This has been so because only one of their L1s (i.e., English) is analysed, leaving aside their other L1 (i.e., Spanish). That is, while for the monolinguals all their production is considered, for the simultaneous bilinguals only half is considered, as it were. Therefore, the selection of two files instead of one for the bilinguals is a way to compensate for this intrinsic lack of balance.

3.4 Data extraction and data classification

Data has been extracted by using the FREQ and KWAL programs as part of the CLAN (Computerized Language Analysis) software designed for the CHILDES project. FREQ computes frequencies of target items, while KWAL searches for a target item and outputs it in its different contexts. Both programs have been run in the %mor tier line using the following two syntax lines: <freq +t*CHI +t%mor +s"*PAST*" @> and <kwal +t*CHI +t%mor +s"*PAST*" @>.

The data on past forms extracted using the CLAN programs have been compiled in an excel database in order to be classified. Data from all 4 participants have been classified and analysed in terms of frequency of production of regular and irregular, simple and compound past forms for the 3 different stages of development.

The classification criteria include the following: participant profile (i.e., monolingual and bilingual children), stage (i.e., stage 1, 2 and 3), past form type (i.e., simple forms and compound past forms) and adulthood of the past forms (i.e., adult-like and non-adult-like forms). Non-adult-like forms involve overgeneralization.

Examples of utterances from the monolingual children (i.e., Naomi and Adam) appear in (8) for simple past forms, both adult-like (8a) and non-adult-like (8b) forms, and in (9) for compound past forms, both adult-like cases as in (9a) and (9b):

(8)   a. CHI: cowboy <u>fell</u> down   (Adam, stage 1)

        b. CHI: you <u>getted</u> [: got] [*] the blister out   (Naomi, stage 2)

(9)   a. CHI: I <u>wasn't talking</u> to you   (Naomi, stage 2)

        b. CHI: he <u>was doing</u> something else   (Naomi, stage 3)

The monolingual children do not produce utterances containing non-adult-like cases of compound past forms.

Examples of utterances from the simultaneous bilingual children (i.e., Leo and Simon) appear in (10) for simple past forms, both adult-like, as in (10a) and (10b); and in (11) for compound past forms, both adult-like cases as in (11a) and (11b):

(10)   a. CHI: I <u>got</u> it   (Leo, stage 1)

        b. CHI: I <u>ate</u> fo(ur)   (Simon, stage 3)

(11)   a. CHI: I <u>was going</u> to put it (.) in   (Leo, stage 2)

        b. CHI: yeah he <u>was swimming</u> in [///]   (Simon, stage 2)

The simultaneous bilingual children do not produce utterances containing non-adult-like cases of simple or compound past forms.

4. Data Analysis

In this section, the results obtained are discussed. Furthermore, this section has been divided into three sub-sections. In the first one, a general approach to the data is provided in order to give the total number of simple and compound past forms that have been dealt with in the data analysis, and also the total production of regular and irregular past forms. The second sub-section focuses on a longitudinal approach dividing data across the three stages of development. This allows us to confirm or reject hypotheses 1, 2, 3, 4, and 5 regarding age of onset and order of onset. Finally, the third sub-section includes an adulthood approach, which helps confirm or reject hypotheses 6 and 7 regarding overgeneralization.

4.1 General Approach

After analysing all utterances containing both simple and compound past forms from each child and classifying them into an excel database within the three age ranges selected, the total amount of simple and compound past forms obtained was 411, as illustrated in table 4:

Table 4. Simple and compound past forms per child

Participants	Simple past forms		Compound past forms		TOTAL (100%)	
Naomi	123	(94%)	8	(6%)	**131**	**(100%)**
Adam	193	(100%)	0	(0%)	**193**	**(100%)**
Leo	41	(95%)	2	(5%)	**43**	**(100%)**
Simon	40	(91%)	4	(9%)	**44**	**(100%)**
TOTAL	397	(97%)	14	(3%)	**411**	**(100%)**

In the case of the simultaneous bilinguals, the amount of production of simple and compound past forms is noticeably lower than that of the monolinguals (324 cases for the monolinguals and 87 for the bilinguals). The reason for this significant difference between the monolinguals and the simultaneous bilinguals is twofold. On the one hand, only one of the bilinguals' L1s (i.e., English) is analysed, leaving aside their other L1 (i.e., Spanish), since the focus of the present study is placed on the formation of English past tenses. This will result in a lower production of past forms when compared to that of the bilingual children and, even though we have tried to balance this out by choosing two files for the bilinguals instead of one (see table 3), the lack of balance is maintained. Furthermore, on the other hand, an intrinsic limitation of analysing spontaneous production is that one can neither predict nor control the amount of language or the amount of a specific form that a participant will produce.

As it can be seen in table 4, both the monolingual and the bilingual children produce a greater number of simple past forms: the total production of simple past

forms (97%) outnumbers the total of compound past forms (3%). This is expected because this past form is acquired in later stages, and the stages of development considered for this study are very early on in the child's language development. This may be one of the reasons why there are fewer studies on child's production of compound past forms.

In the case of the monolinguals, Adam's production of simple past forms comprises his entire past form production (100%), while Naomi's production of utterances containing simple past forms is lower (94%). In the case of utterances with compound past forms, Naomi produces a higher number (6%) when compared to Adam (0%), who produces no utterances containing compound past forms. Overall, their speech presents a very low number of compound past forms in comparison to simple past forms.

As regards the bilinguals, Leo and Simon's production of past forms also show minor differences across the two children, as it happens with the monolinguals' data. Leo produces a total of 95% of simple past forms, and Simon produces a total of 91%. The same occurs with the compound past forms: Leo produces 5% and Simon 9%. Again, the production of compound past forms is considerably lower than that of simple past forms.

After analysing all the utterances where a simple and a compound past form was used in the age range selected, table 5 deals with the total amount of production of regular and irregular past forms:

Table 5. Regular and irregular past forms per child

Participants	Regular past		Irregular past		TOTAL (100%)	
Naomi	22	(17%)	109	(83%)	**131**	**(100%)**
Adam	38	(20%)	155	(80%)	**193**	**(100%)**
Leo	8	(17%)	35	(83%)	**43**	**(100%)**
Simon	17	(39%)	27	(61%)	**44**	**(100%)**
TOTAL	85	(20%)	326	(80%)	**411**	**(100%)**

Data in table 5 show a significant difference between the total production of regular and irregular past forms. Overall, results show that these children produce a large amount of irregular past forms: both the monolinguals and the simultaneous bilinguals produce more irregular past forms (80%) than regular past forms (20%).

Moreover, focusing on the monolinguals' production of regular past forms, the amount of production of regulars by both participants is very similar; Naomi produces a total of 17% and Adam a total of 20%. The same occurs with the production of irregulars, Naomi produces a total of 83% and Adam a total of 80%. Also, in both cases the number of irregulars is significantly higher than that of regular past forms.

In the case of the bilinguals' production of regulars, Simon produces a higher percentage (39%) than Leo (17%). Focusing, on the production of irregulars, the amount of production is similar between the two children, and also the percentages are higher in the case of irregulars: while Leo produces a total of 83%, similar to the total production of both monolingual children, Simon produces a total of 61%. These results show the same pattern as with the monolingual children: the production of irregular past forms outnumbers that of regular past forms.

Table 6 offers a connection of the two variables discussed previously illustrating the total number of simple and compound as well as regular and irregular past forms produced by each child:

Table 6. Regular and irregular simple past and compound past forms

Participants	Regular Past		Irregular Past		TOTAL (100%)
	Simple	**Compound**	**Simple**	**Compound**	
Naomi	21 (16%)	1 (1%)	102 (78%)	7 (5%)	**131 (100%)**
Adam	38 (20%)	0 (0%)	155 (80%)	0 (0%)	**193 (100%)**
Subtotal MO	59 (19%)	1 (1%)	257 (78%)	7 (2%)	**324 (100%)**
Leo	7 (17%)	1 (2%)	34 (79%)	1 (2%)	**43 (100%)**
Simon	17 (39%)	0 (0%)	23 (52%)	4 (9%)	**44 (100%)**
Subtotal BI	24 (27%)	1 (1%)	57 (66%)	5 (6%)	**87 (100%)**
TOTAL	83 (20%)	2 (1%)	314 (76%)	12 (3%)	**411 (100%)**

Data in table 6 show that both the monolinguals and the simultaneous bilinguals produce a higher amount of simple irregular past forms. However, if the rate of production of simple irregular past forms is compared between the monolinguals and the simultaneous bilinguals, it can be observed that the monolingual children's rate is higher (78%) than that of the simultaneous bilinguals (66%). However, differences across these percentages are not significant.

Furthermore, in the case of simple regular past forms, the simultaneous bilinguals' production of regular past forms (27%) is more frequent than that of the monolinguals (19%).

In both groups the data show that compound past forms are less frequent in both regular and irregular past forms. Focusing on the irregular compound past forms, both groups show higher frequency rates with a total of 6% in the case of the simultaneous bilinguals and 2% in the case of the monolinguals. In the case of the regular compound past forms, the frequency rate is considerably lower (1%) in both groups.

Overall, data reveal that in both groups the frequency of production of simple regular and irregular past forms are noticeably higher than the production of compound regular and irregular past forms. Furthermore, simple irregular past forms are clearly the

most frequent past forms in the spontaneous production of these children, both the monolinguals and the simultaneous bilinguals.

4.2 Longitudinal Approach

Table 7 has been divided into regular and irregular as well as simple and compound past forms as they are distributed across the 3 different developmental stages that have been considered for this study. This way we will be provided with information on age of onset of regular and irregular past forms for both the monolinguals and the simultaneous bilinguals, and, also, we can see if the same order appears in the children's production of regular and irregulars in simple and compound past forms:

Table 7. Regular and irregular simple and compound past forms across groups: per stages

Participants	Stages	Regular Past Forms		Irregular Past Forms		TOTAL (100%)
		simple	compound	simple	compound	
Naomi	1	0 (0%)	0 (0%)	3 (100%)	0 (0%)	**3 (100%)**
	2	3 (6%)	0 (0%)	45 (91%)	1 (2%)	**49 (100%)**
	3	18 (22%)	1 (1%)	54 (68%)	6 (9%)	**79 (100%)**
Adam	1	1 (2%)	0 (0%)	60 (98%)	0 (0%)	**61 (100%)**
	2	22 (26%)	0 (0%)	61 (74%)	0 (0%)	**83 (100%)**
	3	15 (31%)	0 (0%)	34 (69%)	0 (0%)	**49 (100%)**
Leo	1	1 (9%)	0 (0%)	10 (91%)	0 (0%)	**11 (100%)**
	2	3 (25%)	0 (0%)	9 (75%)	0 (0%)	**12 (100%)**
	3	3 (15%)	1 (5%)	15 (77%)	1 (5%)	**20 (100%)**
Simon	1	2 (33%)	0 (0%)	4 (67%)	0 (0%)	**6 (100%)**
	2	8 (53%)	0 (0%)	5 (33%)	2 (14%)	**15 (100%)**
	3	7 (30%)	0 (0%)	14 (61%)	2 (9%)	**23(100%)**

Data in table 7 shows that, in the initial stage of development (stage 1), all of the children except Naomi already start to produce simple regular past forms, although the production rates are very low in all of the cases.

In the case of the production of simple irregular past forms in stage 1, all of the children produce this past form. Furthermore, when comparing simple irregular and simple regular past forms, there is a higher frequency of production of simple irregular past forms.

Focusing now on compound regular past forms in stage 1, none of the children produce any of these past forms, and the same happens in stage 1 in the case of compound irregular past forms.

Overall, these results show that in both the monolinguals and the simultaneous bilinguals the age of onset is the same for both groups, and the same happens with the order of onset, confirming hypotheses 4 and 5, showing no bilingual effect in the age and order of onset. Both groups start to produce simple irregular past forms in stage 1 before producing any simple regular past forms, and no cases of compound regular past forms appear in this stage, this is expected as the children are still at an early stage in the developmental process.

In stage 2 all of the children still produce the simple irregular past forms before any of the other past forms. Looking at the simple regular past forms, there are signs of production in all the children, but still the percentages are very low in comparison to that of the simple irregular past forms, except for Simon, who produces more regular simple past forms than irregulars. However, overall, Simon produces fewer past forms than the rest of the children in all 3 stages.

Focusing on the order of production of the regular compounds, none of the children produce this past form in stage 2. Therefore, in this case it remains the same as in stage 1.

The irregular compound past forms appear before the regular compound past forms. A with stage 1, the percentages are lower for both the monolinguals and the simultaneous bilinguals.

Overall, these results coincide with those in stage 1, and also confirm hypotheses 4 and 5: both groups in stage 2 produce the simple irregular past forms before any other past forms.

Finally, in stage 3 all children still show the same order of production. The amount of simple regular and compound regular past forms is lower than the production of simple irregular and compound irregular past forms. In the case of Naomi and Leo, they start to use the compound regular past forms, but these percentages are very low in comparison to the other past forms (1% and 5%).

The overall production of simple irregular past forms increases for both groups, again outnumbering that of compound irregular past forms.

In stage 3 we can also conclude that all children maintain the same order of production as the previous stages, producing simple irregular past forms before any other, and the amount of production is similar for both the monolinguals and the simultaneous bilinguals.

4.3. Adulthood Approach

After analysing all the utterances where a regular and irregular simple and compound past form appeared in the age range selected, this sub-section focuses on the production rates of adult-like cases and non-adult-like cases obtained.

Regarding overgeneralization, two tables containing first the simple regular and irregular past forms and consequently the compound regular and irregular past forms have been divided into adult-like forms and non-adult-like forms. The non-adult-like

forms include cases of overgeneralization and all 3 stages of development have been considered for each child. This allows us to detect whether signs of overgeneralization appear in the initial stages of language development. Tables 8 and 9 will, therefore, serve to confirm or reject hypotheses number 7 and number 8:

Table 8. Simple past forms in English across groups: per stages

Participants	Stages	Regular Past		Irregular Past		TOTAL (100%)
		Adult-like	Non-adult-like	Adult-like	Non-adult-like	
Naomi	1	0 (0%)	0 (0%)	2 (67%)	1 (33%)	**3 (100%)**
	2	3 (6%)	0 (0%)	32 (67%)	13 (27%)	**48 (100%)**
	3	18 (25%)	0 (0%)	51 (71%)	3 (4%)	**72 (100%)**
Adam	1	1 (2%)	0 (%)	60 (98%)	0 (0%)	**61 (100%)**
	2	22 (26%)	0 (0%)	61 (74%)	0 (0%)	**83 (100%)**
	3	15 (31%)	0 (0%)	34 (69%)	0 (0%)	**49 (100%)**
Leo	1	1 (9%)	0 (0%)	10 (91%)	0 (0%)	**11 (100%)**
	2	3 (25%)	0 (0%)	9 (75%)	0 (0%)	**12 (100%)**
	3	3 (17%)	0 (0%)	15 (83%)	0 (0%)	**18 (100%)**
Simon	1	2 (33%)	0 (0%)	4 (67%)	0 (0%)	**6 (100%)**
	2	8 (61%)	0 (0%)	5 (39%)	0 (0%)	**13 (100%)**
	3	7 (33%)	0 (0%)	14 (67%)	0 (0%)	**21(100%)**

Data in table 8 shows that, in stage 1, both the monolinguals and the simultaneous bilinguals show no signs of production of non-adult-like irregular past forms, except in the case of Naomi, who shows a 33% of non-adult-like forms. This process of overgeneralization of irregular past forms remains throughout the whole study period for Naomi.

Consequently, it can be argued that the monolinguals go through a process of overgeneralization, confirming hypothesis number 8 and rejecting hypothesis number 7.

In the case of Adam, Leo and Simon, adult-like constructions are more frequent in all past forms, showing no signs of non-adult-like forms in the whole study period. Also, in the case of Naomi, the adult-like cases outnumber non-adult-like cases.

Given the information in table 8, it can be claimed that results are in line with previous research (as in Nicoladis *et al.* 2007), that is, overgeneralization of the irregular past forms appears in English monolinguals, but this is not in the case of simultaneous bilinguals.

These results also suggest crosslinguistic influence from the simultaneous bilingual L1 Spanish to their L1 English resulting in a correct use of both simple and compound irregular past tense and from the initial stages of development. That is, this is an instance of crosslinguistic influence with a positive effect.

Table 9 focuses on the production of adult-like and non-adult-like forms in both regular and irregular compound past forms. This table also focuses on the whole study period including the 3 developmental stages considered for all of the participants:

Table 9. Compound past forms in English across groups: per stages

Participants	Stages	Regular Past		Irregular Past		TOTAL (100%)
		Adult-like	Non-adult-like	Adult-like	Non-adult-like	
Naomi	1	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**0 (100%)**
	2	0 (0%)	0 (0%)	1 (100%)	0 (00%)	**1 (100%)**
	3	1 (14%)	0 (0%)	6 (86%)	0 (0%)	**7 (100%)**
Adam	1	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**0 (100%)**
	2	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**0 (100%)**
	3	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**0 (100%)**
Leo	1	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**0 (100%)**
	2	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**0 (100%)**
	3	1 (33%)	0 (0%)	1 (67%)	0 (0%)	**2 (100%)**
Simon	1	0 (0%)	0 (0%)	0 (0%)	0 (0%)	**0 (100%)**
	2	0 (0%)	0 (0%)	2 (100%)	0 (0%)	**2 (100%)**
	3	0 (0%)	0 (0%)	2 (100%)	0 (0%)	**2 (100%)**

In table 9, we can see similar results to those in table 8: the simultaneous bilinguals show no signs of overgeneralization in the production of irregular past forms, but in the case of the monolinguals Naomi produces non-adult-like forms for the

irregular past compound forms in stages 2 and 3. In the case of Adam, Leo and Simon there are no signs of non-adult-like forms throughout the entire study period.

Consequently, as with the simple past forms hypothesis number 8 is confirmed while hypothesis number 7 is rejected for compound past forms. The production rates obtained in the compound past forms are significantly lower compared to the total production of simple past forms. This is expected because, as seen previously in table 4, both the monolinguals and the simultaneous bilinguals produce a total of 3% of compound past forms (as opposed to 97% of simple past forms).

5. Conclusion

The present dissertation has compared English monolinguals and Spanish-English bilinguals' production of English past forms through the analysis of the spontaneous speech of 2 monolinguals and 2 simultaneous bilinguals taken from their early stages of linguistic development. With respect to the monolingual-bilingual dichotomy, this study has focused on the order of acquisition, the age of acquisition and the overgeneralization mechanism. Crosslinguistic influence effects have also been explored in the case of the bilinguals.

With respect to the age of onset of regular and irregular simple and compound past forms, data has shown that age of onset is the same for both the monolinguals and the simultaneous bilinguals. Both groups start to produce simple irregular past forms in stage 1, before producing any simple regular past forms, and no cases of compound regular past forms appear in this stage. These results confirm hypothesis 4 in that the monolingual and the simultaneous bilingual children acquire regular and irregular past tense in English simple and compound past forms at the same time, showing no bilingual effect. On the other hand, hypotheses 1, 2, and 3, which deal with language

transfer, acceleration and delay respectively, are, therefore, rejected in the case of age of onset of regular and irregular simple and compound past forms.

The second issue as regards the monolingual-bilingual dichotomy has to do with order of acquisition. The order of acquisition in which the regular and irregular past forms are acquired may be altered because of crosslinguistic effects. Results show that in all 3 stages all the children maintain the same order of production, producing simple irregular past forms before any other, and the amount of production is similar for both the monolinguals and the simultaneous bilinguals. These results confirm hypothesis 5 and reject hypothesis 6 in that the English monolinguals and the simultaneous bilinguals were expected to present differences (hypothesis 6) in the order of acquisition of both regular and irregular past tenses in both simple and compound past forms but none have emerged (hypothesis 5).

The last issue under consideration as regards the monolingual and the simultaneous bilinguals' comparison was overgeneralization. When acquiring irregular simple past forms, monolingual children tend to overgeneralize the production of simple irregular past forms (as in Nicoladis *et al.* 2007). Hypothesis 7 stated that both the English monolinguals and the English-Spanish simultaneous bilinguals will produce overgeneralization cases in their initial stages of acquisition. On the other hand, hypothesis 8 foresaw overgeneralization cases only in the English monolinguals' production of simple and compound irregular past forms. This would be so because the simultaneous bilinguals will be influenced by their other L1, skipping the process of overgeneralization, and leading to a correct use of irregular past tense in both simple and compound past forms from the initial stages of development. Results confirm hypothesis 8: overgeneralization only appears in the case of the English monolinguals, which makes the simultaneous bilinguals reach the adult requirement sooner. This is in

line with Nicoladis *et al.*'s (2007) work on the simultaneous bilingual acquisition of English and French.

The analysis has shown more similarities than differences in the developmental process of English past tense (both groups acquire the simple irregular past tense in the first stage), confirming that both age and order of onset is the same for monolinguals and simultaneous bilinguals.

The analysis of data opens the door for more studies, and, therefore, further analyses could be developed. This study shows that monolinguals and bilinguals undergo very similar acquisition processes. However, further research could take into account a longer age range and more data from the CHILDES project (MacWhinney, 2000) in order to have more evidence to test the proposed hypotheses, especially in the case of compound past forms. A longer age range will allow us to characterize what happens after the initial stages of acquisition as studied here. More data in the form of both more files per child and more children will allow us to reach more robust conclusions in the characterization of the acquisition of English past forms.

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