# Bilingual and Monolingual Children's Acquisition of Spanish Dative Alternation Structures: Order of Acquisition and Adult Input Effects

International Journal of Bilingual Education and Bilingualism

Silvia Sánchez Calderón* and Raquel Fernández Fuertes

*Departamento de Filología Inglesa, University of Valladolid Language Acquisition Lab, Valladolid, Spain*

*Corresponding author: silvia-sanchez@fyl.uva.es

# Bilingual and Monolingual Children's Acquisition of Spanish Dative Alternation Structures: Order of Acquisition and Adult Input Effects

This work investigates the acquisition of Spanish dative alternation (DA) in the production of English-Spanish bilingual and Spanish monolingual children. We aim to elucidate whether the two types of Spanish DA constructions (i.e., *a/para*-datives and dative clitic doubled (DCLD) structures) are syntactically derived from one another or, rather, whether they are in fact different syntactic structures. We also examine whether bilinguals follow similar developmental paths to monolinguals in the acquisition of Spanish DA, or rather, whether they differ from their peers as a result of the influence from the syntactic status that relates DA constructions in their other language (i.e., English). We conduct an analysis of the spontaneous data from nine English-Spanish bilingual children and nine Spanish monolingual children, along with the adults that interact with them, as they appear in twelve corpora in the CHILDES database (MacWhinney, 2000). Our results reveal that bilinguals begin to produce DCLDs and *a/para*-datives at an approximately similar age, as reported by the statistically non-significant differences in their emergence. This suggests a syntactic underived relationship between the two DA structures, akin to that in monolinguals' data. Even if the differences in the emergence of the two target constructions are not statistically significant, the bilinguals and the monolinguals show a delay in the onset and a lower incidence in the production of *a/para*-datives when compared to DCLDs, which seems to be in line with adult input factors. The monolingual-like patterns in the bilinguals' data point to a lack of crosslinguistic influence from English DA.

**Keywords:** Spanish dative alternation; bilingual acquisition; monolingual acquisition; emergence; adult input; dative clitic

## 1. Introduction

This study is concerned with the acquisition of Spanish dative alternation (DA) constructions (Bruhn de Garavito, 2000; Cuervo, 2003a, 2003b, 2007; Demonte, 1994, 1995; Kempchinsky, 2004), as analyzed in the longitudinal spontaneous production of English-Spanish bilingual and Spanish monolingual children, along with the adults that interact with them. In particular, we investigate how bilingual and monolingual

acquisition data can provide further insight into the syntactic derivational relationship (e.g., Bruhn de Garavito, 2000; Demonte, 1994, 1995; Kempchinsky, 2004) or non-derivational relationship (e.g., Cuervo, 2003a, 2003b) that underlies the two Spanish DA structures: *a/para*-datives (1a-b) and dative-clitic-doubled (DCLD) constructions (1c). Following the Matching Hypothesis (Suñer 1988), the dative clitics '*le*' (i.e., 'him/her', singular) or '*les*' (i.e., 'them', plural) in DCLDs (1c) shares gender, number and person features as well as Case and theta role properties with the prepositional complement headed by '*a*' (i.e., 'to'). Therefore, Spanish DA occurs via the overt realization or the absence of a dative clitic '*le/les*' in the alternation between DCLDs and *a/para*-datives, respectively.

(1) a. Estoy     sacando algo      a la   mamá
       be.1p.sg.pres. take.ing.  something  to the  mummy
       'I am taking something out for the mummy'
                                          [*a*-dative, Koki, 2;05, the Montes corpus, CHILDES]

   b. Tú  sabes         cocinar papilla    para  Simon
      you  know.2p.sg.pres. cook.inf.  baby food  for    Simon
      'You know how to cook baby food for Simon'
                                          [*para*-dative, Leo, 2;08, the FerFuLice corpus, CHILDES]

   c. Le$_i$      voy      a  hacer    un  regalo [ a  Mónica ]$_i$
      her.dat.cl.  go.1p.pres.  to  make.inf.  a    gift       to  Mónica
      'I am going to give Mónica a gift'
                                          [DCLCD, Juan, 2;04, the OreaPine corpus, CHILDES]

Regarding the English-Spanish bilinguals' data, we also explore whether the acquisition of Spanish DA shows analogous developmental patterns to those of their Spanish monolingual peers, in line with the Autonomous Development Hypothesis (ADH; Álvarez de la Fuente, 2007; Bergman, 1976; Clark, 2009; Genesee, Nicoladis, & Paradis, 1995; Paradis, 2001; Paradis & Genesee, 1996; Yip & Matthews, 2007; among others), or whether English-Spanish bilinguals differ from Spanish monolinguals , as per the Interdependent Development Hypothesis (IDH; Meisel, 1989, 2001, 2004;

Paradis & Genesee, 1996; among others). The lack of a monolingual-like pattern would suggest that English-Spanish bilinguals are influenced by the syntactic (non-)derivational status that relates English DA constructions in their other language. English DA is accounted for via the presence or the absence of the prepositions '*to/for*' when *to/for*-datives (2a-b) alternate as double object constructions (DOCs) (2c) (Larson, 1988, 1990, 2014; Pylkkänen, 2002; Snyder, 2001; Snyder & Stromswold, 1997).

(2)  a. I give that to you

   [*to*-dative, Nina, 2;01, the Suppes corpus, CHILDES]

   b. I buy cereal for my baby

   [*for*-dative, Ross, 2;08, the MacWhinney corpus, CHILDES]

   c. Give me some

   [DOC, Ross, 1;04, the MacWhinney corpus, CHILDES]

In the present study, the possible crosslinguistic influence from English into Spanish in the case of the bilinguals' acquisition of Spanish DA will not be investigated by analyzing whether English-like structures appear in the Spanish production of these bilinguals (e.g., omission of prepositions), as the analysis of the data shows no such occurrences. However, crosslinguistic influence can be analyzed from a different angle, which is the one we would take. We aim to analyze whether the English-Spanish bilinguals differ from the Spanish monolinguals in the acquisition of the syntactic status of Spanish DA. If these findings point in this direction, they would suggest an influence from the syntactic status that characterizes the two English DA in their other first language (L1, henceforth) (i.e., be it derivational or non-derivational). As attested by earlier bilingual and monolingual acquisition studies (e.g., Fernández Fuertes & Sánchez Calderón, under review; Snyder & Stromswold, 1997; Sánchez Calderón & Fernández Fuertes, 2018; Sánchez Calderón, 2018), English DOCs and *to/for*-datives

appear concurrently in the English spontaneous production of both English-Spanish bilinguals and English monolinguals which suggest the lack of a derivational relationship between the two DA structures. In the case of English-Spanish bilinguals, the question remains as to whether their other L1 (i.e., Spanish) will exhibit a similar development in the acquisition of the syntactic underlying properties that relate the two DA constructions in Spanish (namely, DCLDs and *a/para*-datives), when compared to Spanish monolinguals.

We also examine the role played by adult input in child output (e.g., Legate & Yang, 2002; Lust, 2006; Pullum & Scholz, 2002; Sampson, 2002; Yang, 2002, 2011, 2016). More specifically, we investigate whether the relative frequency of exposure to Spanish DA in the adults' speech is in line with the children's use of DCLDs and *a/para*-datives, and whether the adult input-child output patterns of Spanish DA are equally reflected in the two language groups under analysis (i.e., English-Spanish bilinguals and Spanish monolinguals).

This paper is structured into the following sections. Section 2 addresses the domain of Spanish DA from a formal approach and is concerned with the debate on the syntactic (non-)derivational relationship between DCLDs and *a/para*-datives. Section 3 investigates previous bilingual and monolingual acquisition studies on DA. Issues such as the age of onset and the role played by adult input are addressed. Section 4 presents the study and formulates the research questions (RQs) under investigation (section 4.1), the corpora selection (section 4.2), the data extraction and the codification criteria of the target constructions (section 4.3), the results of Spanish DA in bilingual and in monolingual child data (section 4.4), and the discussion of the main findings in the light

of the RQs formulated (section 5). The conclusions and implications for further research are presented in section 6.

## 2. Syntactic formal approaches to dative alternation

There is no consensus in earlier formal works as to whether the two Spanish DA constructions are derivationally related or whether they do not have a syntactic derivational relationship. This debate is also present in English, the English-Spanish bilingual children's other language. Therefore, English DA will be discussed in the present work so as to shed light on whether the status of these structures might influence the bilinguals' acquisition of Spanish DA.

With regards to Spanish, two standpoints lend support to the syntactic derivational relationship (or lack thereof) between the two Spanish DA constructions. On the one hand, DCLDs are argued to derive from *a/para*-datives via the presence or the absence of a dative clitic (Bruhn de Garavito, 2000; Demonte, 1994, 1995; Kempchinsky, 2004). As in (3a), the derivation of DCLDs departs slightly from the underlying structure of *a/para*-datives (3b); namely, the dative clitic '*le*' projects a Dative Clitic Phrase (DClP) (Demonte, 1995) and occupies a higher position of a Chomskian-Larsonian verbal phrase (VP)-structure (Larson, 1988, 1990, 2014) upon which *a/para*-datives are base-generated.

(3)  a. [$_{VP}$ [$_{V'}$ [$_{V}$ entregué$_i$ [$_{DClP}$ [$_{PP}$ al conserje$_j$] [$_{DCl'}$ [$_{Cl}$ le [$_{VP}$ $t_j$ [$_{V'}$ [$_{V}$ $t_i$] [$_{DP}$ las llaves]]]]]]]]]]

[DCLD, derived structure, adapted from Demonte, 1995, pp. 17-18]

b. [$_{VP}$ [$_{V'}$ [$_{V}$ entregué$_i$ [$_{VP}$ [$_{DP}$ las llaves] [$_{V'}$ [$_{V}$ $t_i$] [$_{PP}$ al conserje]]]]]]

[*a*-dative, source structure, adapted from Demonte, 1995, p. 16]

The verb 'entregué' ('I gave') (3a) base-generates in the lower VP-shell domain and selects the direct object (DO) 'las llaves' ('the keys'). The verb raises from the head of the lower VP-shell to the head of the higher VP-shell domain for conceptual reasons since from the landing position "*it would be able to rise again in order to satisfy morphological properties*" (Demonte, 1995, p. 19). The indirect object (IO) 'al conserje' ('to the janitor') base-generates as the specifier of the lower VP-shell and occupies a higher position than the DO. Given the free constituent order in Spanish, the IO can occupy two positions "*to check its morphological features against the clitic head*" (Demonte, 1995, p. 23), that is, dative Case assignment from the preposition '*a*' by means of the specifier-head agreement of the IO (as the specifier) and the dative clitic (as head) in the DClP. These positions involve (a) the specifier of the DClP in non-canonical DCLDs (4a); or (b) the V' Reanalysis (Larson, 1988, 1990, 2014) and the later movement of the verb 'entregué' ('I gave') and the DO 'las llaves' ('the keys') over the IO 'al conserje' ('the janitor') to the head of the higher VP-shell, forming a complex predicate (namely , a complex transitive verb), in canonical DCLDs (4b).

(4)  a. [$_{VP}$ [$_{V'}$ [$_V$ entregué$_i$ [$_{DClP}$ [$_{PP}$ al conserje$_j$] [$_{DCl'}$ [$_{Cl}$ le [$_{VP}$ $t_j$ [$_{V'}$ [$_V$ $t_i$] [$_{DP}$ las llaves]]]]]]]]]]

[non-canonical DCLD, adapted from Demonte, 1995, p. 17]

   b. [$_{VP}$ [$_{V'}$ [$_V$ entregué$_i$ las llaves$_k$ [$_{DClP}$ [$_{PP}$ al conserje$_j$] [$_{DCl'}$ [$_{Cl}$ le [$_{VP}$ $t_j$ [$_V$ [$_V$ $t_i$] [$_{DP}$ $t_k$]]]]]]]]]]
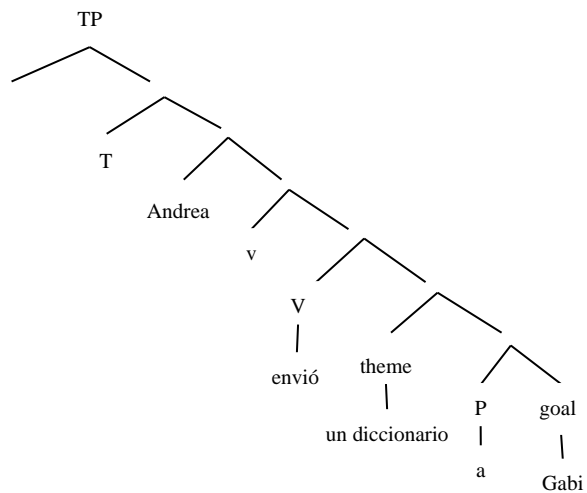
[canonical DCLD, adapted from Demonte, 1995, p. 18]

Demonte (1994, 1995) does not account for the pre-verbal landing position of the dative clitic in DCLDs. In this respect, two approaches have been proposed in order for the dative clitic to avoid violating Case Filter conditions; namely, the co-indexation approach in which the dative clitic and the prepositional complement are allocated dative Case by the preposition '*a*' (i.e., 'to') (Aranovich, 2011; Cuervo, 2003a, 2003b;

Hurtado, 1984); and the affixal morpheme approach in which the dative clitic functions as an affix and incorporates to the verb, and so, both constituents form a single accusative Case assigner to their adjacent Determiner Phrase (DP) (Anagnostopoulou, 2003, 2006; Beavers & Nishida, 2009; Borer, 1984).

Other non-derivational approaches (Cuervo, 2003a, 2003b) propose that DCLDs and *a/para*-datives stem from two different underlying representations that differ in the status of the head projected and in the thematic roles allocated to the IO. As for *a/para*-datives (5), the verb 'envió' ('she sent') selects the DO (theme) 'un diccionario' ('a dictionary') and the IO (goal) 'a Gabi' ('to Gabi').
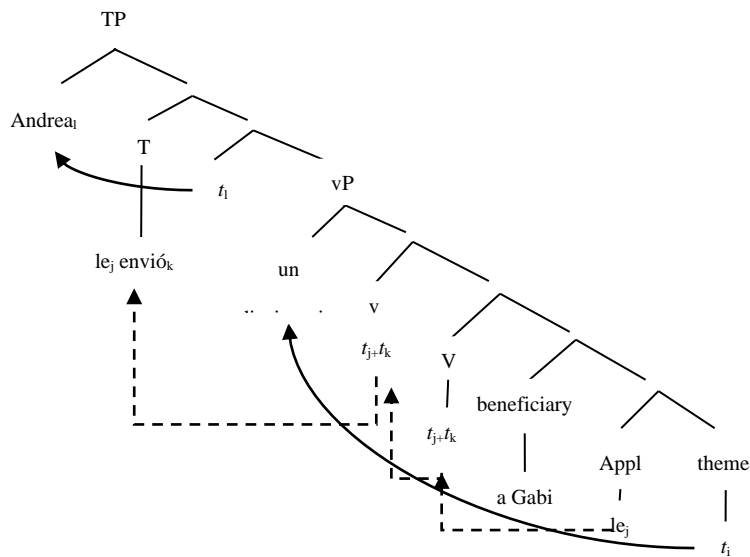
(5) Andrea envió        un  diccionario  a  Gabi
    Andrea send.3p.sg.past  a   dictionary    to  Gabi
    'Andrea sent a dictionary to Gabi'



[*a*-dative, Cuervo, 2003b, p. 125]

DCLDs are said to be projected by a dative clitic which functions as the morphological spell-out of an applicative argument (Appl; Pylkkänen, 2000). In (6), the applicative head '*le*' subcategorizes for the DO (theme)-complement 'un diccionario' ('a dictionary') and the IO (beneficiary)-specifier 'a Gabi' ('to Gabi').

(6) Andrea le envió un diccionario a Gabi
Andrea him.cl.dat. send.3p.sg.past a dictionary to Gabi
'Andrea sent Gabi a dictionary'

TP
Andrea$_l$
T
$t_l$
vP
le$_j$ envió$_k$
un
v
$t_{j+}t_k$
V
beneficiary
$t_{j+}t_k$
a Gabi
Appl
theme
le$_j$
$t_i$

[DCLD, Cuervo, 2003b, p. 126]

The DO in DCLDs moves across the IO (beneficiary) to the specifier of a vP (after the verb undergoes V-to-v movement) to satisfy accusative Case features. This movement is triggered by the Extended Projection Principle (EPP; Marantz, 1991) since the verb is argued to present similar obligatory EPP features to tense (T) in English. Furthermore, the dative clitic '*le*' assigns inherent dative Case to the DP 'Gabi', contra the Matching Hypothesis (Suñer, 1988) where the dative clitic is allocated Case by the preposition '*a*'. The pre-verbal position of the dative clitic occurs once it merges with the verb via two head-to-head movements, namely, from the applicative head position to V and from V to v. Nominative Case is assigned to the subject 'Andrea' by 'T'.

In English, there is also a lack of consensus with regards to the syntactic derivational relationship (or lack thereof) between DOCs and *to/for*-datives. Two stances argue for the derivational approach to English DA. One of these approaches lends support to the passive-like derivation of DOCs from *to/for*-datives via the advancement of the IO-3

over the DO-2 (7), causing the DO-2 in *to/for*-datives to have an adjunct (or *chômeur*) status in DOCs, under Relational Grammar principles (Haspelmath, 2006; Perlmutter, 1980); or via DP-movement of the IO in *to/for*-datives to a post-verbal position in DOCs, demoting the DO to an adjunct position in the derived DOC (8), under Government and Binding theory (Larson, 1988, 1990, 2014).

(7) a. Pedro gave his email address to Aisha
      SU-1        DO-2             IO-3

                                     [*to*-dative, base structure, Haspelmath, 2006, p. 3]

    b. Pedro gave Aisha his e-mail address
       SU-1        DO-2    *chômeur*

                                     [DOC, derived structure, Haspelmath, 2006, p. 3]

(8) a. John [VP sends$_i$ [VP a letter [V' $t_i$ to Mary]]]

                                    [*to*-dative, base structure, Larson, 1988, p. 343]

    b. John [VP sends$_i$ [VP Mary$_j$ [V' [V $t_i$] $t_j$] a letter]]]

                                   [DOC, derived structure, Larson, 1988, p. 353]

Other formal accounts propose the derivation of *to/for*-datives from DOCs via (a) the lexical covert-category prepositional phrase (PP) analysis (9) (Czepluch, 1982), in which *to/for*-datives are Case-related to DOCs by means of overt or null prepositional and verbal Case assigners, respectively; (b) DP-movement of the DO in DOCs to a post-verbal position in *to/for*-datives (10) (Aoun & Li, 1989; Koizumi, 1994), contra Larson's (1988, 1990, 2014) analysis; or (c) an advancement rule (11) in which the DO moves from a secondary object (SO) position to a primary object (PO) position (Dryer, 1986), contra the Relational Grammar approach (Haspelmath, 2006; Perlmutter, 1980).

(9) a. John [VP gave$_i$ [PP [P *e*] Mary] $t_i$ [the book]]

                                    [DOC, base structure, Czepluch, 1982, p. 14]

    b. John gave the book to Mary

                                    [*to*-dative, derived structure, Czepluch, 1982, p. 14]

(10) a. I [$_{VP1}$ [$_V$ gave [$_{SC}$ Mary [$_{VP2}$ [$e$ a book]]]]]

[DOC, base structure, Aoun & Li, 1989, p. 163]

b. I [$_{VP1}$ [$_V$ gave [$_{SC}$ a book$_i$ [$_{VP2}$ [$_{VP3}$ $e$ $t_i$] to Mary]]]]

[*to*-dative, derived structure, Aoun & Li, 1989, p. 164]


(11) a. John gave Mary the book
    SU      IO (PO)   DO (SO)

[DOC, base structure, Dryer, 1986, p. 821]

b. John gave the book to Mary
    SU      DO (PO)   *chômeur*

[*to*-dative, derived structure, Dryer, 1986, p. 821]


Proponents of the syntactic non-derivation of English DA argue for the formation of two different structures that differ in the head projected. While Marantz (1993) proposes that DOCs (12a) and *to/for*-datives (12b) are projected by a null applicative affix in a Chomskian-Larsonian VP-shell structure or a verb in a single VP domain, respectively, Mulder (1992) states that English DA structures are construed in a small clause (SC) domain that is headed by an empty causative verb in DOCs (13a) or by an empty verb in *to/for*-datives (13b).


(12) a. [$_{IP}$ [$_{DP}$ Elmer][$_{I'}$ [$_I$ past][$_{VP}$ [$_{DP}$ Hortense][$_{V'}$ [$_V$ give$_i$+APPL][$_{VP}$ [$_{DP}$ the porcupine][$_{V'}$ [$_V$ $t_i$]]]]]]]]

[DOC, adapted from Marantz, 1993, p. 119]

b. [$_{IP}$ [$_{DP}$ Elmer] [$_{I'}$ [$_I$ past] [$_{VP}$ [$_{DP}$ the porcupine] [$_{V'}$ [$_V$ give] [$_{PP}$ to Hortense]]]]]

[*to*-dative, adapted from Marantz, 1993, p. 120]


(13) a. I [$_{VP}$ gave [$_{SC}$ John $\phi_{HAVE}$ the book]]

[DOC, Mulder, 1992, p. 69]

b. I [$_{VP}$ gave [$_{SC}$ the book $\phi$ to John]]

[*to*-dative, Mulder, 1992, p. 69]


Snyder and Stromswold (1997) argue that DOCs and *to/for*-datives depend on a shared parametric property as complex predicate structures (Larson, 1988, 1990, 2014;

Marantz, 1993) or as SC constructions (Aoun & Li, 1989; Den Dikken, 1995; Kayne, 1984). This proposal is framed in the Complex Predicate Parameter (Snyder, 2001), which states that there is a crosslinguistic distinction regarding the availability of DA in English, a [+complex predicate] language, and Spanish, a [-complex predicate] languages. Therefore, DA has a different status across the two languages, namely, the presence-absence of the dative clitics '*le/les*' in Spanish and the presence-absence of the prepositions '*to/for'* in English.

The formal debate on the syntactic (non-)derivational relationship of Spanish DA is analyzed in the English-Spanish bilingual and in the Spanish monolingual children's data (see section 4). Data will elucidate whether DCLDs or *a/para*-datives are derived from its DA counterpart, as expected to be reflected in their subsequent emergence patterns. A syntactic derivational relationship would have implications for acquisition data, and more specifically it could have a reflection on the children's ages of onset of Spanish DA, since complex structures (namely, the derived DA) are assumed to emerge later than simple structures (namely, the source DA) (Borer & Wexler, 1987). Alternatively, the two Spanish DA constructions may show a syntactic non-derivational pattern if they start being produced at an approximate age (Snyder & Stromswold, 1997; Snyder, 2001).

## 3. Acquisition studies on dative alternation

Empirical research on the acquisition of DA has been conducted both in Spanish and in English. Although this is true for monolinguals' data, previous studies have not focused on the bilinguals' emergence of these structures.

To the best of our knowledge, there is not a great bulk of empirical works that have accounted for the acquisition of Spanish DA. To date, only the study conducted by

Torrens and Wexler (2000) reports on the emergence of DCLDs, as analyzed in a monolingual child's data, and, as far as we are aware, no empirical studies have discussed the bilingual or the monolingual's acquisition of *a/para*-datives, or the relation between the two Spanish DA structures. Torrens and Wexler (2000) analyze the age of onset of DCLDs in the spontaneous production of a Spanish monolingual child, María (the Ornat corpus, CHILDES, age range: 1;07-3;11). Findings reveal that DCLDs begin to be produced at an early stage between 1;07 and 2;03, regardless of whether the dative clitic is optional, with non-pronominal prepositional complements (14), or required, with pronominal prepositional complements (15).

(14)  (Le)$_i$       voy              a    dar       arroz    [ a  mi  niño ]$_i$
      him.cl.dat. go.1p.sg. pres.  to  give.inf.  rice          to  my  baby
      'I'm going to give rice to my baby'

(15)  Te$_i$        voy              a    hacer    una  foto  [ a  ti ]$_i$
      you.cl.dat. go.1p.sg. pres.  to  take.inf.  a       picture  to  you
      'I'm going to take a picture of you'

<div align="right">[María, 2;04, the Ornat corpus, CHILDES, Torrens & Wexler, 2000, p. 288]</div>

Similar works on the acquisition of clitic doubling constructions (or lack thereof) have been reported in languages such as Romanian. For instance, Ungureanu (2010) conducts a pilot study on the monolingual acquisition of Romanian mono-transitive structures that follow the so-called Direct Object Clitic Doubling (DOCD) parameter. This means that an accusative clitic '*l-*' (i.e., 'him' or 'her' in singular; 'them' in plural) is co-indexed in gender, number and person features as well as in Case and theta role properties with an overt DO (16a), the [+DOCD] option of the parameter, or with a null

DO (16b).[1]

(16) a. L$_i$-        am      vazut     pe      Milu$_i$
  cl.acc.3sg.m. have   seen      to      Milu
  'I saw Milu'

  b. L-        am      vazut     pro$_i$
  cl.acc.3sg.m. have   seen
  'I saw him'

[Ungureanu, 2017, p. 18]

The participants in Ungureanu's (2017) study (namely, one boy at 2;08 and two boys at 3;01) reflect an earlier onset of simple mono-transitive structures in which an accusative clitic is co-indexed with an overt DO. This is not seen in the third boy's data given that he is at a more developed stage in the acquisition of the two types of mono-transitive constructions in Romanian, that is, those ones that allow both the [+DOCD] and the [-DOCD] option of the parameter. Therefore, these findings evidence that functional categories (that is, accusative clitics) are available in the child's grammar at an early stage, in line with the Full Competence Hypothesis (Poeppel & Wexler, 1993).

Previous studies on the production of English DA have observed that DOCs emerge earlier than *to/for*-datives in the spontaneous production of bilingual children (Gu, 2010; Fernández Fuertes & Sánchez Calderón, under review; Sánchez Calderón & Fernández Fuertes, 2018; Sánchez Calderón, 2018) and in that of monolingual children (Campbell & Tomasello, 2001; Fernández Fuertes & Sánchez Calderón, under review; Gropen, Pinker, Hollander, Goldberg, & Wilson, 1989; Sánchez Calderón, 2018; Snyder & Stromswold, 1997). Despite this order of onset, Snyder and Stromswold

---

[1] Romanian allows the two options of the DOCD parameter since it is argued that "within the crosslinguistic distribution of clitic use, the [-DOCD] parameter is a proper subset of the [+DOCD] parameter since all languages that permit [+DOCD] constructions (as it is the case in Romanian) also permit [-DOCD] constructions, and the opposite does not hold true" (Ungureanu, 2017, p. 19).

(1997) report a statistically significant correlation between the emergence of DOCs and *to*-datives ($r = .76$, $p = .0043$) given their shared parametric property (or Property A), as per the Complex Predicate Parameter (Snyder, 2001). Furthermore, Snyder and Stromswold (1997) conclude that the later emergence of *to*-datives when compared to DOCs ($t(11) = 4.15$, $p = .002$) could be related to an additional property (or Property B) that the former require in their production, which is related to the Case and the theta role mediated assigning properties of the preposition to the DP via the verb.

In Snyder and Stromswold's (1997) work, the ages of first occurrence of the structures under investigation are considered as a maturational measure of language acquisition. This brings to debate as to whether the early presence of English and Spanish DA constructions in monolingual children's spontaneous production data is the result of the intrinsic grammatical competence that characterizes early child language (competence account) (Brown, 1973; Chomsky, 1965, 1969; Hyams & Wexler, 1993; among others); or whether children's early production of these constructions is related to performance factors (that is, the actual language use) (performance account) (Bloom, 1993; Hyams, 1996; Poeppel & Wexler, 1993; among others). In the present study, we follow Snyder and Stromswold (1997) in accounting for the first occurrence of English and Spanish DA constructions in monolingual children's spontaneous production data as the measure of grammatical competence.

As for adult input effects, the relative frequency rates with which a construction is used in the adult input has been attested to be correlated with those of the children's output (Legate & Yang, 2002; Lust, 2006; Pullum & Scholz, 2002; Sampson, 2002; Yang, 2002, 2011, 2016). This has been said to hold for both bilingual and monolingual children. In the case of bilinguals, the simultaneous exposure to two languages could

(positively or negatively) affect the developmental patterns in one language or in the two languages as a result of the relatively (im)balanced dual language exposure. A balanced dual language exposure is argued to occur via the so-called one parent-one language strategy (Ronjat, 1913), namely, parents address their children in each of their first languages (Fernández Fuertes & Álvarez de la Fuente, 2017; Gletiman & Newport, 1995; Paradis & Genesee, 1996; among others). Thus, bilinguals who follow the one parent-one language strategy are expected to show similar developmental patterns to their monolingual counterparts, as observed in the domain of lexicon (Genesee, 2002; Patterson & Pearson, 2004, among others), phonology (Polka & Sundara, 2003; Vihman, 1996; among others), and morpho-syntax (De Houwer, 2005; Fernández Fuertes & Liceras, 2010; Paradis & Genesee, 1996; among others).

On the contrary, bilingual children that do not receive a balanced dual language exposure are argued to differ from the developmental patterns observed in their respective monolingual peers. These patterns could reflect that the acquisition of one or both languages lags behind that of their monolingual peers. Furthermore, if the acquisition of one of the languages is delayed, it might be the case that the acquisition of the other language the child has been more exposed to is boosted when compared to monolingual child language development (Paradis & Genesee, 1996; Paradis & Navarro, 2001; Rowland, 2014; among others). Earlier empirical works have reported that a skewed dual language exposure could be associated with home input conditions, other than social factors such as the language spoken in the community. These issues may account for the differences found between bilinguals' language development and monolinguals' language development (De Houwer, 1996; Romaine, 2004, among others).

To date, there are no previous studies that have examined the role played by adult input in English-Spanish bilingual and in Spanish monolingual children's production of Spanish DA. Most research has focused on English-Spanish bilingual and English monolingual children's use of English DA (Campbell & Tomasello, 2001; Sánchez Calderón & Fernández Fuertes, 2018; Sánchez Calderón & Fernández Fuertes, 2016; Sánchez Calderón, 2015). These studies have revealed that the higher relative frequency of exposure to DOCs when compared to *to/for*-datives in the adult input goes hand in hand with the children's output in the two language groups. By contrast, when the adults' use of English DA is analyzed in the children's ages of onset, Snyder and Stromswold (1997) observe that the amount of exposure to DOCs (mean: 73.2%) and *to*-datives (mean: 26.8%) in the adult input does not significantly correlate ($p > .10$) with the onset of DOCs (mean age: 2;02) and *to*-datives (mean age: 2;06).

The present study will analyze whether adult input frequency in the production of Spanish DA constructions plays a role in English-Spanish balanced bilinguals' output. These findings will be compared to their respective Spanish monolingual counterparts whose exposure to DCLDs and *a/para*-datives is limited to one language. We also examine whether the adult input-child output patterns are equally seen in the data from the English-Spanish bilinguals and the Spanish monolinguals.

## 4. Spanish dative alternation in bilingual and monolingual children's spontaneous production

### 4.1 Research questions

Taking as a point of departure previous formal accounts (section 2) and acquisition studies (section 3), we formulate four RQs that will guide the data analysis (section 4.4).

RQ 1 aims at shedding light on the syntactic status that relates the two Spanish DA constructions, as observed in Spanish monolingual children's data.

**RQ 1.** Do DCLDs and *a/para*-datives appear simultaneously in the acquisition data of Spanish monolingual children?

Considering RQ 1, two possible scenarios could occur in the Spanish monolingual children's data: (a) DCLDs or *a/para*-datives may show a later onset when compared to their DA counterpart, which suggests that one of the two Spanish DA structures is syntactically derived from the other (in line with Bruhn de Garavito, 2000; Cuervo, 2003a, 2003b, 2007; Demonte, 1994, 1995; Kempchinsky, 2004); or (b) the two Spanish DA constructions could reflect a rather similar emergence, which suggests that they are not syntactically derived from one another (in line with Marantz, 1993; Mulder, 1992; Snyder, 2001; Snyder & Stromswold, 1997 for English DA).

RQ 2 explores the acquisition of Spanish DA in English-Spanish bilingual children's data, when compared to Spanish monolinguals' data (RQ 1).

**RQ 2.** Is the acquisition of DCLDs and *a/para*-datives by English-Spanish bilingual children akin to that of their Spanish monolingual peers?

More specifically, RQ 2 will elucidate whether English-Spanish bilingual children's acquisition of the two Spanish DA constructions follows analogous developmental paths to their Spanish monolingual peers, as per the ADH, or whether crosslinguistic influence from English into Spanish has occurred, given the English-Spanish bilinguals' divergent production patterns of DCLDs and *a/para*-datives when compared to Spanish

monolinguals' data, as per the IDH. These two possible outcomes are expected to be the case regardless of the syntactic derivational relationship (or lack thereof) between DCLDs and *a/para*-datives in the English-Spanish bilinguals' grammars.

In RQ 3, we investigate whether the amount of exposure to Spanish DA constructions in the adults' speech goes hand in hand with the Spanish monolingual children's output (Campbell & Tomasello, 2001; Sánchez Calderón & Fernández Fuertes, 2018; Sánchez Calderón & Fernández Fuertes, 2016; Sánchez Calderón, 2015 for English DA).

**RQ 3.** Does adult input play a role in Spanish monolingual children's production of DCLDs and *a/para*-datives?

Similar to RQ 3, we also examine whether adult input production patterns of Spanish DA are also reflected in the English-Spanish bilingual children's output, akin to their Spanish monolingual peers, or whether the input-output production patterns of these structures in the bilinguals' data differ from those of Spanish monolinguals, thus, suggesting an influence from the amount of exposure to English DA in the other language.

**RQ 4.** Does adult input play a role in English-Spanish bilingual children's production of DCLDs and *a/para*-datives, when compared to their Spanish monolingual peers?

In order to elucidate the issues formulated in the four RQs, the following sections present the empirical study that has been conducted.

### 4.2 Corpora selection from CHILDES: bilingual and monolingual participants

As illustrated in Table 1, the participants' longitudinal spontaneous production data are selected from twelve corpora available in CHILDES (CHIld Language Exchange Data System) (MacWhinney, 2000), an open access database (http://childes.psy.cmu.edu). The data from nine English-Spanish bilingual children (three girls and six boys) have been selected from four corpora and the children's ages range from 1;01 to 6;11. As for the Spanish monolingual corpora, nine children have been selected whose data appear in eight corpora. Their age ranges cover from 0;11 to 4;08.

Table 1.

Selected English-Spanish bilingual and Spanish monolingual corpora

| Corpora | | # files examined | Child | Gender | Age range |
|---|---|---|---|---|---|
| English-Spanish bilingual | Deuchar | 11 | Manuela | F | 1;03-3;03 |
| | FerFuLice | 115 | Leo and Simon | M | 1;01-6;11 |
| | Pérez | 16 | Alberto | M | 1;08-3;00 |
| | | 3 | Antonio | M | 2;11-3;02 |
| | | 21 | Carla | F | 2;00-3;03 |
| | | 6 | John | M | 2;00-3;03 |
| | | 2 | Sheila | F | 2;02-2;11 |
| | Ticio | 13 | Diego | M | 1;06-2;04 |
| Spanish monolingual | Linaza | 25 | Juan 1 | M | 2;00-4;00 |
| | LlinasOjea | 60 | Irene | F | 0;11-3;02 |
| | Marrero | 6 | Idaira | F | 2;07-4;07 |
| | Montes | 13 | Koki | F | 1;07-2;11 |
| | Nieva | 32 | Mendía | F | 1;08-2;03 |
| | OreaPine | 65 | Juan 2 | M | 1;10-2;07 |
| | | 62 | Lucía | F | 2;02-2;07 |
| | Ornat | 125 | María | F | 1;07-4;00 |
| | Vila | 35 | Emilio | M | 0;11-4;08 |

To the extent possible and given the data available in CHILDES, the children's selection criteria include that (a) the use of Spanish DA occurs in spontaneous naturalistic settings, as transcribed in the CHAT (Codes for the Human Analysis of Transcripts) written format; (b) the data are longitudinal; (c) the number of children is equally balanced; and (d) the children do not show language delay and speech or hearing disabilities.

Adult input has also been analyzed in the two language groups. Although parents are the main input source, the children also receive language exposure from other caregivers, namely, grandparents, uncles or aunts and researches. With regards to the English-Spanish bilinguals' data, the exposure to both languages follows the one parent-one language strategy or the so-called *Grammont*'s rule (Ronjat, 1913) since parents address their children in their own first languages. Therefore, data selection of Spanish DA comes from those cases in which parents and caregivers address the English-Spanish bilingual children in Spanish.

### 4.3  Data extraction and codification criteria

The extraction of Spanish DA combines manual extraction with the use of KWAL (Key Word And Line), one of the CLAN programs. The manual or the automatic search for data lies in the presence or in the absence of a morphology dependent tier (i.e., +t%), as available in the CHAT (Codes for the Human Analysis of Transcripts) written format.

The KWAL program is used to search for the contexts in which DA verbs are produced in the children's and in the adults' morphology dependent tier, aiding, in turn, the selection of Spanish DA utterances in the main line. However, KWAL does not display the output in terms of their verbal subcategorization framework; therefore, the KWAL output needs to be manually culled out for the data analysis of the target constructions (namely, DCLDs and *a/para*-datives).

When the selected corpora do not display a morphology dependent tier in their CHAT transcripts, data selection is executed manually via a thorough reading of the corpora files examined.

Once Spanish DA utterances are extracted via the two searches (manual and automatic), they are codified in terms of declarative and imperative DA constructions

whose verbal head selects a DO and either an IO headed by the preposition '*a*' or an adjunct (A) headed by the preposition '*para*'. These structures are classified as *a*-datives (17a) and as *para*-datives (17b), respectively.

(17) a. (Una bruja) dice       hola    a    los    árboles
        (a      witch) say.3p.sg.pres. hello   to    the    trees
        '(A witch) says hello to the trees'

                                   [*a*-dative, Juan, 2;03, the OreaPine corpus, CHILDES]

     b. Tú   sabes          cocinar papilla    para Simon
        you know.2p.sg.pres. cook.inf. baby food   for    Simon
        'You know how to cook baby food for Simon'

                                 [*para*-dative, Leo, 2;08, the FerFuLice corpus, CHILDES]

When a Spanish DA verb subcategorizes for a DO and an IO headed by the preposition '*a*' that, in turn, doubles a dative clitic '*le/les*' in gender, number and person features as well as in Case and theta role properties, these utterances have been codified as DCLDs. Given the free constituent order in Spanish, the order of the DO and the IO may be canonical (18a) or non-canonical (18b).

(18) a. Le        da           miedo   a    la   persona
        him.dat.cl. give.3p.sg.past   fear     to    the   person
        'He is afraid of the person'

                                 [canonical DCLD, Idaira, 4;07, the Marrero corpus, CHILDES]

     b. Le        voy         a    enseñar a papá cómo se       va
        him.dat.cl. go.1p.sg.pres. to    teach.inf to daddy how     se.pron.   go.3p.sg.pres.
        'I am going to tell him it'

                           [non-canonical DCLD, Juan, 2;03, the OreaPine corpus, CHILDES]

Other utterances have also been classified as DCLDs. They involve constructions in which the DO and the IO are pronominalized in accusative and in dative Case,

respectively, and the latter adopts a '*se*' form (19), along with utterances in which the IO is null (*e*) given its optional realization (20).

(19) Se     lo     voy     a     decir
     se.dat.cl.  it.acc.cl.  go.1p.sg.pres.  to   tell.inf.
     'I am going to tell him it'

                  [DCLD, Juan, 2;03, the OreaPine corpus, CHILDES]

(20) No le     dejo     las piezas  (*e*)
     not him.dat.cl.  leave.1p.sg.pres.  the pieces
     'I do not leave him the pieces (to him)'

                  [DCLD, Juan, 2;05, the OreaPine corpus, CHILDES]

Interrogative Spanish DA constructions (21) have been excluded from the data analysis since wh-movement might interfere with the issues under investigation, that is, whether DCLDs or *a/para*-datives are syntactically derived from one another, or whether they do not have a syntactic derivational relationship.

(21) ¿Qué$_i$ le     está     haciendo  *t*$_i$?
     what him.dat.cl.  be.3p.sg.pres.  doing
     'What is s/he doing (to him/her)?'

          [wh-interrogative DCLD, Simon, 4;09, the FerFuLice corpus, CHILDES]

We have also discarded (a) idiomatic DA constructions (22) since they do not present a productive language use; (b) declarative DA structures with a fronted DO (23); and (c) locative-mono-transitives where the A denotes location (24).

(22) La escoba  le     hizo     caso  (*e*)
     the brush    him.dat.cl.  make.3p.sg.past  case
     'The brush paid attention (to him)'

         [idiomatic DA structure, Toya (investigator), the Marrero corpus, CHILDES]

(23)  Cumpleaños  feliz    le        vas           a    decir   a    Mónica
      birthday           happy   him.dat.cl.  go.2p.sg.pres.   to   say.inf.   to   Mónica
      'Happy birthday, you are going to tell Mónica'

                                    [DCLD, fronted DO, father, the OreaPine corpus, CHILDES]

(24)  A    llevar    leña   a   mi   casa
      to    carry.inf.   wood   to   my   house
      'Let's carry wood to my house'

                                    [locative mono-transitive, Raquel, the FerFuLice corpus, CHILDES]


The production of Spanish DA has been analyzed longitudinally in the children's data, as distributed in eleven age stages that range from 1;07-1;11 (stage 1) to 6;07-6;11 (stage 11), as shown in Table 2. These developmental stages are divided into intervals of five and six months and have been established by taking into account the children's age range in the two language groups under investigation (namely, English-Spanish bilinguals and Spanish monolinguals).

Table 2.

Age stages for the study of Spanish dative alternation

| Stage | Age range | Stage | Age range |
|-------|-----------|-------|-----------|
| 1 | 1;07-1;11 | 7 | 4;07-4;11 |
| 2 | 2;00-2;06 | 8 | 5;00-5;06 |
| 3 | 2;07-2;11 | 9 | 5;07-5;11 |
| 4 | 3;00-3;06 | 10 | 6;00-6;06 |
| 5 | 3;07-3;11 | 11 | 6;07-6;11 |
| 6 | 4;00-4;06 | | |

Although the children's age ranges go from 0;11 to 6;11 in the two language groups, Spanish DA utterances have not been observed prior to stage 1, and thus, the ages preceding that stage have not been considered for analysis.

Along with the longitudinal production of DA, the present study also focuses on two further variables of analysis, namely, (a) the ages of onset, so as to examine whether the emergence of Spanish DA can shed light on their syntactic (non-)derivational status;

and (b) the adults' use of the constructions under investigation, in order to analyze the role it plays in the children's output.

## 4.4 Results

As shown in Table 3, DCLDs emerge earlier than *a/para*-datives, as seen in the English-Spanish bilingual children's data (i.e., DCLDs (mean age: 2;04) > *a/para*-datives (mean age: 2;07)) and in the Spanish monolingual children's data (i.e., DCLDs (mean age: 2;00) > *a/para*-datives (mean age: 2;04)).

Table 3.

Age of onset of Spanish dative alternation in English-Spanish bilinguals and in Spanish monolinguals

| English-Spanish bilinguals | | | Spanish monolinguals | | |
|---|---|---|---|---|---|
| Children | DCLDs | *a/para*-datives | Children | DCLDs | *a/para*-datives |
| Manuela | 2;00 | 2;02 | Koki | 1;07 | 2;05 |
| Simon | 2;01 | 2;11 | Irene | 1;09 | 2;02 |
| Leo | 2;05 | 2;11 | Emilio | 1;09 | 2;08 |
| Carla | 2;04 | 2;04 | Juan 1 | 1;10 | 2;01 |
| Alberto | 2;04 | - | María | 1;11 | 2;08 |
| John | 2;04 | - | Juan 2 | 2;04 | 4;08[2] |
| Antonio | 2;11 | - | Lucía | 2;02 | 2;02 |
| Sheila | - | - | Mendía | 2;01 | - |
| Diego | - | - | Idaira | 2;11 | - |
| **Mean** | **2;04** | **2;07** | **Mean** | **2;00** | **2;04** |

Nevertheless, statistically non-significant differences appear when comparing the mean ages of onset of the two Spanish DA constructions. In fact, as illustrated in Table 3, they begin to be produced at around the age of 2 in both the English-Spanish bilingual children's data ($t$ (5) = -2.029, $p$ = .135) and the Spanish monolingual children's data ($t$ (7) = .171, $p$ = .869). These rather similar emergence patterns also

---

[2] Juan 2's age of onset of *a/para*-datives deviates from the mean age of first occurrence of these constructions when compared to that of the overall monolingual Spanish children's data (SD = .77032, mean age = 2;08, N = 7). The normal distribution of the Spanish monolinguals' emergence of *a/para*-datives is assumed by excluding Juan 2's data (SD = .03141, mean age = 2;04, N = 6) when computing the mean age of onset of these constructions and when running comparative statistical analyses with the onset of DCLDs.

appear when the ages of onset of each structure are compared between the two target language groups ($U = 13.500$, $p = .054$ in DCLDs; $t$ (8) = -.852, $p = .419$ in *a/para*-datives).

With regards to the age range of onset, the English-Spanish bilingual children's emergence of DCLDs is found between 2;00 and 2;11 in DCLDs and that of *a/para*-datives appears between 2;02 and 2;11. As for Spanish monolingual children's data, the onset of DCLDs is observed from 1;07 to 2;11 and that of *a/para*-datives is reflected from 2;01 to 4;08.

As illustrated in Table 3, and as it appears in the English-Spanish bilingual children's order of emergence of Spanish DA, DCLDs start being produced earlier than *a/para*-datives, as observed in three out of the nine English-Spanish bilingual children's data, and a concurrent age of onset of the two constructions is reflected in the production of one English-Spanish bilingual child at 2;04. DCLDs are assumed to emerge earlier in three English-Spanish bilingual children's data since, given the data available in CHILDES, *a/para*-datives are not produced, and Spanish DA constructions are not observed in two English-Spanish bilingual children's data. In the case of the Spanish monolingual children's data, six out of the nine children begin to produce *a/para*-datives earlier than DCLDs and the two structures show a concurrent onset in the data from one Spanish monolingual child at 2;02.

The overall production of Spanish DA in the two target language groups is provided in Table 4. The production of DCLDs and *a/para*-datives is computed by considering the overall Spanish DA utterances (100%) in each language group for the children's output and for the adults' speech.

Table 4.

Spanish dative alternation structures in child and in adult bilingual and monolingual speech (# of cases (%))

| | | DCLDs | a/para-datives | Total |
|---|---|---|---|---|
| English-Spanish bilinguals | children | 235 (91.1) | 23 (8.9) | **258 (100)** |
| | adults | 2,716 (91.5) | 251 (8.5) | **2,967 (100)** |
| Spanish monolinguals | children | 775 (93.7) | 52 (6.3) | **827 (100)** |
| | adults | 4,279 (92.4) | 352 (7.6) | **4,631 (100)** |
| **Total (children)** | | **1,010 (93.1)** | **75 (6.9)** | **1,085 (100)** |
| **Total (adults)** | | **6,995 (92.1)** | **603 (7.9)** | **7,598 (100)** |

As shown in Table 4, the children and the adults reveal higher relative frequency rates in the use of DCLDs when compared to a/para-datives. This is equally reflected in the English-Spanish bilingual and in the Spanish monolingual children's data as well as in the adult input that the two language groups receive.

The production patterns in the order of use of Spanish DA are also observed through language development in the English-Spanish bilingual children's data ($t$ (8) = -3.873, $p$ = .004) and in the Spanish monolingual children's data ($z$ = -2.366, $p$ = .018).

As depicted in Figure 1, the English-Spanish bilingual children's use of DCLDs increases progressively from 2;00-2;06 (14 occurrences, 5.4%) to 3;07-3;11 (58 occurrences, 22.5%), stage at which DCLDs reach the highest rates of incidence. Despite the gradual decrease of DCLDs at 4;00-4;06 (31 occurrences, 12%), their production remains stable until 6;00-6;06 (39 occurrences, 15.1%). A sharp low use of DCLDs is reflected at 6;07-6;11 (1 occurrence, 0.4%). In the case of a/para-datives, English-Spanish bilingual children's use of these constructions remains low from 2;00-2;06 (5 occurrences, 1.9%) to 6;00-6;06 (5 occurrences, 1.9%).
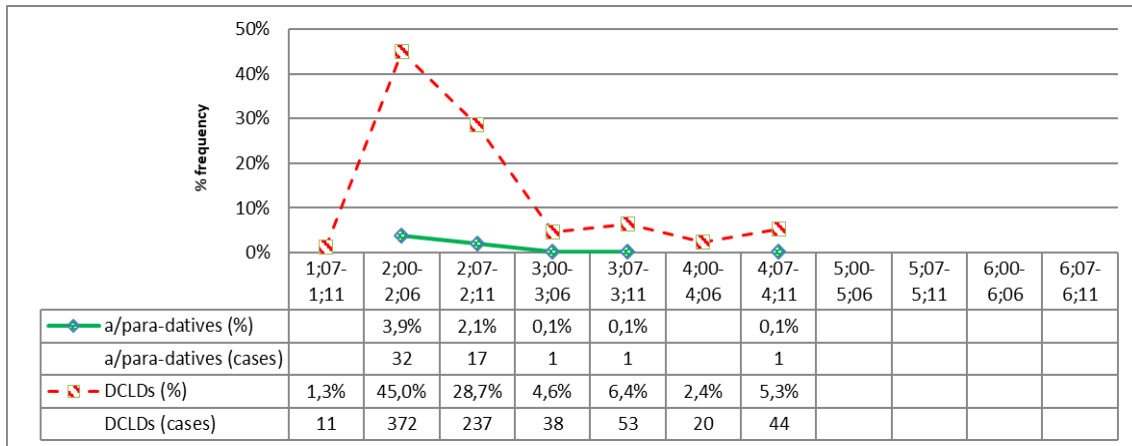
Figure 1.

English-Spanish bilingual children's production of Spanish dative alternation per age stages



| | 1;07-1;11 | 2;00-2;06 | 2;07-2;11 | 3;00-3;06 | 3;07-3;11 | 4;00-4;06 | 4;07-4;11 | 5;00-5;06 | 5;07-5;11 | 6;00-6;06 | 6;07-6;11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| a/para-datives (%) | | 1,9% | 1,6% | 0,8% | 0,4% | 0,4% | 0,4% | 0,8% | 0,8% | 1,9% | |
| a/para-datives (cases) | | 5 | 4 | 2 | 1 | 1 | 1 | 2 | 2 | 5 | |
| DCLDs (%) | | 5,4% | 3,5% | 4,3% | 22,5% | 12,0% | 5,4% | 13,6% | 8,9% | 15,1% | 0,4% |
| DCLDs (cases) | | 14 | 9 | 11 | 58 | 31 | 14 | 35 | 23 | 39 | 1 |

As for the Spanish monolingual children's data, the production of DCLDs increases from 1;07-1;11 (11 occurrences, 1.3%) to 2;00-2;06 (372 occurrences, 45%), stage from which the incidence of DCLDs begins to decrease between 2;07-2;11 (237 occurrences, 28.7%) and 4;07-4;11 (44 occurrences, 5.3%). By contrast, the relative frequency rates of *a/para*-datives are low and show a sharp decrease from 2;00-2;06 (32 occurrences, 3.9%) to 4;07-4;11 (1 occurrence, 0.1%).

Figure 2.

Spanish monolingual children's production of Spanish dative alternation per age stages



| | 1;07-1;11 | 2;00-2;06 | 2;07-2;11 | 3;00-3;06 | 3;07-3;11 | 4;00-4;06 | 4;07-4;11 | 5;00-5;06 | 5;07-5;11 | 6;00-6;06 | 6;07-6;11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| a/para-datives (%) | | 3,9% | 2,1% | 0,1% | 0,1% | | 0,1% | | | | |
| a/para-datives (cases) | | 32 | 17 | 1 | 1 | | 1 | | | | |
| DCLDs (%) | 1,3% | 45,0% | 28,7% | 4,6% | 6,4% | 2,4% | 5,3% | | | | |
| DCLDs (cases) | 11 | 372 | 237 | 38 | 53 | 20 | 44 | | | | |

The amount of exposure to Spanish DA in the adult input appears to show similar patterns in the children's output in the two language groups (i.e., English-Spanish bilingual children (Figure 3) and Spanish monolingual children (Figure 4)).

Figure 3.

The production of Spanish dative alternation in adult input and in English-Spanish bilinguals' output
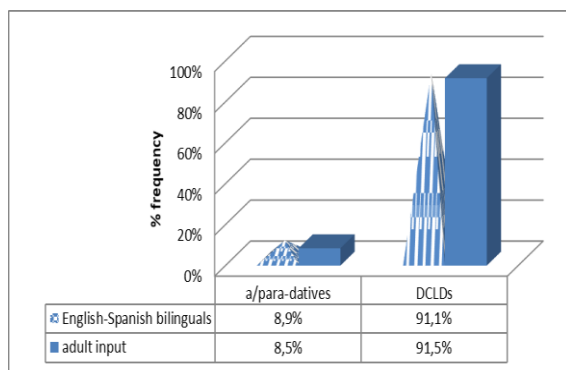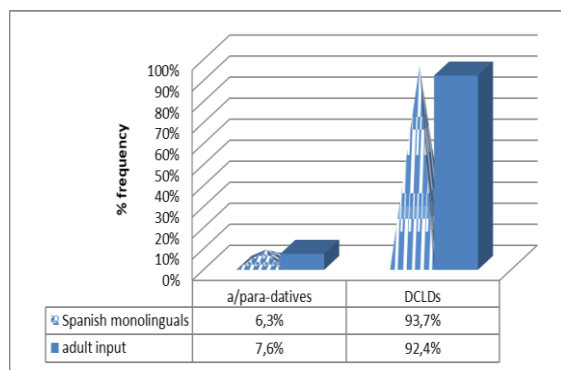
| | a/para-datives | DCLDs |
|---|---|---|
| English-Spanish bilinguals | 8,9% | 91,1% |
| adult input | 8,5% | 91,5% |

Figure 4.

The production of Spanish dative alternation in adult input and in monolinguals' output

| | a/para-datives | DCLDs |
|---|---|---|
| Spanish monolinguals | 6,3% | 93,7% |
| adult input | 7,6% | 92,4% |

As illustrated in Figure 3, adults prefer the use of DCLDs (2,716 occurrences, 91.5%) over *a/para*-datives (251 occurrences, 8.5%), and this preference is also observed in the English-Spanish bilingual children's output (235 DCLDs > 23 *a/para*-datives, 91.1% > 8.9%). Similar findings are reflected in the Spanish monolingual children's adult input (4,279 DCLDs > 352 *a/para*-datives, 92.4% > 7.6%) and output (775 DCLDs > 52 *a/para*-datives, 93.7% > 6.3%), as displayed in Figure 4.

## 5. Discussion

Considering the data analyzed above, and in response to RQ 1, the monolinguals' statistically non-significant differences in the onset of DCLDs and *a/para*-datives suggest that these children are building a shared non-derivational structure as complex predicates (Larson, 1988, 1990, 2014; Marantz, 1993) or as SC constructions (Aoun & Li, 1989; Den Dikken, 1995; Kayne, 1984). These results are consistent with Snyder and Stromswold's (1997) Property A of English DA, as per the Complex Predicate Parameter (Snyder, 1995, 2001).

An alternative explanation to the Spanish monolinguals' statistically non-significant differences in the emergence of Spanish DA could lie in the construction of two different underived representations, as argued by Cuervo (2003a, 2003b). More specifically, Cuervo proposes that the two structures differ in the status of the head projected, namely, a dative clitic in DCLDs and a verb in *a/para*-datives.

Although Spanish DA constructions emerge at around the age of 2, a delay in the onset is seen in the Spanish monolingual children's production of *a/para*-datives when compared to DCLDs. These findings are partially in line with Torrens and Wexler's (2000) analysis on the early emergence DCLDs, as reflected in the production of a Spanish monolingual child (María, the Ornat corpus, CHILDES). Therefore, the Spanish monolingual children's earlier onset of DCLDs seems to comply with the Full Competence Hypothesis (Poeppel & Wexler, 1993) in that dative clitics are present in the child's grammar from early on. However, the

data analysis is not in line with the study conducted by Ungureanu (2017) since the two Romanian monolingual boys reflect an earlier emergence of mono-transitives in which an accusative clitic is co-indexed with a null DO (i.e., the [-DOCD] option of the DOCD parameter), if compared to the emergence of mono-transitives in which an accusative clitic doubles a DO (i.e., the [+DOCD] option of the DOCD parameter).

What is more, the monolinguals' lower incidence of *a/para*-datives when compared to DCLDs, as distributed per age stages, appears to be consistent with the order of emergence of these constructions. Therefore, these data could be influenced by adult input factors, as will be discussed below.

English-Spanish bilinguals reflect analogous emergence and incidence patterns to those ones observed in the Spanish monolinguals' data. In the light of RQ 2, these findings suggest that English-Spanish bilingual children have acquired the syntactic non-derivational status that underlies DCLDs and *a/para*-datives. Furthermore, given the autonomous developmental path of Spanish DA, in line with the ADH, these results also reflect that crosslinguistic influence of the syntactic properties that relate the two English DA constructions (i.e., DOCs and *a/para*-datives) does not seem to have occurred in the English-Spanish bilingual children's acquisition of Spanish DA.

As for RQ 3, adult input appears to have played a role in the Spanish monolingual children's output (Campbell & Tomasello, 2001; Legate & Yang, 2002; Lust, 2006; Pullum & Scholz, 2002; Sampson, 2002; Sánchez Calderón & Fernández Fuertes, 2018; Sánchez Calderón & Fernández Fuertes, 2016; Sánchez Calderón, 2015; Yang, 2002, 2011, 2016). This is seen in the preference for DCLDs over *a/para*-datives in the adults' speech  as well as in the children's output. Analogous findings are observed in the English-Spanish bilingual children's data. This means that, in response to RQ 4, the amount of exposure to the two Spanish DA constructions in the adult input (namely, the higher relative frequency rates of

DCLDs when compared to *a/para*-datives) goes hand in hand with the English-Spanish bilingual children's output. Therefore, the dual exposure to two languages from birth via the one parent one language strategy (Ronjat, 1913) does not seem to have interfered in the production patterns of Spanish DA, as evidenced in the similar input-output patterns of these structures in their respective monolingual peers.

The findings reported in response to RQs 3 and 4 are in line with the usage-based (i.e., emergentist) theories of first language acquisition, assuming that English-Spanish bilingual and Spanish monolingual children's exposure to Spanish DA constructions from the adult input has been rich enough (that is, it has provided adequate evidence) in shaping the production and the development of the syntactic properties underlying and relating DCLDs and *a/para*-datives (Ellis, 2002; O' Grady, 2008; Reali & Christiansen, 2005; Robinson & Ellis, 2008; Tomasello, 2000; Zyzik, 2009; among others).

Therefore, these data do not seem to be in line with the nativist (i.e., universal grammar (UG) approach that lends support to the innate endowment of linguistic knowledge in boosting first language acquisition (Chomsky, 1965; Hawkins, 2001; Hornstein & Lightfoot, 1981; among others). Instead, as argued above, we consider that the acquisition of Spanish DA structures by the two target language groups mirrors adult input conditions. In other words, the nativist theories would claim that input alone is not enough for the English-Spanish bilingual children and for the Spanish monolingual children to infer the underlying grammatical properties of DCLDs and *a/para*-datives. That is, nativist models argue for the limited role that adult input plays in child language acquisition since, contrary to our findings, the frequency with which children hear Spanish DA constructions is not argued to be a variable that determines their acquisition.

## 6. Conclusions

In this study, we have analyzed the acquisition of Spanish DA constructions in the English-

Spanish bilingual children's data and in the Spanish monolingual children's data. More specifically, we have shed light on the syntactic derivational relationship (or lack thereof) between DCLDs and *a/para*-datives in view of the order of acquisition these structures present in acquisition data. We have also investigated whether, in the case of bilinguals, the status of the two Spanish DA constructions followins similar developmental patterns or whether they differ from the Spanish monolinguals' acquisition of Spanish DA. Furthermore, we examine the role played by adult input in the children's output in the two language groups under investigation and whether the simultaneous exposure to Spanish and English, in the case of bilinguals, influences the production patterns of Spanish DA.

Given the statistically non-significant differences in the emergence of DCLDs and *a/para*-datives, as reflected in both the Spanish monolinguals' data and the English-Spanish bilinguals' data, our findings point to the two Spanish DA structures not being derivationally related to one another.[3] Two possible explanations could argue for their syntactic non-derivational status, namely, DCLDs and *a/para*-datives could correspond to two different structures that differ in the status of the head projected (i.e., a verb in *a/para*-datives and a dative clitic in DCLDs), following Cuervo's (2003a, 2003b) proposal, or the two Spanish DA constructions could share an underlying complex predicate or SC structure, as argued by Snyder and Stromswold (1997) for English DA, as per the Complex Predicate Parameter (Snyder, 1995, 2001).

Additionally, and even if the two Spanish DA constructions start being produced at around the age of 2 in the two target language groups, the delay in the onset of *a/para*-datives when compared to DCLDs could be related to their relative frequency rates of exposure in the adult input (Campbell & Tomasello, 2001; Legate & Yang, 2002; Lust, 2006; among others). Thus,

---

[3] Recall that the ages of onset of Spanish DA have been used as a measure of grammatical competence in production data (as in Snyder & Stromswold, 1997).

these data seem to lend support to usage-based theories of first language acquisition (Ellis, 2002; O' Grady, 2008; Tomasello, 2000; among others).

All in all, the monolingual-like emergence and incidence patterns in the English-Spanish bilinguals' data reveal that their other language (i.e., English) does not seem to have caused a crosslinguistic influence when acquiring the syntactic non-derivational relationship that characterizes DCLDs and *a/para*-datives. Likewise, the simultaneous exposure to English and Spanish in the adult input does not appear to have interfered in the bilinguals' higher use of DCLDs when compared to *a/para*-datives, akin to their respective Spanish monolingual peers.

Some potential limitations of the study should be addressed. One of the main concerns about working with spontaneous production data is the extent to which they can actually represent a child's linguistic knowledge and, in our case, how they can shed light on the acquisition of Spanish DA by English-Spanish bilinguals and by Spanish monolinguals. That is, using spontaneous production data to examine the children's grammatical competence of the properties that relate DCLDs and *a/para*-datives poses some interpretation issues as to how and when the two target language groups have reached the necessary grammatical knowledge of Spanish DA. If DCLDs and/or *a/para*-datives have not been found in the transcripts recorded in CHILDES (MacWhinney, 2000), as it is the case of Alberto, Antonio, Diego, John and Sheila (in the English-Spanish bilingual corpora selected) as well as Idaira and Mendía (in the Spanish monolingual corpora selected), it is challenging to establish the source of the lack of production of one or both Spanish DA constructions. In other words, although spontaneous production data can shed light on the availability of syntactic structures in child language from early on, the nature of this data collection procedure cannot firmly determine whether the absence of a certain construction lies in the lack of grammatical competence, the low frequency of exposure to these structures in the adult input or, simply,

the lack of use in the sample examined. Experimental studies could further shed light on the English-Spanish bilinguals' and Spanish monolinguals' grammatical competence of Spanish DA with a bigger sample size of data and more participants.

We leave this study open to further research so as to examine whether the English-Spanish bilinguals' acquisition of the syntactic properties that relate English DA (i.e., DOCs and *to/for*-datives) follows analogous developmental paths to their corresponding English monolingual peers, or whether the syntactic non-derivational status of the two Spanish DA constructions plays a role in the acquisition of English DA (see Sánchez Calderón, 2015; Sánchez Calderón & Fernández Fuertes, 2016, 2018). Further research will also shed light on whether other factors, along with age of first occurrence of Spanish DA, are behind the acquisition of the syntactic non-derivational relationship between DCLDs and *a/para*-datives. For instance, semantic conditions (Romero Morales, 2008; Viau, 2007) or discourse factors such as the length or the nominal nature of the underlying argument structure of Spanish DA (Beck & Johnson, 2004; Snyder, 2001) are a pending issue to elucidate the effect they have on the acquisition of these structures. Moreover, we could extend this study to the acquisition of other related complex predicate constructions in Spanish (namely, resultatives, causatives, perceptual report and locatives) to explore whether these constructions, along with DCLDs and *a/para*-datives, are acquired as a package of complex predicates that share underlying grammatical properties, as per the Complex Predicate Parameter (Snyder, 2001).

## References

Álvarez de la Fuente, E. (2007). *Análisis lingüístico de la traducción natural: datos de producción de dos niños gemelos bilingües inglés/español.* PhD dissertation, University of Valladolid.

Anagnostopoulou, E. (2003). *The syntax of ditransitives: evidence from clitics.* Berlin and Boston: Mouton de Gruyter.

Anagnostopoulou, E. (2006). Clitic doubling. InM. Everaert & H. van Riemsdijk (Eds), *the blackwell bompanion to syntax* (pp. 519-581). Malden: Blackwell.

Aoun, J., & Li, Y. (1989). Scope and constituency. *Linguistic Inquiry*, 20, (2), 141-172.

Aranovich, R. (2011). *Optional agreement and grammatical functions: a corpus study of dative clitic doubling in Spanish.* PhD dissertation, University of Pittsburgh.

Beck, S., & Johnson, K. (2004). Double objects again. *Linguistic Inquiry*, 35 (1), 97-123.

Bergman, C. R. (1976). Interference *vs.* independent development in infant bilingualism. InG. D. Keller, R. V. T., & S. Viera (Eds), *bilingualism in the bicentennial and beyond* (pp. 86-95). New York: Bilingual Press.

Beavers, J., & Nishida, C. (2009). The Spanish dative alternation revisited. In S. Colina, A. Olarrea, & A. M. Carvalho (Eds), *romance linguistics: selected papers from the 39$^{th}$ linguistic symposium on romance languages (LSRL)* (pp. 217-230). Tucson: John Benjamins.

Bloom, L. (1993). *The transition from infancy to language: acquiring the power of expression.* Cambridge: Cambridge University Press.

Borer, H. (1984). *Parametric syntax: case studies in semitic and romance languages.* Berlin and Boston: De Gruyter Mouton.

Borer, H., & Wexler, K. (1987). The maturation of syntax: the role of maturation at the explanation of linguistic development. In T. Roeper, & E. Williams (Eds), *Parameter Setting* (pp. 123-172). Dordrecht: Reidel Publishing Company.

Brown, R. (1973). *A first language: the early stages.* Cambridge: Harvard University Press.

Bruhn de Garavito, J. L. S. (2000). *The syntax of Spanish multifunctional clitics and near-native competence.* PhD dissertation, McGill University.

Campbell, A. L. & Tomasello, M. (2001). The acquisition of English dative constructions. *Applied Psycholinguistics,* 22 (2), 253-267.

Chomsky, N. (1965). *Aspects of the theory of syntax.* Cambridge and London: MIT Press.

Chomsky, N. (1969). *Lingüística cartesiana.* Madrid: Gredos.

Clark, E. E. (2009). *First language acquisition.* Cambridge: Cambridge University Press.

Cuervo, M. C. 2003a. *Datives at large.* PhD dissertation, MIT.

Cuervo, M. C. 2003b. Structural asymmetries but same word order: the dative alternation in Spanish. In A. M. Di Sciullo (Ed), *asymmetry in grammar. Volume I: syntax and semantics* (pp. 117-144). Amsterdam and Philadelphia: John Benjamins.

Cuervo, M. C. (2007). Double objects in Spanish as a second language: acquisition of morpho-syntax and semantics. *Studies in Second Language Acquisition,* 29 (4), 583-615.

Czepluch, H. (1982). Case theory and the dative construction. *The Linguistic Review*, 2 (1), 1-38.

De Houwer, A. (2005). Early bilingual acquisition: focus on morphosyntax and the separate development hypothesis. In J. F. Kroll & A. M. B. De Groot (Eds), *The handbook of bilingualism* (pp. 30-48). Oxford: Oxford University Press.

Demonte, V. (1994). Datives in Spanish. *Working Papers in Linguistics,* 4 (1), 71-96.

Demonte, V. (1995). Dative alternation in Spanish. *Probus*, 7 (1), 5-30.

Den Dikken, M. (1995). Particles: on the syntax of verb-particle, triadic and causative constructions. In E. Koktová (Ed), *functions of language* 4 (2) (pp. 294-299). Amsterdam and Philadelphia: John Benjamins.

Dryer, M. S. (1986). Primary objects, secondary objects and antidative. *Language*, 62 (4), 808-845.

Ellis, N. C. (2002). Frequency effects in language processing. *Studies in Second Language Acquisition*, 24, 143-188.

Fernández Fuertes, R., & Álvarez de la Fuente, E. (2017). The acquisition of Spanish and English as two first languages through the analysis of natural interpreting in bilingual children. *Revista Española de Lingüística Aplicada (RESLA)*, 30 (1), 142-165.

Fernández Fuertes, R., & Liceras, J. M. (2010). Copula omission in the English developing grammar of English/Spanish children. *International Journal of Bilingual Education and Bilingualism*, 26, 252-551.

Fernández Fuertes, R., & Sánchez Calderón, S. Under review. The status of English dative alternation structures in bilingual and in monolingual acquisition data. *Linguistic Approaches to Bilingualism.*

Genesee, F. (2002). Rethinking bilingual acquisition. In J.-M. Dewaele, A. Housen & L. Wei (Eds), *bilingualism: challenges and directions for future research* (pp. 158-182). Clevedon: Multilingual Matters.

Genesee, F., Nicoladis, E., & Paradis, J. (1995). Language differentiation in early bilingual development. *Journal of Child Language*, 22 (3), 611-631.

Gleitman, L., & Newport, E. L. (1995). The invention of language by children: environmental and biological influences on the acquisition of language. In L. Gleitman & M. Liberman (Eds), *invitation to cognitive science* (pp. 1-24). Cambridge & London: MIT Press.

Gropen, J., Pinker, S., Hollander, M., Goldberg, R. & Wilson, R. (1989). The learnability and acquisition of the dative alternation in English. *Language*, 65, 203-257.

Gu, C. C. (2010). Cross-linguistic influence in two directions: the acquisition of dative constructions in Cantonese-English bilingual children. *International Journal of Bilingualism*, 17 (1), 87-103.

Haspelmath, M. (2006). Ditransitive constructions in RRG and some other approaches. Paper presented at the international conference on role and reference grammar. University of Leipzig, September 28-October 1.

Hawkins, R. (2001). The theoretical significance of Universal Grammar in second language acquisition. *Second Language Research*, 17, 345-367.

Hornstein, N., & Lightfoot, D. (1981). *Explanation in linguistics: the logical problem of language acquisition*. London: Longman.

Hurtado, A. (1984). On the properties of LF. *Cornell Working Papers in Linguistics*, 6, 121-150.

Hyams, N., & Wexler, K. (1993). On the grammatical basis of null subjects in child language. *Linguistic Inquiry*, 24, 421-459.

Hyams, N. (1996). The underspecification of functional categories in early grammar. In H. Clahsen (Ed), *Generative Perspectives on Language Acquisition* (pp. 91-128). Amsterdam: John Benjamins. Kayne, R. (1981). *Morphological theory*. Oxford Theory: Blackwell.

Kempchinsky, P. (2004). Romance SE as an aspectual element. In J. Auger, J. C Clements & B. Vance (Eds), *contemporary approaches to romance linguistics* (pp. 239-256). Amsterdam and Philadelphia: John Benjamins.

Koizumi, M. (1994). Nominative objects: the role of TP in Japanese. In M. Koizumi & H. Ura (Eds), *formal approaches to Japanese linguistics* 1 (pp. 211-230). MIT Working Papers in Linguistics.

Larson, R. K. (1988). On the double object construction. *Linguistic Inquiry,* 19, 335-391.

Larson, R. K. (1990). Double objects revisited: Reply to Jackendoff. *Linguistic Inquiry,* 21 (4), 589-632.

Larson, R. K. (2014). *On shell structure*. London: Routledge.

Legate, J. A., & Yang C. D. (2002). Empirical re-assessment of stimulus poverty arguments. *The Linguistic Review,* 19, 151-162.

Lust, B. (2006). *Child language: acquisition and growth.* Cambridge: Cambridge University Press.

MacWhinney, B. (2000). *The CHILDES project: tools for analyzing talk. 3rd Edition.* Hillsdale: Erlbaum. Available at: <http://childes.talkbank.org>. Accessed December 10, 2018.

Marantz, A. (1991). Case and licensing. In E. J. Reuland (Ed), *argument and case: explaining Burzio's generalization* (pp. 11-30). Amsterdam and Philadelphia: John Benjamins.

Marantz, A. (1993). Implications of asymmetries in double object constructions. In S. A. Mchombo (Ed), *theoretical aspects of Bantu grammar* (pp. 113-150). Stanford: Leland Stanford Junior University Press.

Meisel, M. (1989). Early differentiation of languages in bilingual children. In K. Hyltenstam & L. K. Obler (Eds), *bilingualism across the lifespan: aspects of acquisition, maturity and loss* (pp. 13-40). Cambridge: Cambridge University Press.

Meisel, J. M. (2001). The simultaneous acquisition of two first languages: early differentiation and subsequent development of grammars. In J. Cenoz & F. Genesee (Eds), *trends in bilingual acquisition* (pp. 11-41). Amsterdam and Philadelphia: John Benjamins.

Meisel, J. M. (2004). The bilingual child. In T. K. Bathia & William C. Ritchie, *the handbook of bilingualism* (pp. 91-113). Oxford: Blackwell.

O'Grady, W. 2008. Innateness, universal grammar, and emergentism. *Lingua*, 118, 620-631.

Paradis, J. (2001). Do bilingual two-year-olds have separate phonological system? *The International Journal of Bilingualism,* 5 (1), 19-38.

Paradis, J., & Genesee, F. (1996). Syntactic acquisition in bilingual children: autonomous or interdependent? *Studies in Second Language Acquisition*, 18, 1-25.

Paradis, J., & Navarro, S. (2003). Subject realization and cross-linguistic interference in the bilingual acquisition of Spanish and English: What is the role of the input? *Journal of Child Language*, 30, 371-393.

Patterson, J. L., & Pearson, B. Z. (2004). Bilingual lexical development: influences, contexts and processes. In B. A. Goldstein (Ed), *Bilingual Language Development and Disorders in Spanish-English Speakers* (pp. 77-104). Baltimore: Paul H. Brookes.

Perlmutter, D. M. (1980). Relational grammar. In E. Moravcsik & J. R. Wirth (Eds), *syntax and semantics: current approaches to syntax* 13 (pp. 195-229). Orlando: Academic Press.

Poeppel, D., & Wexler, K. (1993). The full competence hypothesis of clause structure in early German. *Language*, 69 (1), 1-33.

Polka, L., & Sundara, M. (2003). Word segmentation in monolingual and bilingual infant learners of English and French. In M. J. Solé (Ed), *Proceedings of the 15th international congress of phonetic sciences* (pp. 1021-1024). Barcelona: Universidad Autónoma de Barcelona.

Pullum, G. K., & Scholz, B. C. (2002). Empirical assessment of stimulus poverty arguments. *The Linguistic Review,* 19, 9-50.

Pylkkänen, L. (2002). *Introducing arguments*. PhD dissertation, MIT.

Reali, F., & Christiansen, M. (2005). Uncovering the richness of the stimulus: structure dependence and indirect statistical evidence. *Cognitive Science*, 29, 1007-1028.

Robinson, P., & Ellis, N. C. (2008). *Handbook of cognitive linguistics and second language acquisition*. New York: Routledge.

Romaine, S. (2004). Bilingual language development. In K. Trott, S. Dobbinson, & P. Griffiths (Eds), *The child language reader* (pp. 287-303). London: Routledge.

Ronjat, J. (1913). *Le développement du langage observé chez an enfant bilingue.* Paris: Librairie Ancienne H. Champion.

Romero Morales, C. (2008). *Los dativos en español* (c*uadernos de lengua española).* Madrid: Arco/Libros.

Rowland, C. (2014). *Understanding child language acquisition.* London: Routledge.

Sampson, G. (2002). Exploring the richness of the stimulus. *The Linguistic Review,* 19, 73-104.

Sánchez Calderón, S. (2015). Is there a difference between 'she gave a book to her daughter' and 'she gave her daughter a book'? English-Spanish bilingual children's acquisition of ditransitive constructions. *Procedia-Social and Behavioral Sciences*, 198, 409-416.

Sánchez Calderón, S. 2018. *The acquisition of English and Spanish dative alternation structures in the longitudinal spontaneous production of monolingual and bilingual children.* PhD dissertation, University of Valladolid.

Sánchez Calderón, S., & Fernández Fuertes, R. (2016). Dativizable or non-dativizable: that is the question? a syntactic-semantic analysis of English (non)-dativizable constructions in the production of a set of 2L1 English/Spanish simultaneous bilingual twins. *Xjenza Online-Journal of the Malta Chamber of Scientists*, 4, 44-58.

Sánchez Calderón, S., & Fernández Fuertes, F. (2018). Which came first: the chicken of the egg? ditransitive and passive constructions in the English production of simultaneous bilingual English children. *ATLANTIS. A Journal of the Spanish Association for Anglo-American Studies*, 40 (1), 39-58.

Snyder, W. (2001). On the nature of syntactic variation: evidence from complex predicates and complex word-formation. *Language,* 77, 324-342.

Snyder, W., & Stromswold, K. (1997). The structure and acquisition of English dative constructions. *Linguistic Inquiry,* 28 (2), 281.317.

Suñer, M. (1988). The role of agreement in clitic-doubled constructions. *Natural Language and Linguistic Theory,* 6, 391-434.

Tomasello, M. (2000). The item-based nature of children's early syntactic development. *Trends in Cognitive Sciences*, 4 (4), 156-163.

Torrens, V., & Wexler, K. (2000). The acquisition of clitic doubling in Spanish. In S. M. Powers & C. Hamann (Eds), *the acquisition of scrambling and cliticzation. studies in theoretical psycholinguistics* 26 (pp. 279-297). Dordrecht: Springer.

Ungureanu, M. L. (2017). L1 acquisition of direct object clitic doubling. *Linguistica Atlantica,* 36 (1), 15-29.

Viau, J. (2007) *Possession and spatial motion in the acquisition of ditransitives*. PhD dissertation, Northwestern University.

Vihman, M. M. (1996). *Phonological development.* Cambridge: Blackwell Publishers.

Yang, C. D. (2002). *Knowledge and learning in natural language.* Oxford: Oxford University Press.

Yang, C. D. (2011). "Computational models of syntactic acquisition." *WIREs Cognitive Science.* DOI: 10.1002/wcs.1154.

Yang, C. D. (2016). *The price of linguistic productivity: how children learn to break the rules of language.* Cambridge and London: MIT Press.

Yip, V., & Matthews, S. (2007). *The bilingual child: early development and language contact.* Cambridge: Cambridge University Press.

Zyzik, E. (2009). The role of input revisited: nativist versus usage-based models. *L2 Journal*, 1 (1), 42-61.