

Sign Language Acquisition¹

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1. Introduction

This article points out some researches on the field of language acquisition with children acquiring sign languages. Several studies produced until today have been focusing deaf children from deaf parents, once that in this context, the child is exposed to the suitable input for the language acquisition happens in a natural way, like it happens with hearing children when exposed to spoken languages. In this paper, some researches considering sign languages studies will be presented, such as, researches about the stages of language acquisition in children acquiring sign language and modality effects, the studies of sign language's syntax acquisition related to word order and verbal morphology.

1.1. *Sign language studies and language acquisition*

Sign language studies concerning the linguistic investigations present evidences that sign languages observe the same restrictions that are applied to spoken languages (Stokoe *et alli*, 1976; Bellugi & Klima, 1972; Siple, 1978). Almost in parallel to these studies, the researches about language acquisition process in deaf children of deaf adults have started (Hoffmeister, 1978; Meier, 1980; Loew, 1984; Lillo-Martin, 1986; Pettito, 1987; Slobin, 1986). In Brazil, Brazilian Sign Language started to be investigated on the endings of 1980's (Ferreira-Brito, 1986, 1995; Felipe, 1992) and the Brazilian Sign

1. This paper was translated to English by Saulo Xavier de Souza.

Language's acquisition studies started on the 1990's (Karnopp, 1994, 1999; Quadros, 1995, 1997).

The investigations sketched out till then indicate that the deaf children from deaf parents acquire their language in such a way very similar to children acquiring spoken languages. Thus, as we go forward on the studies, we verify that the child's grammar constitution not depends on the language and modalities variations in which the languages are presented (Quadros, in press; Lillo-Martin & Quadros, 2007).

Most of the linguistics scholars have been kept busy on identifying what is common between sign and spoken languages. They start from the concerning already suggested for the spoken languages and the linguistic universals that were also established from the studies with spoken languages and purpose analysis of sign languages. The investment on this investigative agenda was justified by the fact that on the 1960's there was an intense movement on the direction to "prove" that sign languages were, really, natural languages.

Nowadays, there are no doubts about the sign languages linguistic status. So, mainly from the 1990's, it has begun investigations with the intention to identify not only what was "equal," but also, what was "different" aiming to empower the present linguistic theories.

The question, which was before "How Linguistics applies itself to sign languages and sign languages acquisition studies?" started to be "How sign languages and the studies about sign languages acquisition process can contribute to the Linguistics studies?"

The change, which is apparently tenuous, opens new investigative ways in the field of Linguistics, seeking explanations to what is different between these modalities.

2. A brief overview about the studies of sign languages acquisition and the modality effects

The studies about the modality effects on the language acquisition take questions related to the usage of a visual-spatial language, instead of an oral-auditory language seeking for analysis of the development of the acquisition stages. Exemplifying this, Petitto (1987) argues that the deaf child produces gestures that differ from signs produced when they are about 14 months old, analyzing this gestural production as part of babbling. Petitto and Marantette (1991) observed in details of the establishment of this manual babbles, verifying the existence of a standard on the deaf babies

production which is analogous to the standards observed on the babies acquiring spoken languages. When they are about 14 months old, children start to produce the first signs.

The first signs combinations appear when deaf children are about two years old. Fischer (1973) and Hoffmeister (1978) considered that the order used by deaf children during this stage is SV, VO or, yet, in a subsequent period, the SVO word order. Meier (1980) verified that the word order is used for the establishment of the grammatical relations. The lack of the subject or object in some sentences produced by children may point out the marking icon (+) of the parameter *pro-drop* (Lillo-Martin, 1991; Quadros, 1995).

Meier (1980) noticed that, as like the Japanese or Croatian, not all the verbs of the American Sign Language (ASL) can vary by inflection to mark the grammatical relations in a sentence. There are verbs that present lexical and phonological limitations to incorporate the pronouns such as, for example, the verbs anchored in the body, like GOSTAR (*like*) and PENSAR (*think*) in Brazilian Sign Language (LSB). This suggests that deaf children should acquire two strategies to mark the grammatical relations: the pronouns and word order incorporation. The referents incorporation involves the verbal agreement and this last one depends directly on pronominal system's acquisition.

Petitto (1986) remarked that, about two years old, occurs "errors" of pronominal reversion, like it also occurs with hearing children. Children use the directional pointing for the interlocutor in reference to themselves. In principle, it causes certain surprise to evidence this kind of error in deaf children because of the apparent transparency between pointing form and its meaning. Following Petitto's analysis, this kind of error and the usage avoiding of pronouns from the previous stage are phenomena directly related to the language acquisition process. Moreover, the fact that sign languages are gesture and apparently more obvious in relation to the pointing, not interfere on the language acquisition, because the same effects observed on the pronominal acquisition in children acquiring spoken languages are also noticed in children acquiring sign languages. Petitto gets rid of the hypothesis of change of the point of view, because, in the case of sign languages, if this hypothesis was true, children should present errors in terms of all signs. For Petitto, the child uses the sign YOU as a frozen item, no-deictic, no-reciprocal and that refers only to her. Petitto (1987) also concluded that, in spite of the apparently relation between form and sense of the indication, the pronouns comprehension is not obvious for the child inside the ASL linguistic system, because they present multiple linguistic functions.

Hoffmeister (1978) observed that the pointing involves the pronominal system, the determinants and modifiers system, and the pluralizing and modulating systems of the verbal system. On the first combinations stage, Hoffmeister noticed that the objects are named and referred only in immediate context situations, and then children point to present referents.

From three years old on, children start to use the pronominal system with referents not-present on the discourse context, but present inconsistencies yet. Some children pile the not-present referents up in an only point at the space. Petitto & Bellugi (1988) perceived that, from three years to three years and a half old, children use the verbal agreement with present referents. However, they vary by inflecting some verbs whose inflection is not accepted in the sign languages. Bellugi & Klima (1990) identified this generalized inflection of the verbs in this period as “overgeneralizations,” considering this phenomenon analogous to verbal generalizations in other languages, such as ‘fazi’, ‘gosti’ and ‘sabo’ in Brazilian Portuguese. Meier (1980) detected this overgeneralization observing that, in this period, children use the verbs as belonging to a unique verbal class in American Sign Language—the class of agreement verbs, called by him as directional verbs. Lillo-Martin and Quadros (2006) observed similar examples both in LSB and ASL:

Ana 1:8

CHORAR<loc.coelho>

CRY <loc.bunny>

CHORAR<asp> CHORAR<loc.coelho> CHORAR<asp>

CRY <asp> CRY <loc.bunny> CRY <asp>

‘O coelho está realmente chorando muito’.

‘The bunny is crying so much, really’.

- In this example, Ana does the sign CHORAR (or *to cry*) in the bunny’s localization.

Jill 1:11

EAT<loc.DEB>

EAT<loc.Deb> PUT IN-MOUTH-DEB IX<Deb> PUT IN-MOUTH<asp>

‘You eat this! Put it in your mouth!’

- In this example, Jill does the sign EAT in the examiner’s mouth localization.

Lillo-Martin (1986) discusses some modality effects in the acquisition process, mainly in what refers to sign language iconicity. Actually, some signs and processes

in ASL have iconic motivation, presenting some relation between form and meaning, among the referent and referenced. Lillo-Martin (2002), when considers this discussion, analyzes this subsequent question: the modality somehow makes easy the language acquisition? The studies point that, despite of having an apparently iconicity in sign languages, the pronominal system acquisition and the verbal agreement present the same characteristics of the same linguistic aspects acquisition in the spoken languages, which is illustrated by studies mentioned until now. Lillo-Martin quotes Meier's (1980) conclusion that verses that modality doesn't make easy the verbal agreement system acquisition. Thus, considering deaf children acquiring a sign language with natural input, ASL acquisition seems to follow a direction linguistically similar to spoken languages development.

Lillo-Martin observed different aspects, as for the imitation as for the comprehension of the null arguments in the ASL by the child. First, children demonstrate to understand the optional usage of arguments and perceive the real syntactically statute of the null arguments in ASL. Considering the Principle of Extended Projection, if the primitive value of the parameter *for* [+null argument], then, children should have to analyze the input without arguments as input with null arguments (syntactic) in conformity to the principle. This acquaintance was explained by two manners: *a*) the drop of the pronouns and *b*) the pronouns and complete names addition when was used a null argument. Secondly, children revealed the acquaintance of the restrictions that determines when the null arguments can occur.

Other investigation focused in sign language acquisition studies is related to the existence of a critical period for the language acquisition proposed by Lennenberg (1967) based on children that were deprived of the access to language during this period, evidencing difficulties (and impossibilities) of language acquisition, especially, of the syntax (in terms of structure). On the specific case of sign language acquisition, it becomes important the analysis of the subsequent restrictions to this critical period, because of the incidence of Deaf-ones with late language acquisition. Singleton and Newport (2004) verified that deaf children exposed to ASL after 12 years old, in comparison to those ones exposed since the most tender age, presented difficulties in relation to some kinds of construction. Meier (2002) also observed that some investigations verified that verbal agreement acquisition, as also, other morphological aspects are subdued to the critical period.

Quadros, Cruz and Pizzio (2007) have done an experimental study to appraise the development of Deaf children/adolescents with different ages of access to sign language (input). They analyzed the language development in these Deaf children, con-

sidering the contexts of sign language acquisition; and they verified if the results of this research support the hypothesis of “impoverished input” and the hypothesis of “sensible/critical period”.

Both in the expressive language and in the comprehensive language, it has observed a meaningful difference between the group of children with precocious acquisition and late acquisition. The data evidence that children with late acquisition look like not acquiring more sophisticated language elements, whereas children with precocious acquisition acquire them. Thus, the data present evidences that indicate the existence of a critical period for the language acquisition. The exposition time to language is not sufficient to recover the lateness on the language development.

We’ve been seeing until here examples of researches about the structure and sign language acquisition, but, there is so much to be investigated yet. On the one hand, there is a concerning about the effects of the modality differences making sign languages studies been extremely relevant. On the other hand, the similarities found between the spoken languages and sign languages seem to point out the existence of linguistic system properties that transcend the languages modality. In this sense, sign languages studies have presented meaningful elements to confirm the principles that rule the human languages.

Next, it will be presented specific studies of syntax acquisition in sign languages focusing in sentence word order and verbal morphology acquisition with implications on the syntax.

2.1. *Sentence word order acquisition*

With regard to the sentence word order, the language acquisition studies indicate that this is acquired quite early with an incidence relatively short of errors, in front of the variation for the sentences ordering acquisition matter (Slobin, 1986). In the case of LSB acquisition, the Deaf-child is exposed to an input with varied orderings licensed by derivational processes. Moreover, the fact that this language presents a verbal asymmetry (simple verbs and non-simple verbs) determined by the difference on the verbal morphology with repercussions on the sentences ordering (Quadros, 1999), it also becomes interesting to perceive how this reflects in the acquisition.

As for the word ordering in LSB, the use of the canonical order is not consistent along the acquisition process. The data include the use of the canonical order and other possible orderings, that is, children use all the ordering licensed by the adult gram-

mar. This usage indicates that children seem to know what is the order used in their grammar and also which are the forms of license the turn of this order. The licensing comes to be by morphological conditions and, probably, by check-ups of marks in constructions more complex, such as the constructions with focus and topicalization.

According to Pizzio (2006), the total number of sentences with verbs produced by LEO, a deaf child with deaf parents, in the period from 1;8 to 2;6, was 711. From these, 380 (53,4 %) were produced with null arguments, what disqualified them for her analysis. Moreover, 11 occurrences (1,5 %) were of interrogative sentences, which were not analyzed as well. There were 320 occurrences (45,1 %) were leftover with at least one noun phrase pronounced to be analyzed. On table 1, the author presented the word order from the words found, in decreasing percentage order, as also, the number of occurrences of each one of them:

TABLE 1
Word order from the words found at LEO's production

<i>Order</i>	<i>Occurrence</i>	<i>Percentage</i>
VO	109	34
OV	70	21,9
SV	51	15,9
VS	26	8,1
SVO	20	6,3
OVO	20	6,3
VOV	9	2,8
SOV	4	1,3
SVS	4	1,3
VSO	2	0,6
OSVO	2	0,6
OVS	1	0,3
OSV	1	0,3
VOS	1	0,3

As it can be seen, the word order with the highest number of occurrences is the VO one, fact that combines with the basic order in LSB, that is, SVO, confirming the researches about this language word order (Quadros, 1999). The subject's omission in this stage is common and recovered by the context. The majority of the occurrences refers to the child himself. The occurrences with declared subject are not that frequent. Like reveals the table 1, in just 35 % of the word order from the words produced, the subject is declared, whereas that in the other 65 %, the subject is null. The SV sentences are also considered canonical, since, on LEO's data, 73 % of these occurrences were of verbs that did not need complement. Pichler (2001) also considers as canonical order, all of the SV occurrences in ASL, having or not the object present and VO, being the subject declared or not. Finally, if the orders SVO, SV and VO were considered together, LEO has produced 56,2 % of sentences in the LSB's canonical order. The following example illustrates each one of these orders:

LEO 2:1

a. SVO:

*LEO: IX<1> VER IX<filmador>

*LEO: IX<1> SEE IX<film-maker>

Eu vejo o filmador.

I see the film-maker.

LEO 2:4

b. SV:

*LEO: IX<nenê> CHORAR

*LEO: IX<baby> CRY

O nenê chora.

The baby cries.

LEO 1:8

c. VO:

*LEO: COMER <arroz>cl

*LEO: EAT <rice>cl

(Eu) comerei arroz.

(I) will eat rice.

Pizzio also observed that, just as in the research from Pichler, there are sentences with orders VS and OV, which are non-canonical orders, but grammatical in some contexts of the adult standard of LSB (in the presence of agreement, non-

manual marks, object shift, topicalization and in focus constructions). In such cases, the second more frequent word order was the OV, with 21,9 % of the analyzed verbs.

LEO: 2:4

OV:

*LEO: IX<brinquedo> VER

*LEO: IX<toy> SEE

(Eu) vejo o brinquedo

(I) see the toy.

If we consider also the OV occurrences with declared subject, we have the grammatical OSV and SOV increasing the percentage to 23,5 %.

LEO: 2:2

a. OSV:

*LEO: IX<pote> IX<I> QUERER

*LEO: IX<pot> IX<I> WANT

Eu quero o pote

I want the pot.

LEO: 1:11

b. SOV:

*LEO: IX<2> IX<bolinho> <TIRAR-BOLINHO-ESCUMADEIRA>cl

*LEO: IX<2> IX<appetizer> <TAKE OUT-APPETIZER-SKIMMER>cl

Tu tiras o bolinho com a escumadeira.

You take out the appetizer with the skimmer.

Pizzio (2006) noticed that these orderings are determined by the kind of verb produced. It's known that the object in a pre-verbal position occurs in the presence of agreeing verbs and non-manual markers. In such cases, the table below shows evidences of the kind of verbs produced with each order. It's important to mention that the non-manual markings are not being considered in this table. The item "gesture" refers to the cases in that LEO did not use the stipulated sign of the verb, but only a gesture.

TABLE 2
Distribution of word orders with different verb types

	<i>Simple</i>	<i>W/agreement</i>	<i>Spatial</i>	<i>Manual</i>	<i>Gesture</i>
OV	39 (55,7 %)	—	13 (18,6 %)	6 (8,6 %)	12 (17,1 %)
OSV	1 (100 %)	—	—	—	—
SOV	3 (75 %)	—	—	1 (25 %)	—

The data of this table display that it happened a major production of verbs without agreement, called “simple verbs”. This kind of verbs, together with the non-manual appropriate marking, can license the pre-verbal object in the cases of topic and focus.

The order VS was the fourth more produced order, with 8,1 % of the analyzed occurrences. Besides this one, two other orders present the subject on the final position of the sentence: SVS and VOS. By it, the total of occurrences with the subject on the final position of the sentence was of 10,7 %.

LEO: 1:9

a. VS:

*LEO: COMER ZECA

*LEO: EAT ZECA

O Zeca vai comer

Zeca will eat.

LEO: 2:4

b. SVS:

*LEO: MÃE DORMIR MÃE

*LEO: MOM SLEEP MOM

A mãe foi dormir.

Mom went to sleep.

LEO: 2:2

c. VOS:

*LEO: COMER IX<sacola> IX<1>

*LEO: EAT IX<bag>IX<1>

Eu vou comer o doce.

I will eat the candy.

Other possible ordering done by LEO, but with a short number of occurrences are VOV, OVO and OSVO. All of them present a duplicated element that can be cases of topic generated on the base or duplicated focus.

LEO: 1:8

a. VOV:

*LEO: COMER OVO COMER

*LEO: EAT EGG EAT

Eu vou comer ovo.

I will eat egg.

LEO: 1:9

b. OVO:

*LEO: IX<caixa> VER IX<caixa>

*LEO: IX<box> SEE IX<box>

Eu quero ver a caixa

I want to see the box.

LEO: 2:1

c. OSVO:

*LEO: TAMPA IX<1> locPEGAR1 TAMPA

*LEO: LID IX<1> locCATCH-UP1 LID

Eu vou pegar a tampa

I will catch up the lid.

It's possible to observe, then, that the basic word order acquisition in the LSB is established, as well as observed in other sign languages (Meier, 1980; Pichler, 2001), what corroborate the studies regarding the sentence word order in general. The other orderings seem to be derived from the order SVO.

2.2. Verbal morphology acquisition in Brazilian and American Sign Languages

Many studies have presented that the agreement acquisition in ASL and other sign languages is late. Meier (2002) presents a detailed analysis of the verbal agreement acquisition in ASL with the intention of present evidences for the linguistic status of agreement in sign languages. The author concluded that "agreement" is part of sign language morphology and is acquired by deaf children exposed to signs. Meier pres-

ents a series of arguments suggesting that the directionality is a linguistic phenomenon and it involves more than just an ability of pointing (as purposed by Liddell, 2000). Even if the agreement seems to be gestural, the integration of this gestural usage with verbs is linguistically determined. The directionality, then, is an agreement system manifestation.

Considering the acquisition in deaf children from deaf parents, in spite of the usage of the space for the agreement establishment looks like iconic, the researches evidence that there are differences between the verbal agreement and an iconic mapping of the relations.

Based on the longitudinal studies, Meier observed some mistakes on the deaf children's production typical to the flexional morphology acquisition process. In the midst of them, are detached these ones: (a) agreement omission (all omissions were with second and third persons); (b) agreement super-generalization observed in plain verbs; (c) agreement with the wrong argument. Such errors are contra-arguments for the hypotheses based on the iconicity.

Meier observed aspects related to the double agreement (with the subject and with the object): the usage of the double agreement presents an incidence meaningfully minor in relation to the singular agreement usage (from 32 % to 88 %). Children privilege the agreement with the object with the verbs that move themselves from the subject to the object, that is, tend to do the singular agreement (the omissions are more common with subjects [= 33] than with objects [= 4]). Then, it's possible to perceive that children are sensible to the fact that the agreement with the subject is not obligatory. This also can be used as a contra-argument for the hypotheses based on the iconicity.

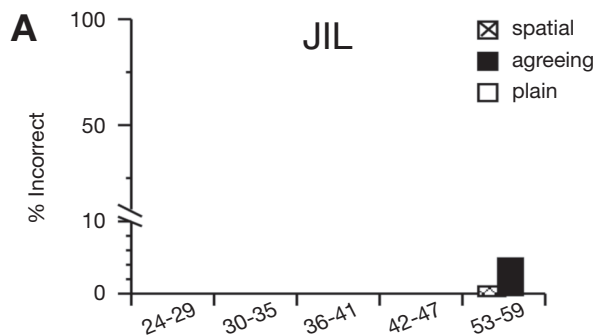
In sum, children need to learn which are the verbs that should agree and how they agree. It looks like children acquire the verbal agreement as a morphological system.

Besides Meier, Casey (2003), in the American Sign Language; Hänel (2005), in the German Sign Language; Morgan *et al.* (2006), in the British Sign Language, and Tang (2008), in the Hong-Kong Sign Language, also present similar results, that is, they found some exchanging errors and all of them pointed out an obligatory agreement omission until 3 years old.

Otherwise, Quadros, Lillo-Martin & Mathur (2001) & Quadros and Lillo-Martin (2007, in press) present contrary results: these authors observed the fewest exchanging 'errors' & some few (if they really occur) omission errors were noticed. Quadros & Lillo-Martin (2007, in press) perceived that the acquisition of these sign languages presents characteristics from *pro-drop* and non *pro-drop* languages, with agreeing and

simple verbs, respectively. For example, the usage of imperatives presents an incidence quite larger with agreeing verbs, in which is marked the *pro-drop* parameter, as also is observed in spoken languages, which marks the parameter in opposition to the languages that don't do it (Hyams and Salustri, 2007).

Besides those authors, Berk (2003) has done the Jill's transcription observing the agreement acquisition in six sections from 24 to 60 months old and observed the in-existence of agreement errors.



Thus, these following questions regarding the data found at sign languages acquisition process can emerge:

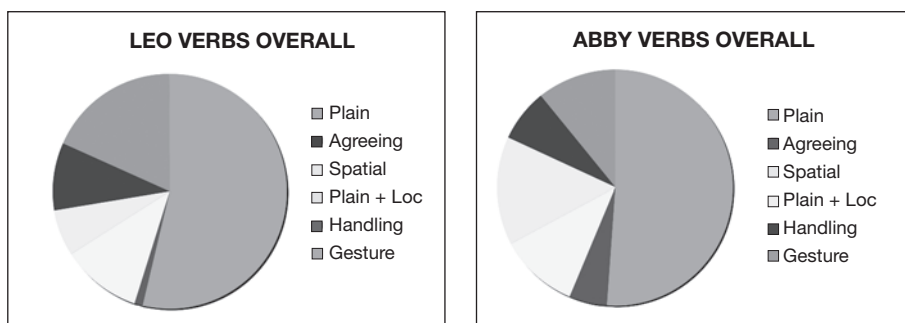
Why Quadros *et al.* and Berk almost did not find verbal agreement errors (omission or errors), whereas other researchers found other results? For the obligatory agreement, are there differences on the verbs classification or contexts?

Quadros and Lillo-Martin (2007, in press) have divided the data's analysis in three stages. On the first one, they observed the verbal categories used: plain verbs; transitive verbs with agreement, objects [+animated] (pronounced or recoverable) in the context; spatial verbs indicating the move's trajectory; plain verbs with optional locatives from the specified event; classifiers verbs (handling verbs) associated to locatives and, finally, gestures following Casey's discretions, 2003². Secondly, it was analyzed

2. Classifiers verbs, also called *handling verbs*, are those ones that incorporate an object or an action working as complete predicates, for example, in one single sign, the speaker says PUT IN-CAKE-OVEN using a classifier for the object and incorporating the movement associated to the verb PUT IN, besides the locative. These verbs also can present the information as in an aspectual way. The discretions for gestural classifying presented by Casey (2003) are: gestural production, including the actions properly experienced (open something up); moving an object that was in a trajectory; stretch the arms (or the arm) to ask something to ask anything or to reach something.

the agreement verbs distribution as to their sub-parts, that is, the usage of hand orientation and of the directionality and was observed also their semantic context (imperatives, requests and declarations). Lastly, it was scrutinized the adults production with the child (usually the mother) transcribed observing the same discretions established with children LEO (2:1) with 87 enunciations; and ABBY (2:0) with 78 enunciations.

On the first stage, it was perceived a plain verbs productivity quite higher than other kinds of verbs. The agreement verbs were infrequent, but correctly marked. The locative agreement was more productive with spatial verbs than with plain verbs. The results were consistent with Quadros *et al.* (2001).



Examples of inflected verbs in LSB acquisition production³:

LEO: VIR, PEGAR, COLOCAR, DAR, LEVAR, MORDER

LEO: TO COME, TO CATCH UP, TO GIVE, TO CARRY, TO BITE

LEO 2:1 GATO QUERER <le>MORDER<1> IX<1>

LEO 2:1: CAT TO WANT<him> TO BITE<1> IX

'O gato quis me morder'.

'The cat wanted to bite me'.

3. Signs are transcribed by using the glosses with Portuguese words in capital letters; it is also presented the Portuguese gloss, which not necessarily corresponds to the gloss in capital letters. This last one is an attempt of getting closer to the original in the own sign language. The marks <> are used to point out the index's reference (the pointing) and also to indicate the non-manual marking purpose through codes ('from' to 'eye direction'; 'mc' or 'hm' for head movement, etc.). The registers indicate the agreement that can be with the subject and with the object. When agreement with the locative occurs, it uses *loc* and the register. Numbers 1 and 2 indicate the first and the second person of the discourse, respectively.

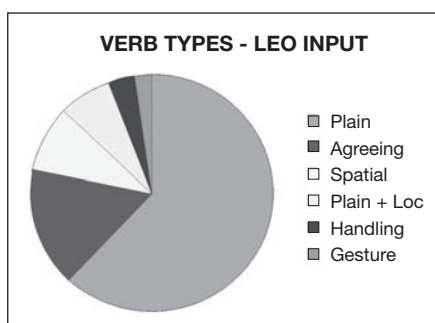
Examples of imperative/requests forms from ASL acquisition data:

ABBY: TO CATH UP, TO CHANGE, TO PUSH

ABBY 2:2: TO PUSH<imp>IX<toy>

‘Push the toy’.

Finally, it was analyzed the adults production interacting with children in two sessions of each child. It was observed that the kinds of verbs distribution in the input is very similar to children’s one, although the input presents less gestures and more agreeing verbs than children. Besides that, the data point out that the input presents imperative and requests forms with neutral or absent directionality, as well as observed in children’s production.



Examples of the input of verbs with neutral/reduced directionality in ASL acquisition:

ABBY 2:0

<Abby> GIVE<Bob>POSS<Bob>DRINK, <Abby> GIVE<Bob>PLEASE
YOUR DRINK<neutral> GIVE<Abby>
IX<Bob> <Bob> GIVE<Abby>IX<Abby>

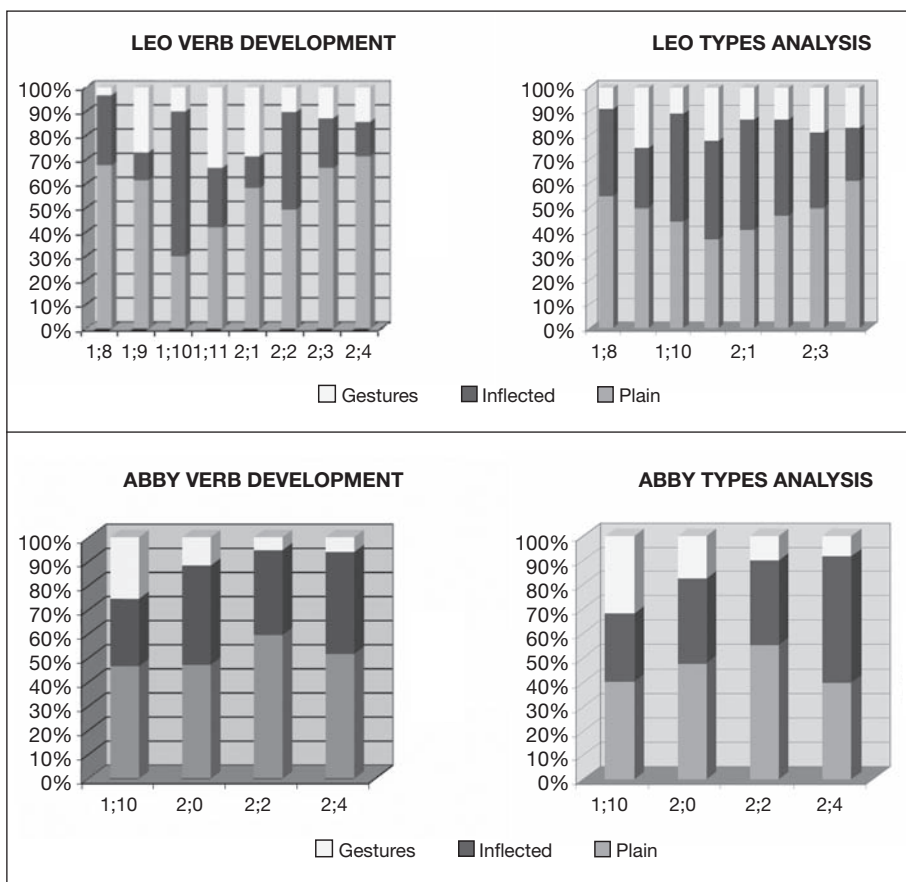
Another question that emerges from these analyses is the identification of when the agreement is obligatory. Some verbs can be used as just plain verbs or associated with location (*plain+loc*), like LEAVE, FALL, STAY in both LSB and ASL languages. The neutral or reduced forms are used in imperative contexts (and, maybe, in infinitives).

As for the verbal classification, children’s data offer evidences for the purpose that the verbs are classified in accordance with different factor in specific contexts or non-specific lexically.

Lastly, the results found at this research and at Quadros *et al.* differ from the results found at other researches, probably, because we could have used different discretions to classify the verbs; they analyzed the examples of verbs with neutral or reduced forms as imperative forms (and maybe infinitives) and they perceived the

correspondence between the eyes' direction and manual agreement with the objective and the location.

As for the productivity, it was verified that the types and tokens are similar as in LSB and ASL:



It was verified also that the agreement verbs (non-locative) were infrequent. However, from these reduced number, could we conclude that the agreement is not productive? The answer here is no, because there are evidences of productivity. The locative agreement was productive with lots of verbs and different referents, for example, verbs like *COME*, *PLAY*, *PUT IN*, *GO*, *CARRY*, *STAY* were pretty common to children's

productions. Besides that, non-agreement verbs (non-locatives) were used with different persons of the discourse, in spite of being produced with infrequency. See the examples, below:

ABBY 2:4

<1> GIVE<2> APPLE

DOLL<2>GIVE<1>

If children acquire the agreement through a part by part process (or *piecemeal*), they should learn isolated forms, not as part of a system of norms. This isn't the case of sign languages, once that the agreement forms cannot be listed. The usage of different locations of non-first person constitutes an evidence of productivity.

The morphological conditions are related to the kind of projections available when the verb is introduced in to the enumeration. The handling verbs are also treated like instances of classifiers, once that they involve complex predicates (the classifier can incorporate the verb, the subject and the object, besides it can also have aspectual inflexion); the verbs with aspect, probably, are associated with aspect checking in an independent aspect projection (see research about the aspect at the Brazilian Sign Language from Finau, 2004), and the spatial and agreeing verbs, are those ones that incorporate the locative or the subject and/or the object phrases. All of these verbs are examples of *heavy verbs*.

Quadros and Lillo-Martin (2007, in press) conclude that the differences in the results from other authors about verbal morphology acquisition link with the grammatical aspects precisely activated by children and that were not considered before for not being described yet. The data provides evidence for the fact that children already have the functional categories related to the verbal inflection.

3. Remarks and perspectives for sign language acquisition studies

The investigations accomplished along the last forty years aimed to analyze sign language acquisition in the context of the language acquisition studies. The study of sign languages has presented meaningful elements for the confirmation of the principles that rule the human languages. However, considering the possible modality effects of languages, it's verified that on the one hand, there are differences that, at least apparently, are unfamiliar to the conventional linguistics. In these terms, sign language

studies represent investigations extremely relevant for the progress of the linguistic theories. On the other hand, the similarities found between spoken and signed languages, as also, at the acquisition of both of them, seem to denote the existence of properties from the linguistic system that transcend the modality of these languages. Thus, in this paper, some researches that have been bringing evidences in this same direction were presented.

The results found at the studies of sign language acquisition contribute to the discussion of the interfaces between syntax and morphology through the language acquisition profile delineated in deaf children from deaf parents, as well, through the identification of some functional categories, favoring the continuative hypothesis of language acquisition studies.

The studies related to the critical period made possible an analysis about the impact of the input on the language development in deaf subjects from hearing parents. It was observed that the subjects exposed earlier to the LSB and with a consistent and lengthened input present a normal language acquisition process in sign language, but, otherwise, that subjects lately exposed, even in front of a consistent and lengthened input, present some deflections on the language consolidation (Quadros, Cruz & Pizzio, 2006). This favors the sensible period for language acquisition hypothesis, reinforcing that children are necessarily endowed with an inborn base that guides the language acquisition process.

Glancing over the 20 years of researches produced in this field, Lillo-Martin (2002) presents some perspectives for the development of investigations in the future, counting on with the more effective presence of deaf researchers. The comparative studies between the different sign languages, as also the researches having as their interlocutors the researchers from the language acquisition in general, seem to be important steps in the future for the community of investigations of sign languages acquisition, besides, of course, counting on with children acquiring sign languages.

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