Managing problems in acceptability in mother and child's talk

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Abstract

This study examines the linguistic and interactional organization of repair in Brazilian Portuguese playtime conversations between 6 mothers and their children (mean age 2.6). Following the interactional phonetics and the Conversation Analysis methodological approaches, this investigation focuses on how children and mothers negotiate the action done by the mother's lexical repetition used to initiate repair on the child's previous turn. The results suggest that the children's ability to understand mothers' lexical repetitions addressing pronunciation problems comes before the ability to understand repetitions that address problems of lexical choice.

Key words: Conversation Analysis, Interactional linguistics, mothers' repetition to initiate repair, mother-child interaction, and language acquisition.

1.0. Introduction

Traditionally, there has been a strong research focus on adult speech addressed to children. Early descriptions of 'baby talk' aimed to describe this particular speech register and whether it should be considered a universal phenomenon or not (Ferguson 1964). In these early descriptions, little consideration was given to the effects of this speech style on language development. It was only later, in response to Chomsky's innateness hypothesis (Chomsky & Morris 1965) that research into child directed speech was concerned with investigating the environment in which language acquisition takes place. This swift is documented by Snow (1994) and Pine (1994), who report the need to consider the interactive context of Child Direct Speech (CDS) if we are to understand exactly the feedback mothers' give to their children.

A motivation for research into language addressed to children has come from the 'no negative evidence' and learnability theory debate (e.g. Brown & Hanlon 1970;

Morgan et al. 1995), which concerns the sufficiency of mothers' feedback supplied in response to their children's ungrammatical productions. In itself, the point of interest in the literature is to study the child's ability to undergo correction. Some researchers (e.g Morgan & Travis 1989; Brown & Hanlon 1970; Morgan et al. 1995) have shown that children do not receive negative feedback following their grammatical utterances, while others have argued that, as a matter of fact, they do (e.g. Moerk 1991; Farrar 1992; Saxton 2000).

A wide range of distinctions has been drawn between the categories of feedback, on the basis of the lexical and grammatical relationship between the child and adult utterances. Brown and Bellugi (1964) propose that mothers may expand the children's prior turn. They show that an expansion maintains all the words of the child's utterance in the same order, while adding new words and morphemes to form a grammatically well-formed utterance. In contrast, Moerck (1974) defines expansion as a kind of corrective feedback that occurs after an incorrect or incomplete statement by the child.

Morgan et al. (1995) showed that recasts do not provide the negative evidence necessary to explain the production of correct utterances, whereas Farrar (1992) showed that Corrective Recasts elicited more use correct responses than Positive Input. With the same frame of mind, Nelson (1973) argued that recasts are valuable resources of input to language learners, given that they provide children with models that are contingent on their own speech and likely to serve as salient input for the children's language acquisition.

The studies described above make abundant the use of terms like feedback, input and stimulus; terms in which "implicitly present language development as a computational mental process of grammar deduction" (Tarplee 2010:4) which does not value an understanding of the adult-child talk which locates language development within social interaction. As a result, studies based on the theoretical models of learning and deduction may present the adult's contributions to an interactional adult-child interaction divorced from the interactional context in which it was embedded.

2.0. Giving feedback to children

Studies of adult-child discourse from theoretical models of deduction and

learning have tried to shed some light on the input and feedback children receive from adults. The former presented a one-way phenomenon that disregarded consecutive turns, while the later incorporated recognition of the two-way nature of the talk. Yet, this concept of feedback failed to describe the relationship between two (consecutive) turns (e.g. an adult's response to a prior child's turn) since its bounds were set at those two turns, which did not allow consideration of the part played by earlier and later turns, adjacent ones.

Next turn position has a special status in the analysis of the interpretation of the talk, as it is used by the mother to give feedback on the child's previous turn. The children from this study receive feedback on all their utterances, just as all of their mother's turns receive feedback on their utterances.

The talk is collaboratively constructed in a way that mother and child use the next turn to display to one another how the prior turn has been received and, most importantly, what was understood from it. In the case of the mother's repetitions, the next turn is used to make clear to the child and to the analyst what the intended action done by the repetition was. Additionally, it is used to display how the child understood the mother's repetition. Therefore, by looking at the children's response to their mother's turn, one can begin to uncover the sequential implication of the mother's turn in itself, and to build a picture of what kind of information children understand from what their mothers say.

3.0. Conversation analysis and error correction

The literature on child language acquisition has vastly discussed the phenomenon of 'error correction' and negative evidence in experimental studies (cf. Anselmi et al. 1986; Bohannon & Stanowicz 1988), in nativist and behaviourist studies (cf. Brown & Hanlon 1970; Chomsky 1959; Fester & Skinner 1957), in naturalistic studies (Saxton 2000).

In terms of its use as an interactional resource, error correction is also discussed in the Conversation Analysis literature where the error is to be understood as "deeply implicated in the competence required for and displayed in the interaction" (Jefferson 1974:199). This competence can be either linguistic (e.g. to produce utterances that are coherent grammatically) or interactional (e.g. to speak appropriately to some participant within some situation).

Error correction and its characteristics is also mentioned in Schegloff et al. (1977). In that study, the authors showed that the participants can take some "time out" from their interaction to address problems in hearing, speaking, and understanding. This kind of correction (referred to in their paper as 'repair initiation') moved the focus from the participants' competence to an approach in which the term 'repair initiation' is used to refer to any breakdowns in communication (e.g. problems in the production and reception of the talk-articulatory, memory, sequence, ambient noise, etc.), which also include error correction (Hall 2007; Svennevig 1999).

Repair practices do not address all the problems or divergences of understanding, and they rather focus only on the narrower domain of understanding something that someone has just said (Hall 2007; Kitzinger 2013; Kendrick 2015; Schegloff 2000; Schegloff et al. 1977). Due to their special role in talk, repair actions can supersede all other actions. This means that repair can "replace or defer whatever else was due next" (Schegloff, 2000:208) in the course of action, be it a next sound, a next turn in the sequence, etc.

When dealing with mother-child interaction, other-initiated repair is used as a device for dealing with those who are still learning or being taught to self-monitor and self-correct their own turn (Filipi 2009; Forrester 2008; Forrester 2015; Schegloff et al. 1977; Tarplee 1993; Tarplee 1996; Wootton 1994, among others). One reason for this is the assumed asymmetry in knowledge between the mothers and their children. In mother-child interaction it is normally the mother, the more competent speaker (and not the speaker of the troublesome turn), who initiates the repair (Laakso & Soininen 2010). According to this view, parents will make evident the inadequacies in the children's talk and initiate repair. The children may accept the mother's repair-initiation and repair their first saying, therefore maintaining intersubjective understanding (Schegloff 1992). When the troublesome source is not repaired, mother may pursue further repair or abandon it.

Tarplee (1993; 1996) investigated the interaction between caretaker and child during a picture-labeling activity and found that the child oriented to the phonetic features of the caretaker's repetitions. Features of pausing and pitch patterns are connected with the ways phonetic repair work is carried out in the interactions. Tarplee showed that the interactions between child and adult could be divided into two groups. The first group represents continued attempts by the child to name the picture, and it is characterised by temporally delayed utterances, produced with

different pitch pattern contours, and strongly contrasting articulations. The second group presents actions that lead to a continuation of the activity, and it is characterised by productions with no delay, and minimised contrastivity of pitch and articulation.

Research on repair in adult-children interaction points to its importance in the process of language acquisition, since parents provide their children with the corrective feedback that they will need to develop their communication skills (e.g. Filipi 2009; Forrester 2015; Laakso 2010; Tarplee 1996). However, as Svennevig (2008) shows, the 'canonical concept' of other-initiation of repair used to display a trouble in speaking, hearing and understanding, evokes a rather narrow conception of the nature of these 'problems' as being just a problem of misspeaking. The so-called 'problems' (Svennevig 2008) should also concern the various aspects involved when producing an utterance that is recognized as valid or felicitous social action in a given situation. Therefore, in addition to linguistic problems (vocabulary, pronunciation, syntax) the literature on repair should also address acceptability problems, such as saying that something is 'wrong' when it is not acceptable.

4.0. The current study

Breakdown in communication in mother-child conversations is no trivial matter. Nonetheless, mothers may notice that something is 'wrong' but still have a good enough understanding of what was said by the child to simply ignore it and allow the conversation to continue, just like in adult conversation (Schegloff et al., 1977, p. 380). An example of this is shown in extract 1. Here Mother and Child are playing with a bubble gun.

Extract 1 (cigu bolinha de sabão 0:10-0:20, boy; age 2;4)

```
01-M: como qui chama issu?
       how is this one called
02-C: é::
       uhm::
03-   (0.4)
04-C: /saˈbãw dzi bɔˈliɲa/
       soap bubble
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```
→05-M:/saˈbãw dzi bɔˈliɲa,/

       soap bubble ((meaning bubble))
06-    (0.6)
07-M:  servi
       it works
08-C: laughs
```

In line 01, Mother produces a test question to check if the child knows the name of what they are playing with. In response, Child produces sabão de bolinha (see line 04, saˈbãw dzi bɔˈliɲa). The word order of this turn does not conform to the rules of Brazilian Portuguese, in which the adjective follows the noun (bolinha de sabão would be the canonical form). Mother, however, repeats the child's 'wrong' turn in line 05 /saˈbãw dzi bɔˈliɲa/; one might say that she chooses to ignore the fact that the child has swapped the word order. However Mother's stance towards the mistake and her overt acceptance of what the child said with servi ('it works' see line 07). Here she displays to the child, and to us as analysts, that what has been said is 'good enough' on this particular occasion -- she announces "it works" and does not pursue any further repair of /saˈbãw dzi bɔˈliɲa/.

It can of course also happen that the mother may treat the child's prior turn as unacceptable; she must then determine how to address the problem (see, e.g. Corrin, 2010; Forrester, 2008; Laakso, 2010; Tarplee, 1996; Wells & Stackhouse, 2016). Ways of problematising a prior turn at talk, and initiating a sequence in which one or both (or all) participants work to resolve this problem, are collectively known as practices of repair (Schegloff et al, 1977). Such repair practices underlie the mother and child's capacity to talk together, act together and, most importantly, to understand each other (Clark, 1996).

Extract 2 is an example of mother's repetition used to initiate repair. In this interaction, Mother and Child are making different objects and animals using dough cutters. Here the mother's repetition appears to correct the child's phonetically immature form.

Extract 2 (thacarfantasma 13:06-13:43 girl; age 2;7)

```
01-C: vô ajudá a mamãe a fazê a /baˈpʰãnə/
```

I'm going to help mommy to make a ghost
02- (0,6)
→03-M: /fãˑˈtʰasm̥ə/

      Ghost

04-C: /βʰaˈˑpʰ̥am̥ə/

      Ghost
05- (6,7)
06-C: vô cotá a fita

      I'm going to cut the lace

At first sight, Mother's turn in line 03, /fãˑˈtʰasm̥ə/, seems not to restrict what may be a relevant next action for the child. Crucially for our analysis, however, the child treats Mother's repetition as an opportunity to work on her pronunciation: in line 04, she changes several aspects of her original production /βʰaˈpʰ̥am̥ə/. Here the most striking phonetic differences between the child's two utterances (the first one in line 01, /baˈpʰãnə/ and the second one in line 04, /βʰaˈpʰ̥am̥ə/) is the first syllable of /fãˑˈtʰasm̥ə/ (ghost). In the child's second version, instead of a voiced bilabial plosive [b] followed by an open front vowel [a] the child produces a voiced bilabial fricative [β] followed by a nasalised lengthened open front vowel [ã] and an alveolar nasal [n], which resembles much more the mother's first syllable [fãn] of the target turn (see line 07, [fãˑˈtʰasm̥ə] and see section 4.1 for further differences).

On other occasions, the mothers' repetitions may be treated as corrections of lexical choice (rather than corrections of pronunciation). In Extract 3, Mother and Child are pretending to be in a restaurant. The child is acting as a 'waitress' and she is explaining to her 'client' (mother) the special dishes of the day. The dishes are made out of play-dough and they are displayed on the table. The client is expected to select one of the dishes displayed.

Extract 3 (netneisabão 24:16-30:00, girl; age 2;4)

    01-M: Como qui chama [essa (unclear)?
          How is this unclear called?
    02-C: [é /saˈpõn/

                  It is soap

```
→      03-M: /sa'bãw/↑↓

            soap
04-C: xx
         (2.5)
05-M:((lau[ghs)) £ Eu naum comu sabão (.) você come?
              I don't eat soap  do you eat it?
06-C:     [a-
          [a-
```

There are clear differences between the child's pronunciation and the mother's repetition For example, the phonetic differences between the child's utterance (/sa'põn/-soap, see line 2) and the mother's repetition (/sa'bãw/ see line 3) lie on the second syllable of the word. The child produces a voiceless bilabial plosive /p/ followed by a nasalised close back vowel /õ/ and an alveolar nasal /n/; instead of the target pronunciation of a voiced bilabial plosive /b/ followed by a nasalised open front vowel /ã/ and a voiced labial-velar approximant /w/. However, Child does not attempt any re-doing (as seen in extract 2). In Mother's next utterance (line 05), we find further evidence that this turn is not designed to initiate repair on the child's pronunciation, but rather on the lexical choice of /sa'põn/ (soap), as Mother points out that soap is not something she would eat.

In this article, we document mothers' use of two phonetic practices used to differentiate repairs on children's turns that are initiated through lexical repetition; namely, correction of children's articulation and rise-fall (RF) intonation contours. With these practices, mothers convey to children that their prior talk is "wrong" and in need of correction. The mothers' repetitions locate the source of the trouble -- precisely the repeated word or words. However, unlike more generic practices of repair initiation that focus on problems of hearing and understanding (see Filipi, 2009; Rossi, 2015; Svennevig, 2008; Schegloff et al., 1977, Schegloff, 2000), these repetitions strongly delimit the nature of the trouble, as the problem is not hearing or understanding it, but accepting it. In this study, the mothers seem to hear and understand the referent of the word, since they do not initiate repair to solve these problems, but they do not accept the referent as the right answer, or a sensible/ possible contribution.

5.0. Methods

This analysis employs the methodology of Conversation Analysis/interactional linguistics (see e.g. Couper-Kuhlen & Ford, 2004; Couper-Kuhlen & Selting, 1996; Hakulinen & Selting, 2005; Local & G. Walker, 2004; Walker, 2014a,b; Wells & Stackhouse, 2016). The functional/sequential and the phonetic analysis will be carried out in tandem, not one after the other.

The data used in this study consist of audio recordings of one-hour playtime interactions between 5 normally developing children (mean age 2.6) and their mothers. All participants are native speakers of Brazilian Portuguese, and the interactions take place entirely in that language (although the mothers all speak English as an additional language). The recordings were made by the first author in the participants' own houses. Each interaction occurred during a half-hour of playtime. In total there were three meetings between the first author and the participants; the first to assess the child's lexical knowledge, and another two to collect data. Each meeting lasted for half-hour yielding a total of 25 interactions, 5 hours of recordings. In these meetings, the participants played with a variety of items provided by the researcher, as well as their own toys.

5.1. Mother's repetitions to correct the child's pronunciation

A repair sequence consists of a trouble source followed by a repair initiation and a repair solution (Schegloff et al., 1977). Repair initiators can take many forms, but in this study we focus only on mothers' repetitions of the child's prior turn, and furthermore, on those that initiate repair on either the form of the child's production (pronunciation) or on the lexical choice.

Early work on the other-initiation of repair in English proposed two formats of repair initiation involving repetition (Schegloff et al., 1977, pp. 367–368):

1. Partial repeat of the trouble-source turn.
2. Partial repeat of the trouble-source turn plus a question word;

Further studies on English interactions have largely confirmed this distinction, with minor adjustments to include also 'full lexical repeats of the trouble-source'

(Benjamin &Walker 2013; Curl, 2005; Kitzinger 2013; Schegloff 1997; Tarplee, 1996), so that it has become an established taxonomy of formats for other-repetition to initiate repair in English (for recent studies on repair see Benjamin & Walker, 2013; Dingemanse, et al., 2016; Kitzinger, 2013, Fox et al., 2012). The data in our study consists of partial repeats (e.g. Extracts 2 and 3) and full repeats (e.g. Extracts 4, 7 and 8) of the trouble source turn. Due to this study's exploratory purpose no distinction was made between partial and full repeats, as its main goal was to build a picture of what kind of information children understand from what their mothers lexical repetitions in Brazilian Portuguese.

The repair sequences in our collection have the following properties:

- They were initiated by the mothers.
- They are lexical repetitions of the children's talk (other-repetitions).[SEP]
- They are positioned immediately after the child's turn[SEP]
- They have the same syntactic properties (e.g. verbs that we repeated using a different conjugation were excluded from the collection used in this study)

In total we collected 25 instances, of which 12% initiate repair on the child's pronunciation and 88% initiate repair on the child's lexical choice.

The transcription conventions were based on Wilkinson & Beeke (2012) where some phonetic and prosodic symbols are used together with the already established Jeffersonian system as a tool to depict the actions done by the mother's repetitions to initiate repair for form from repetitions that are used to initiate repair on the child's lexical choice.

6.0. Analysis

This section explains the interactional and phonetic differences between the mother's repetitions to initiate repair for form and repair for lexical choice. Here we will explain these differences by taking into consideration the importance of the next turn in correcting the child's pronunciation (repetitions to initiate repair on the child's form, see 4.1) and the child's lexical choice (repetitions to initiate repair on the

child's lexical choice, see 4.2). The differences in actions done by each mother's repetition and how mother and child negotiate their meaning will be the focus of these sections. Finally, we will distinguish phonetically the mother's repetitions to initiate repair for form from the ones used to initiate repair for lexical choice.

6.1. Mother's repetitions to correct the child's pronunciation

As mentioned, mothers may initiate repair to correct the child's pronunciation. Extract 4 (an extended version of Extract 2) provides an example of this kind of correction.

Extract 4 (thacarfantasma 13:06-13:43, girl; age 2;7)

```
01-M: vô fazê di brancu
      I'm going to make it white
02-   (1,9)
03-C: é
      Yes
04-   (0,3)
05-C: vô ajudá a mamãe a fazê /baˈpʰãnə/
      I'm going to help mommy to make a ghost
06-   (0,6)
→07-M: /fãnˈtʰasmə/
      Ghost
08-C: /βʰãˈpʰamə/
      Ghost
09-   (6,7)
10-C: vô cotá a fita
      I'm going to cut the lace
```

In the extract above, the mother's repetition (line 07, /fãnˈtʰasmə/ is used to, at the same time, initiate repair and model the repair the child should provide of the prior troublesome turn (line 05, /baˈpʰãnə/). In this example both participants (especially the child) seem to display a shared understanding of the action done in the mother's prior turn (line 07, /fãnˈtʰasmə/). Here the mother's repetition (line 07, /fãnˈtʰasmə/) prompts self-repair from the child. In another words, the mother's repair-

initiating turn is used to take some time off from the conversation to deal with the child's pronunciation problem before continuing with their interaction. The mother's repair initiation aims to pursue and establish a joint project (joint action), which will allow them (mother and child) to work together on the child's pronunciation problems. The establishment of a collaborative joint action between mother and child is made evident when the mother proposes a repair solution simultaneously in her repair initiation (see line 07, /fãːˈtʰasm̩ə/). This combination of initiation and solution prompts the child's second trial at pronouncing the troublesome turn (see line 08, /βʰãːˈpʰam̩ə/.The child's second trial is approved and accepted by mother as evidenced by the fact that no further correction is pursued (see line 09) and a new topic of interaction is initiated.

In Extract 4, the most prominent phonetic differences between the child's two utterances (the first one in line 05, /baˈpʰãnə/ and the second one in line 08, /βʰãːˈpʰam̩ə/ is the first syllable of fantasma (ghost). In the child's second version, instead of a voiced bilabial plosive /b/ followed by an open front vowel /a/ the child produces a voiced bilabial fricative /β/ followed by a nasal open front vowel /ã/ and an alveolar nasal /n/. This more closely matches the mother's first syllable /fãn/ -- only the place of the initial fricative is different, whereas in the child's first production both the place and manner of articulation of this consonant differed from the target. Additionally, the child lengthens the first syllable, to detach the troublesome syllable from the rest of the word as the mother did in her combination of initiation and solution (see lines 07, /fãːˈtʰasm̩ə/ and 08 /βʰãːˈpʰam̩ə/. The second version also comes to line with the adult's on the last syllable of the word /m̩ə/, by having a voiced bilabial nasal /m/ followed by a central close-mid vowel /ə/ in place of an alveolar nasal /n/ followed by a central close-mid vowel /ə/.

In terms of intonation, the mother produces this repetition with a different pitch pattern and longer duration than the child's troublesome turn (see Figures 1 and 2).
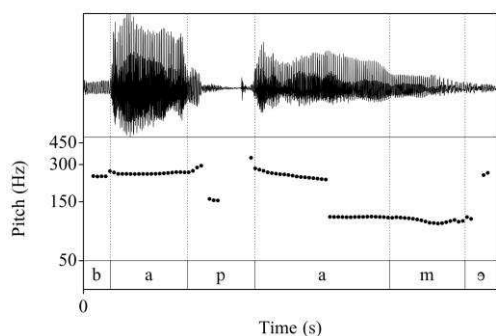
Figure 1: Pitch pattern of the child's troublesome turn.

The child, instead, relatively[1] matches the pitch pattern of her repair solution (second version) with the pitch pattern of the mother's repetition (see Figures 2 and 3). The mother's pitch rises 9 semitones (ST)[2] over the stressed syllable [fãn]. A similar rise can be seen in the child's second version, where the pitch rises 4 ST over the stressed syllable [βʰã]. Here the relative pitch matching is used to align with the action in progress, in agreement with Wells (2010) and Wells & Stackhouse (2016)'s findings for English children.
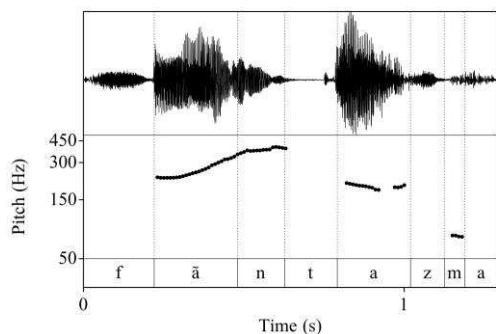

Figure 2: Pitch pattern of the mother's reparative repetition to correct the child's pronunciation.

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[1] Speakers can match their tones relatively when they use similar pitch levels but relative to their respective voice range (see Couper-Kuhlen, 1996).

[2] Semitones (ST) provide a perceptually more appropriate representation of pitch than Hertz when dealing with conversation (see Couper-Kuhlen, 1996; Nolan, 2003): 12ST _ 1 octave.
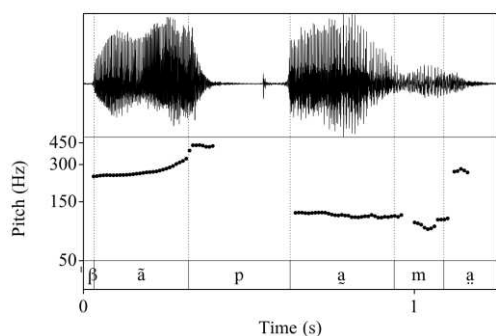
Figure 3: Child's repair solution matching the contour of the mother's reparative repetition.

As is shown in this example, the child's second version (the repair solution) at segmental and intonational levels is accepted by the mother who chooses not to pursue further correction in line 09 which entitles the beginning of a new action.

Extract 5 is another example of an other-initiation of repair using repetition to correct the child's pronunciation. Here the mother and child are colouring together a colouring book from the Backyardigans (a TV series for children). At a certain point the mother stops colouring and asks her daughter to label the characters printed on the page.

Extract 5 (thacarbackyardigans 0:20-0:30, girl; age 2;7)

```
01-M:      i::ssu: (.) i essi
           correct and this one
02-        (1,1)
03-C:      ehm::: num sei
                  Uhm
           I don't know
04-M:      u: /ˈa̠w/
           the au (first syllable of Austin)
05-C:      u:/ˈaːw/
           the au (first syllable of Austin)
06-        (0.6)
07-M:      /ˈawstʃin/
           Austin
08-C:      /ˈa̠ntʃ/
           Austin
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```
→09-M:        /ˈaw̥stʃin/
              Austin
10-C: /ˈã̰ʷtʃi/ (fu(h)n)
      Austin
11-M: I:::ssu::=
      That's right
12-M:  =vamu vê u qui teim dentru
       let's see what there is inside
```

The example above (Extract 5) differs from the previous example (Extract 4) because the mother overtly models the correct pronunciation before the child makes an attempt. In line 3 "ehm::: num sei") Child displays in their response not to know how to label the character the mother is pointing to. After the child has explicitly said that she does not know the character's name, mother hints the character's name by saying the first syllable of it (see line 04, /ˈa̰w/). In response to the mother's hint the child repeats the mother's prior turn. Here she articulates the segments and intonation of her turn to match the mother's prior turn (see below). As a consequence mother seems to understand these phonetic and prosodic similarities as indexing that the child knows the preferred action to do next: to say the character's name. However, since the child does not provide the characters name in line 06, mother models the correct answer in line 07 (/ˈawstʃin/). As in any learning interaction, the child takes this opportunity as a chance to practice the new word learned. However, the child's repetition of the mother's prior turn (see line 08, /ˈã̰ntʃ/) is mispronounced when compared to the mother's articulation. Consequently, mother initiates repair and models once more the correct response. The child has another go at articulating the troublesome turn (see line10, /ˈã̰ʷtʃi/). In the child's second version, instead of a nasal open front vowel /ã/ followed by a voiced alveolar nasal /n/ the child produces a labialized nasal open front vowel / ã̰ʷ/ followed by a palatalized voiceless alveolar affricate /tʃ/, which resembles more closely the mother's repetition. This resemblance enables the closure of the repair sequence with the mother's validation of the child's correct response (see line 11, *issu* 'that's right'). Finally, a new topic

and sequence of interaction can start (see line 12 *vamu vê u qui teim dentru 'let's see what there is inside'*).

Additionally, the child relatively matches the pitch pattern of her mother's prior turn (see lines 05 and 06). The mother's pitch rises 14 ST over the first syllable /u̯ˈa̯w/. A similar rise can be seen on the child's second version, where the pitch rises 11 semitones (ST) over the first syllable /ˈaːw/. Here, by relatively matching her pitch pattern with her mother's prior turn pitch pattern, the child displays alignment with the action proposed by her mother (see Figures 4 and 5). The mother treats this alignment as a signal that the child had understood and joined the joint project (labelling the character) proposed by her test question at the beginning of the talk (see line 1, "i:ssu: (.) i essi").
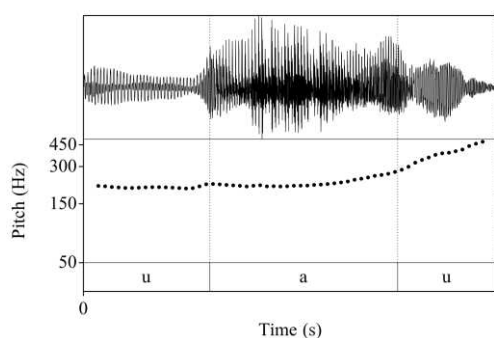

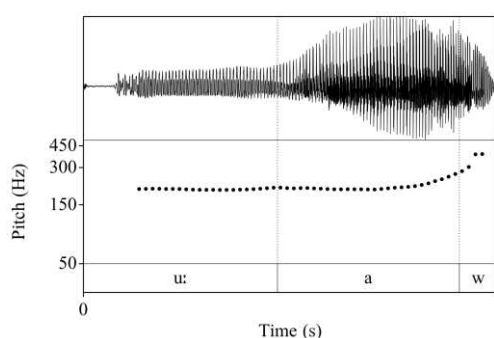Figure 4: Mother's pitch pattern of the first syllable of Austin.

Figure 5: Child's relative pitch match with the mother's prior turn.

In fact, the child's repetition and prosodic alignment on the first syllable of the word could have been understood by the mother as a display of understanding and knowing the answer to line 1. Yet, as the child passed her turn (see line 06), mother opts to model the correct response (see line 07, (/ˈawstʃin/). Similar to Extract 5, the

child does the repetition in line 08 (/ˈãntʃ/) following the mother's model. Yet, its pronunciation is not correct. Therefore, the mother pursues the full name /ˈaw̥stʃin̥/ (see line 9).
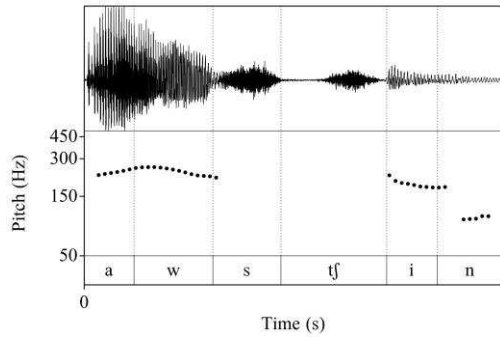

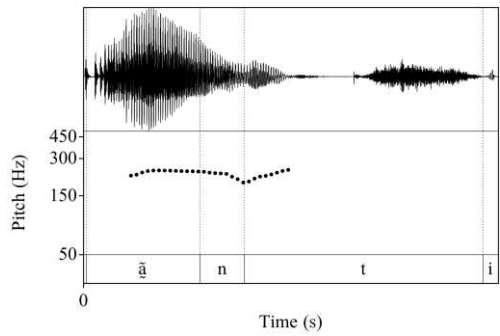Figure 6: Pitch pattern of the Mother's model

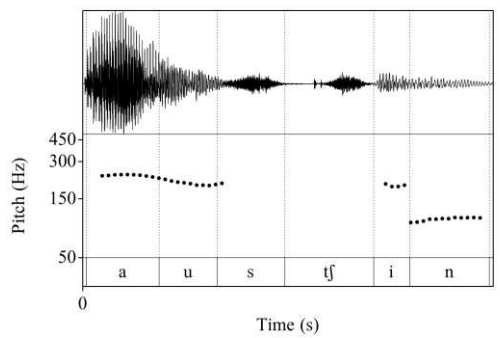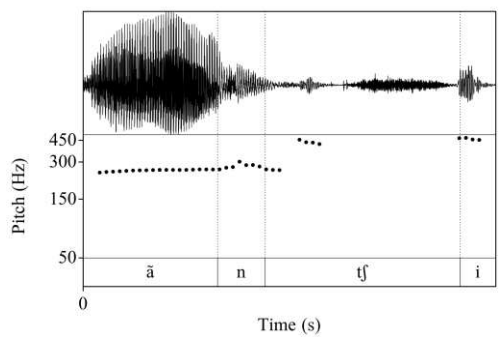Figure 7: Pitch pattern of the Child's troublesome turn.

Figure 8: Mother's pitch pattern to correct the child's   Figure 9: Pitch pattern of the child's repair solution
(child's second   pronunciation.   version).

In terms of intonation, the mother produces the reparative repetition with a different pitch pattern and longer duration than the child's troublesome turn (see Figures 6 and 7).

In the repair solution (child's second version) the child, in contrast to Extract 5, does not match the pitch pattern of her second version with the pitch pattern of the mother's repetition (see Figures 7 and 8). Yet, the mother accepts the child's answer as correct (see line 11, "issu") and starts a new action. These results might suggest that the child being able to pronounce the syllables of the word more similarly to the adult form is more important than being able to match the mother's pitch pattern. More studies need to be done, with more participants, to confirm this trend.

In summary, the mother produces a repetition with the first syllable lengthened and detached from the rest of the word and with different pitch patterns from the ones found on the child's troublesome turn to initiate repair on the children's pronunciation. In this case intonation (pitch matching) is used as an extra cue to help the children to display their alignment with the actions proposed by their mothers.

6.2. Mother's repetitions to correct the child's lexical choice

Repetitions can also be used to prompt the child to correct his/her lexical choice. In this study the vast majority (88%) of the mother's repair initiations have this function, rather than correcting pronunciation. Extract 06 is an example of this kind of repair initiation. Here, Mother and Child are engaged in a picture labelling activity in which Chid is asked to label some Disney characters stamped on the gift wrap Mother is holding.

Extract 6 (caenetamarelo 13:06-13:43, boy; age 2;6)

```
01-M: u mi::ckey[(.) I qui cor é essa embalagem?
      Mickey        and what colour is this gift wrap?
02-C:           [fa-
03-   (1,0)
04-C: erm::
```

```
         ehm::
05-   (1,2)
06-C: Mickey
         It's Mickey
07-M: Naum é u mickey=
         It is not Mickey
08-M: =I essa que cor que é essa
         And this what colour is it
09-C: /ma̰ˈɛɫa/

         yellow
→10-M: /amaˈrɛɫə/

         yellow
11-   (0,9)
12-C: <<creaky>> é

                 yes
13-M: Ah: num é amarela[ nada (.)  qui cor qui é?
         Oh  it  is not yellow (.)  what colour is it
14-C:                     [laughts--
15-   (2,1)
```

Here mother and child are involved in a picture-labelling activity in which the child needs to label and describe the Disney character printed on the gift-bag they have received from the first author. Before this interaction started the child had already labelled correctly the character (Mickey Mouse) printed on the bag. Mother validates the child's correct response in line 01 (`u mi::ckey[(.) I qui cor é essa embalagem?`), and starts a new answer-question sequence. However, the child fails to give the correct response as she repeats the name of the character instead of saying the colour of the gift-wrap (see line 06 `Mickey`). Consequently, mother initiates an explicit repair to correct the child's troublesome turn (see line 07 `Naum é u mickey`). The child provides a repair solution that, at first glance (see line 9 /ma̰ˈɛɫa/), could be correct. However, the colour of the gift-wrap is blue and not yellow. Thus, the mother repeats the child's troublesome turn to correct the child's lexical choice.

This repetition is done with a Rise-Fall (RF) pitch pattern (see line 10, /amaˈrɛɫə/), rising 11 ST over the lengthened stressed syllable and falling 11 ST (see fig. 9).

The child, by providing a confirmation (see line 12, "é"), can be said to treat the mother's repetition as a confirmation of what the child said (see line 09, /amaˈrɛɬə/), but it is clear from the context and the following talk (see line 13, "Ah: num é amarela nada") that the mother's repetition was designed to correct the child's lexical choice. In fact, in line 13 the mother does an explicit post-expansion to initiate repair ("Ah: num é amarela nada") to make clear to the child that her repetition did not aim to confirm the child's prior turn, but it aimed to prompt self-correction from the child. Here, the child was expected to say the correct colour, which is not amarela (yellow) but blue. However, the child seems to fail to understand the action proposed by her mother's repetition, as she laughs on the next turn (line 09) to fill in her turn (see Walker, 2017). Another possible interpretation to child's confirmation (see line 12) is that Child is playing a game in which they provide the wrong colour just to be naughty. In turn 10 the mother chooses not to pursue further correction of the child's lexical choice.

Figure 10: Mother's pitch pattern of her other-initiated repetition to correct the child's lexical choice (amarelo).

Another example of mother's repetition is given in Extract 7. In this example, Mother and Child are engaged in a picture labelling activity. In this example mother is testing the child's ability to remember what they ate at the picnic they went to over the weekend.

Extract 7 (cigumartelo 27:03-27:16, boy; age 2;6)

```
01-M: uhm qui qui tinha nu piquinique
```

```
        uhm what did we have on the picnic
02-     (0,5)
03-C:   ehm:: biscotu
        uhm:: biscuts
04-M:   biscoi:tu (.)   que mais
        biscuts         what else?
05-     (1,6)
06-C:   /maiˈtʰɛɬuː/
        hammer
→07-M   /maɭˈtɛːɬuː/
        hammer
08-     (0,3)
09-C:   (laughs)
```

The child responds to the mother's question with a correct and valid answer (see line 03 "`ehm:: biscotu`"). Consequently, the mother repeats the child's prior turn to display alignment and agreement with the child's response (see line 04 "`biscoi:tu`"). As the child does not take the floor after the mother's turn, mother continues her turn with another test question. However the child, after taking a long pause, responds to the mother's question with an incorrect lexical choice (see line 06 "`maiˈtʰɛɬuː`"). Here the child could have continued to list the things they ate together, but instead says something completely unrelated to their conversation topic. As in Extract 6, mother repeats the child's troublesome turn (see line 07 "`maɭˈtɛːɬuː`") to initate repair on the child's troublesome turn. However, the child again seems to fail to understand the action done by the mother's repetition to correct the child's lexical choice. Here the child can be said to treat the mother's repetition as a confirmation of what the child said, but it is clear from the context and the pause after the repetition that there is a preference for the child to self-repair (see line 08). In fact, in line 09 the child laughs (line 09) to fill in her turn (see Walker, 2017), and therefore displays here an inability to understand the function of the mother's repetition.

Here mother repeats the child's prior turn with a rise-fall pitch pattern, rising 5 ST and then falling 8 ST over the lengthened stressed syllable (see Figs. 11 and 12).
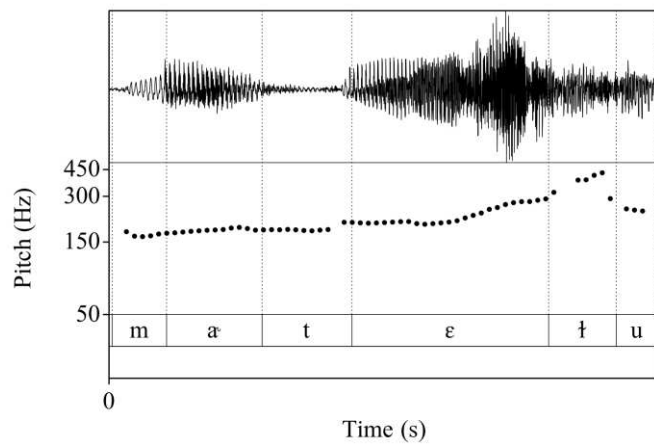
Figure 11: Mother's pitch pattern of her repetition to correct the child's lexical choice (martelo).

In summary, we have shown that in order to attain and maintain intersubjectivity mother and child need to establish a joint project in which the action projected by the mother's reparative repetition has the same meaning for both participants. A successful negotiation of the meaning of the action done by the mother's repetition will lead to a successful interaction, in which the mother will take some time off to deal with and solve some misunderstanding problems in the talk and then continue with the talk in course. However, sometimes the child fails to successfully complete the repair sequence with an acceptable repair solution, and when this happen the mother might pursue further correction until she gives up and moves on to another topic of conversation.

7.0. Discussion

This study shows that mothers can use two distinct phonetic practices to initiate repair on the child's prior turn: the first practice is used to correct the children's pronunciation while the second one is used to correct the children's lexical choice.

The mothers repeat the children's prior turn to correct the children's pronunciation. These repetitions are used both to initiate repair and to provide a repair solution (model) to the children.

In terms of phonetic characteristics, the first syllable of the repeated word is lengthened and detached from the rest of the word. Additionally, the mother's

repetition employs a different pitch pattern compared to the child's turn. The children from this study interpret these phonetic cues as indexing a request for correction and produce a repair solution that mirrors the mothers' stress, syllable and vowel lengthening patterns. Additionally, the children's repair solution is articulated more similarly to the mother's repetition and it may follow the same pitch pattern.

Alternatively, repetitions used to initiate repair on the child's lexical choice are used to correct the children's label. Here the mothers do not correct their children's pronunciation, as the children's turns are very similar to the adult form. Yet, the mothers still treat the children's responses as troublesome. Here the issue to be fixed is not of articulation but of lexical choice, as the children mislabel the pictures they are looking at.

In terms of phonetic characteristics, the mothers' repetitions are not lengthened, and are done with a rise-fall contour regardless of the intonation used by the children. These repetitions only initiate repair (they do not provide a model for the repair solution).

The children treat the mothers' repetitions as requests of confirmation and not repair initiations. The table below illustrates the differences between the two practices of mothers' repair initiations discussed in this paper:

	Mothers' repetitions to correct pronunciation	Mothers' repetitions to correct lexical choice
Interactional characteristics	They are used to initiate correction on the children's prior turn pronunciation/ articulation	They are used to initiate correction on the children's wrong lexical choice.

	The first syllable of the repeated word is lengthened and detached from the rest of the word. The mother's repetition employs a different pitch pattern compared to the child's turn.	The repetitions are not lengthened, and are done with a rise-fall contour regardless of the intonation used by the children
Phonetic characteristics		

Table1: The interactional and phonetic characteristics of the mothers' repetitions to correct the children's pronunciation and lexical choice.

As we have seen in the table above the different phonetic characteristics of the mother's repetitions could be designed to help the child distinguish the different actions they project. However, the child seems to understand and join the mother's proposed joint action only in those cases where repetitions are used to correct the children's pronunciation problems.

The children in this study seem to understand their mothers' repetitions to correct lexical choice as requests for confirmation rather than repair initiations. This could be influenced by the fact that children only acquire a full understanding of the actions done by requests and questions when they are older than 4 (see Forrester, 2013, 2015). It might be the case that the children involved in this study were not able to distinguish one form of question from another. Therefore, they seem to understand mother's reparative repetitions done to correct pronunciation first as compared to repetitions to correct lexical choice. Future study should investigate the milestones of this development.

These results show that the stimulus the children receive from their mothers is richer than originally proposed (Brown &Halon 1970) as parents may correct their children's sematic and phonetic mistakes.

In terms of corrections and feedback, not only parents are constantly giving feedback to their children's prior turn but the children also give feedback on how the prior turn was understood. As Tarplee (2010) showed turns at talk are built to be understood as dependent upon each another. Therefore, the children's success in

correcting or not the mother's repetition will depend on their language development and on their ability to recognize if the practice applied by the mother is fitted or not and not on their ability.

Future study should compare the milestones of mothers' other-initiated corrections in children from the moment when the children start uttering their first words (from 6 to 12 months old) until they are 4 to 5 years old and fully capable of distinguishing the different formats of request.

It would be also interesting to check if the sequential and phonetic patterns of lexical repetitions to correct the children's pronunciation and lexical choice are also found in interactions between adults and in languages apart from Brazilian Portuguese. A study where other languages apart from Brazilian Portuguese shared similar characteristics could be used as evidence of interactional models that are shared in more than one language.

6.0. References

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Apendix 1
Transcriptions based on Wilkinson, R. & Beeke, S. (2012) The Conversation Analysis transcription template and instructions on its use. Unpublished handout. University of Sheffield.

[overlap talk
=   an equals sign marks where there is no interval between adjacent utterances
(0.6)   silences are marked in seconds and tenths of seconds
(.)   a full stop in single brackets indicates an interval of tenth of a second or less in
          the stream of talk
oh: a colon indicates an extension of the sound or syllable it follows (more
                  colons prolong the stretch)
,   a comma indicates a continuing intonation
?   a question mark indicates a rising inflection, not necessarily a question
↑↓   marked rising and falling shifts in intonation are indicated by upward and
          downward pointing arrows immediately prior to the rise or fall
          _____stress underlining indicates emphasis
°no°   degree signs indicate a passage of talk which is quieter than surrounding talk
>talk<   greater than signs indicate sections of an utterance delivered at a
          greater speed than the surrounding talk
<talk>   lesser than signs indicate sections of an utterance delivered at a
                  slower speed than the surrounding talk
(dog)   single brackets containing either a word, phrase, or syllable count (if utterance
          is very unclear) mark where target item(s) is/are in doubt to the transcriber.
/kæt/   transcribe paraphasias and jargon between slashes, using an IPA font.
fu(h)n   an h in single brackets marks discernable aspiration or laughter within a word
          in an utterance
£   pound sign marks smiley voice quality
xx   unintelligible utterance