

CONJUGATION OF IRREGULAR VERBS BY NATIVE BRAZILIAN PORTUGUESE SPEAKING CHILDREN: A STUDY IN THE LIGHT OF LEXICAL PHONOLOGY AND MORPHOLOGY

Tamires Pereira Duarte GOULART*
Carmen Lúcia Barreto MATZENAUER**

- **ABSTRACT:** This study investigates the acquisition of irregular verbs in Brazilian Portuguese (BP) when conjugated in the Indicative Present, Subjunctive Present and Simple Past tenses by native BP speaking children. It aims at describing and analyzing the interaction between Morphology and Phonology which is found in the inflection of irregular verbs, in the light of Lexical Phonology and Morphology (LPM). Data show that linguistic phenomena of morphophonological origin, which are highly complex, can be considered processes of late acquisition by Brazilian children. LPM leads to the understanding that verb regularization, one of the manifestations of irregular conjugations, can be explained by the non-correspondence between the phonological and morphological levels of the language.
- **KEYWORDS:** morphophonological acquisition; irregular verbs; Lexical Phonology and Morphology

Preliminary Considerations

In the process of language acquisition, from the input they receive, children must abstract the grammar of the language, that is, the units that constitute each component of the linguistic system, such as phonology, morphology and syntax, as well as the relations among them. Relations can occur either between units within the same component or between units of different components. The latter implies interfaces between the components that make up the grammar of the language.

Considering relations between the components of the grammar, this study focuses on the interface that is established between Phonology and Morphology and aims at the behavior, in the phase of language acquisition, of the adjunction of inflectional

* Catholic University of Pelotas (UCPEL), Postgraduate Program of Letters, Pelotas – Rio Grande do Sul – Brazil. tamirespdgoulart@gmail.com

** Catholic University of Pelotas (UCPEL), Postgraduate Program of Letters, Pelotas – Rio Grande do Sul – Brazil. carmen.matzenauer@gmail.com

morphemes to irregular verb forms of Brazilian Portuguese (BP) in cases with alternations in the phonological plane of the language.

The aim of this paper is to discuss the use of forms of the Indicative Present, Simple Past and Subjunctive Present, which, in verbs classified as ‘irregular’, show alternation of consonant phonemes. Examples of such verbs are *fazer*, *trazer* and *medir* (‘to do’, ‘to bring’ and ‘to measure’), which, in the previously mentioned tenses, show the following alternations: [s] alternates with [z], as in *faço*, *fazes* (*fa[s]o*, *fa[z]es*); [g] alternates with [z] and [s], as in *trago*, *trazes*, *trouxe* (*tra[g]o*, *tra[z]es*, *trou[s]e*); [s] alternates with [d], as in *meço*, *medes* (*me[s]o*, *me[d]es*).

Research data, which was collected by an instrument that elicited the use of forms in the verb tenses under study, were analyzed and formalized with the support of Lexical Phonology and Morphology, since it is a theory that predicts the interaction between Morphology and Phonology, pointing out relations between the morphological structure of a word and the phonological rules that apply to it.

Irregular verbs and consonantal phonological alternations

The morphological component of Brazilian Portuguese allows regular and irregular verbs. For their characterization, it should initially be pointed out, following Câmara Jr. (1970), that a verbal is composed of a theme (T), formed by a root (R) and a theme vowel (TV), besides inflectional suffixes (FS), which can be of mood and tense (SMT) and number and person (SNP). Considering this structure, verbs are said to be regular when they keep an unchanged root and follow the general pattern in the adjunction of inflectional morphemes; it is the case of the verb *amar* (‘to love’) in all its conjugations: *amo*, *amava*, *amarei*, *amasse*.

Differently, irregular verbs, the focus of this paper, are those in which there is a change in the root when they are conjugated. Examples are the verb *dizer* (‘to say’), and its inflections *digo* and *dizes* (*di[g]o*, *di[z]es*), and verbs that deviate from the paradigm imposed by the grammar of the language, thus, showing changes in inflectional morphemes. The verb *saber* (to know), whose conjugation in the Indicative Present has the forms *sei*, *sabes*, *sabe*, is an example of this type of irregularity. The verb form “*sei*” moves away from the paradigm of the first person of the singular, conjugated in the Indicative Present, that usually manifests with the personal-number suffix -o, as in *canto*, *danço*, *escrevo*, *faço*, *estudo*.

In irregular verbs, either due to changes in the root or because of escape to the paradigm, alternations may occur. In the functioning of the language, the phenomenon of alternation is characterized by replacing a phoneme by another and there are two types of alternations: vowel alternation, which implies the exchange of vowels, for example, [o]vo ~ [ɔ]vos, and the consonantal alternation, which is understood as the replacement of a consonantal phoneme with another one. Examples are consonantal changes at the end of roots of conjugated verbs, as in *fazer* ~ *faço* ~ *fazes* (*fa[z]er*, *fa[s]o*, *fa[z]es*); *trazer* ~ *trouxe* ~ *traz* (*tra[z]er*, *trou[s]e*, *tra[s]*).

The previously described consonantal alternation seems to be highly complex for BP speakers. As a result, it is argued that its acquisition can be considered a process of late nature in the acquisition of the BP irregular verb system of BP that extends, at least, to the age of 10.

The process of regularization of irregular verbs

The tendency towards regularization and at less marked in the functioning of the grammar of languages is recognized as part of the evolutionary process of linguistic systems, as well as of the process of language acquisition. In this context, the regularization of verb forms is inserted.

Therefore, there is regularization of irregular verbs when the speaker produces an irregular verb in agreement with the pattern of the regular verb. Examples are the production of “*fazi*” instead of “*fiz*” (‘did’) and “*trazi ~ trazei*” instead of “*trouxe*” (‘brought’).

Lexical Phonology and Morphology (LPM)

Lexical Phonology and Morphology (LPM) is a theory that enables researchers to look at language while considering the relationship between morphology and phonology. As a result, generalizations and patterns of morphophonological occurrences can be singularly captured.

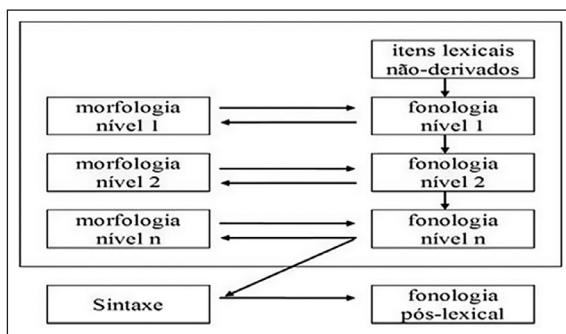
Linguistic systems show cases of interface among the components of the language. So, neither in the phonological scope nor in the morphological one alone, would it be possible to explain them. An example, in this context, is the phenomenon under study, which puts into analysis the production of irregular verbs that exhibit phonological alternations in their conjugations motivated by the adjunction of morphology units.

In the 1980s, Lexical Phonology gained prominence. The pioneers were Kiparsky (1982, 1985) and Mohanan (1982), but many phonologists quickly adopted it because it possesses high level of theoretical explanation, besides being responsible for making morphology return to the setting of language studies (SCHWINDT, 2006).

LPM is dedicated to look at the lexicon not only as a keeper of structures, but also as a set of phonological rules that communicate with morphological ones. One of its greatest contributions is the understanding that the lexicon of the language is organized in a series of levels or strata which are responsible for the occurrences of these rules.

Within each stratum, both morphological rules of word formation and phonological processes are applied pairwise. Strata are arranged so as to reflect the ordering of the word formation processes, as shown in Figure 1.

Figure 1 – Model proposed by Kiparsky (1982): representation of the lexicon structure.



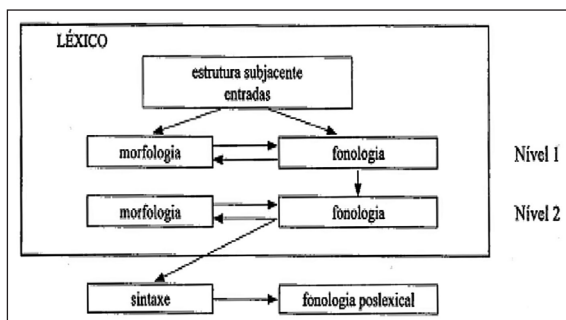
Source: Lee (1992).

The model shown in Figure (1), which was introduced by Kiparsky (1982), considers the entry of the lexicon by the phonology module. From that point on, relations between phonological and morphological strata begin to be established. Finally, the word leaves the lexical level through phonology and goes directly to the syntax, at the post-lexical level.

Lee (1995) emphasizes that the components of phonology and morphology are mixed, so that relevant phonological rules apply to the output of any morphological rule, determining entry to another phonological rule, and so on.

In the analysis of Portuguese, Bisol (2010) proposes the division of lexicon into two levels, i. e., the root and the word, identified as Level 1 and Level 2, respectively. This structure, shown in Figure (2), is the most used one in most LPM proposals, although it is the option of each language to divide lexicon into different levels.

Figure 2 – Model suggested by Bisol (2010) for Portuguese.



Source: Bisol (2010, p. 92).

Bisol's proposal (2010) introduces the LPM model with two possibilities from the underlying structure. Input can happen either through the morphology module or through the phonology module whereas the output of the word from the lexical module to the post-lexical module is provided directly by phonology and follows the path to the syntax. In this level, it undergoes post-lexical phonological rules.

In order to analyze the data of this study, its results are formalized with the support of LPM, considering essentially Lee's proposal (1995) for BP. On this basis, this study advocates that the process of regularization of verb forms in the speech of 6-9-year-old Brazilian children is due to the lack of correspondence between Phonology strata and Morphology strata.

Methodology

The study was carried out with a group of 6-9-year-old native BP speakers – from Rio Grande do Sul (RS) state, Brazil, – who speak a dialect variety that includes the use of the personal pronoun 'tu' ('you'). It focused on the production of irregular verbs and aimed to identify whether the process of regularization of such verbs can still be found in this age group. When it occurred, the study investigated the motivation of the phenomenon within the assumptions of Lexical Morphology and Phonology.

The corpus consisted of data on eight native BP speaking children. All were literate and monolingual and belonged to one of the age groups listed in Table 1. In addition, children's ages were linked to their schooling level. Table 1 shows the selection of informants regarding schooling level and age¹.

Table 1 – Subjects' age groups and schooling levels.

Age Group 1 (FE 1):	06 years old	2 subjects	2nd year - Elementary school I
Age Group 2 (FE 2):	07 years old	2 subjects	3rd year - Elementary School I
Age Group 3 (FE 3):	08 years old	2 subjects	4th year - Elementary school I
Age Group 4 (FE 4):	09 years old	2 subjects	5th year - Elementary school I

Source: Goulart (2015).

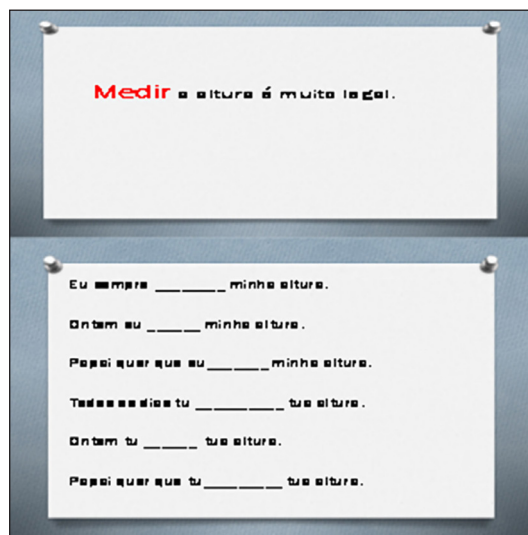
In each group of selected ages, children were subdivided with respect to sex, i. e., a girl and a boy composed each age group, in order to be able to establish relations between the gender and possible peculiarities and/or similarities in the process of acquisition of the irregular verb morphology of BP.

¹ Because this paper is a part of a Master's thesis, it has only some data of the research corpus and the description of only one of the instruments created for data collection.

To collect data, an instrument, which focused on the production of irregular verb morphemes in the 1st and 2nd singular persons of the Indicative Present, Simple Past and Subjunctive Present, was created. The instrument consisted of sentences with gaps to be completed by the informants with appropriate forms of the verb highlighted in red, as shown in Figure 3.

All sentences led to the production of the expected verb tense. The test was presented on slides, on the screen of a laptop (model shown in Figure 3). Two types of slides were exhibited: one that highlights the verb to be conjugated and another one with sentences whose gaps had to be completed with the inflected verb.

Figure 3 – Model of Instrument I².



Source: Goulart (2015).

Initially, the researcher showed the first slide, containing the sentence with the verb to be used. She asked the child to read the sentence and then, moving to the next slide, asked the child to read and complete the sentences. Throughout the application, the researcher tried to interact constantly with the informants. Preliminarily, a familiarization test, similar to that of the instrument, had been applied, but with sentences containing only regular verbs.

² “To measure height is cool”.
 I always ___ my height.
 I ___ my height yesterday.
 Daddy wants me to ___ my height.
 You ___ your height everyday.
 You ___ your height yesterday.
 Daddy wants you to ___ your height.

The instrument also included slides that aimed at distracting the children, i. e., they had sentences with regular verbs. In addition, it should be emphasized that the disposition of sentences in the test was randomly done to avoid the sequence of verb conjugation in the order of grammatical persons, such as: *eu faço, tu fazes; que eu faça, que tu faças* ('I do', 'you do'; 'me to do', 'you to do'). When, in the ordering of sentences, the sequence of pronouns *eu - tu* ('I - you') appeared, the verb tense was alternated.

The instrument had 10 slides which displayed irregular verbs. Each one had 06 different sentences with gaps to be filled. Thus, each informant had to fill 60 spaces with the oral use of irregular verbs. Regular verbs, whose presence in the instrument only occurred as a distraction from the focus of the research, totaled 48 regular verb productions, distributed in 08 slides. Table 2 shows the irregular verbs selected for the research proposed in this paper.

Table 2 – Irregular verbs and their alternations analyzed by the Master's thesis.

Irregular Verbs	Consonantal Phonological Alternation
Dizer ('to say')	[z], [g], [s]
Fazer ('to do')	[z], [s]
Satisfazer ('to satisfy')	[z], [s]
Trazer ('to bring')	[z], [g], [s]
Poder ('can')	[d], [s]
Ter ³ ('to have')	[], [v]
Perder ('to lose')	[d], [k]
Medir ('to measure')	[d], [s]
Ouvir ('to hear')	[v], [s]
Pedir ('to ask')	[d], [s]

Source: Goulart (2015).

In irregular verbs, whether by root change or by fugue to the paradigm, phonological alternations can occur (shown in Table 2). They are characterized by replacing a phoneme with another one. The principle of phonological alternations is maintained by this study, since one can observe the replacement of a consonant with another one. For example, in *medir* ('to measure'), one of the possibilities of conjugation is the replacement of consonant "d" with consonant "s". This fact occurs in the root of the verb and, due to this fact, a phenomenon of morphological order is also manifested. In view of this fact, LPM was brought to the analysis since it is a theory that can explain linguistic processes that deal with units of phonology and morphology at the same time.

³ Consonant alternations related to the verb "ter" are of a differentiated nature in this list of verbs, since they refer to the inflection paradigm, whereas alternations recorded for the other verbs occur in the root of the word.

According to Câmara Júnior (1970), consonantal alternation is constituted by variation of the root, which contributes to express grammatical notions of tense, mood and person that are primarily represented by suffixes. Souza, Silva and Koch (2009) state that it is this type of irregularity that allows to distinguish deviant morphological “patterns”, since one of the characteristics of regular verbs is root immutability.

Results and Data Analysis

In order to carry out data description, descriptive tables with information about every informant were outlined. It should be emphasized that, at that moment, standard and nonstandard forms, according to the BP irregular verb conjugation, were considered. Therefore, the focus is to identify nonstandard forms, which are manifested through the regularization process and do not show consonantal alternations which are necessary for the inflections of irregular verbs, especially in the Indicative Present and Subjunctive Present.

Thus, it should be pointed out that the consonantal alternation corresponds to the form which, in this paper, is referred to as Standard (P)⁴, whereas its non-occurrence, which corresponds to the production of the regularized verb form, is interpreted as Nonstandard (NP). When NP productions are shown in the tables, the phonetic transcription of the consonantal segment is also identified. It evidences the use of the verb form in disagreement with the target language, that is, it implies the escape of the morphophonological alternation displayed by the verb conjugation which is considered standard⁵.

Informant 1

Informant 1/ FE 1/ F1		dizer	fazer	satisfazer	trazer	poder	perder	ter	medir	ouvir	pedir
Indicative Present	1st person	P	NP fa[z]o	NP satisfa[z]o	NP tra[z]o	P	NP per[d]o	P	NP me[d]o	NP ou[v]o	NP pe[d]o
	2nd person	P	P	P	P	P	P	P	P	P	P
Indicative Simple Past	1st person	P	P	P	NP tra[z]i	P	P	P	P	P	P
	2nd person	P	P	P	NP tra[z]eu	P	P	P	P	P	P
Subjunctive Present	1st person	P	NP fa[z]a	NP Satisfa[z]a	P	P	NP per[d]a	P	NP mi[d]a	NP ou[v]a	NP pe[d]a
	2nd person	P	P	NP Satisfa[z]a	P	P	NP per[d]a	P	NP mi[d]a	NP ou[v]a	NP Pe[d]a vogal média baixa

⁴ The forms produced without morpheme-s, 2nd singular person marker (tu) were considered correct, due to the fact that these manifestations are found in the frequent use of the language, even in the case of speakers with high educational level. Thus, variants of the standard manifestation were the forms tu me[d]es ~ tu me[d]e, for example, since the focus of the description fell on the consonant that is the target of morphophonological alternation in the verb forms under study.

⁵ Abbreviations kept the initials of the words in Portuguese: FE (age group); F and M (female and male); P (standard form, that is, conjugated in agreement with the standard norm of the language); NP (non-standard form, i. e., conjugated in a regular manner).

Informant 1, 06 years of age, female, presented regularizations in the conjugations of the irregular verbs “*fazer, satisfazer, trazer, perder, medir, ouvir* and *pedir*”. Regarding the verb “*fazer*” (‘to do’) and its derivative “*satisfazer*” (‘to satisfy’), the informant produced regularized morphemes, which were faithful to the root of the verb *faz-*; as a result, conjugations *fa[z]o, fa[z]a, satisfa[z]o* and *satisfa[z]a* were observed. Thus, the girl did not perform the irregular conjugation, which would occur for the production of alternations with [s], found in *fa[s]o, fa[s]a, fi[s]*, both in the Indicative and Subjunctive.

Regularizations, which also maintain faithfulness to the base-morpheme of the verb, such as *tra[z]o, tra[z]i, tra[z]eu*, were some of the conjugations that this informant carried out. Thus, the /z/ phoneme alternated neither with [g] nor with [s] in the Indicative mood, but alternated with [g] in the Subjunctive mood. Because the Subjunctive mood is less frequent, the standard use may be interpreted as the result of an unanalyzed form. Construction of the forms *per[d]o* and *per[d]a*, rather than *per[k]o* and *per[k]a*, was also found.

The expected alternation for the verb “*ouvir*” (‘to hear’), of form [v] with [s], was not performed by the child. On the contrary, what prevailed was the regularization and faithfulness to the base form of the root *ouv-*. Such phenomenon was observed in *ou[v]o* and *ou[v]a*, examples of the informant’s production.

Informant 2

Informant 2/ FE1/ M1		dizer	fazer	satisfazer	trazer	poder	perder	ter	medir	ouvir	pedir
Indicative Present	1st person	P	P	NP satis[çito]	P	P	NP per[d]o	P	NP mi[d]o	NP Ou[v]o	NP pe[d]o
	2nd person	P	P	P	P	P	P	P	P	P	P
Indicative Simple Past	1st person	P	P	P	P	P	P	P	P	P	P
	2nd person	P	P	P	P	P	P	P	P	P	P
Subjunctive Present	1st person	P	P	P	P	P	NP per[d]a	P	NP mi[d]a	NP ou[v]a	P
	2nd person	P	P	P	P	P	NP per[d]a	P	NP mi[d]a	NP o[v]a	P

Informant 2, 06 years of age, male, conjugated the verbs “*dizer, fazer, trazer, poder* and *ter*” in agreement with the standard grammar of the language, alternating consonantal phonemes. However, in relation to the verbs “*satisfazer, perder, medir, ouvir* and *pedir*”, the child produced regularized conjugations.

Concerning conjugations of the verb “*perder*” (‘to lose’), *per[d]o* and *per[d]a* were produced. They are forms which were regularized by the child in both Indicative and Subjunctive. As for the verb “*ouvir*” (‘to hear’), the forms *ou[v]o, ou[v]a* and *o[v]a* were constructed. For the verb “*medir*” (‘to measure’), Informant 2 used *mi[d]o* and *mi[d]a*, with vowel reduction [e → i]. With regard to the verb “*pedir*” (‘to ask’), the child operated with the characteristic alternations of the Subjunctive Present and produced *pe[d]o* in the Indicative Present, a regularization that underwent the process of vowel alternation, but without effecting the consonantal alternation referring to /d/ for [s].

Informants 3, 4, 5, 6, 7 and 8, whose data are shown below, produced regularized verb forms that show the same nature as those previously mentioned.

Informant 3

Informant 3/ FE2/ F1		dizer	fazer	satisfazer	trazer	poder	perder	ter	medir	ouvir	pedir
Indicative Present	1st person	P	P	NP satisf[a]z[o]	NP tra[z]	P	NP per[d]o	P	NP me[d]o	NP ou[v]o	NP pe[d]o
	2nd person	P	P	P	P	P	P	P	P	P	P
Indicative Simple Past	1st person	P	P	NP satisf[a]z[i]	P	P	P	P	P	P	P
	2nd person	P	P	NP satisf[a]z[esse]	P	P	P	P	P	P	P
Subjunctive Present	1st person	P	P	NP satisf[a]z[a]	NP tra[z]a	P	NP per[d]a	P	NP me[d]a	NP ou[v]a	NP pe[d]a
	2nd person	P	P	P	NP tra[z]a	P	NP per[d]a	P	NP mi[d]a	NP ou[v]a	NP pe[d]a

Informant 3, 07 years of age, female, made regularizations for the verbs “*satisfazer*, *trazer*, *poder*, *perder*, *medir*, *ouvir* and *pedir*”. The verbs “*dizer*, *fazer* and *ter*” were the only ones that did not undergo this phenomenon.

Informant 4

Informant 4/ FE2/ M1		dizer	fazer	satisfazer	trazer	poder	perder	ter	medir	ouvir	pedir
Indicative Present	1st person	P	P	NP satisf[a]z[o]	NP tra[z]o	P	NP per[d]o	P	P	NP Ou[v]o	P
	2nd person	P	P	P	P	P	P	P	P	P	P
Indicative Simple Past	1st person	P	P	P	P	P	P	P	P	P	P
	2nd person	P	P	P	P	P	P	P	P	P	P
Subjunctive Present	1st person	P	P	NP satisf[a]z[a]	NP tra[z]a	NP po[d]a	NP per[d]a	P	NP mi[d]a	NP ou[v]a	NP pi[d]a
	2nd person	P	P	NP satisf[a]z[a]	NP tra[z]a	P	NP per[d]a	P	NP me[d]a	NP ou[v]a	NP pe[d]a

Informant 4, 07 years of age, male, had the regularization of verbal morphemes for the verbs “*satisfazer*, *trazer*, *poder*, *perder*, *medir*, *ouvir* and *pedir*” in his productions.

Informant 5

Informant 5/ FE3/ F		dizer	fazer	satisfazer	trazer	poder	perder	ter	medir	ouvir	pedir
Indicative Present	1st person	P	P	P	P	P	P	P	P	NP o[v]o	P
	2nd person	P	P	P	P	P	P	P	P	P	P
Indicative Simple Past	1st person	P	P	P	P	P	P	P	P	P	P
	2nd person	P	P	P	P	P	P	P	P	P	P
Subjunctive Present	1st person	P	P	P	P	P	P	P	NP mi[d]a	NP o[v]a	NP pi[d]a
	2nd person	P	P	P	P	P	P	P	NP me[d]a	NP ou[v]a	NP pe[d]a

Informant 5, 08 years of age, female, did not apply the morphophonological rules that the irregular conjugations of the verbs “*medir*, *ouvir* and *pedir*” require.

Informant 6

Informant 6/ FE3/ M			dizer	fazer	satisfazer	trazer	poder	perder	ter	medir	ouvir	pedir
Indicative Present	1st person	P	NP fa[z]o	NP satisfa[z]o	P	P	NP per[d]o	P	NP me[d]o	NP ou[v]o	NP pe[d]o	
	2nd person	P	P	NP satisfa[z]eu	P	P	P	P	P	P	P	
Indicative Simple Past	1st person	P	P	NP satisfa[z]i	P	P	P	P	P	P	P	
	2nd person	P	P	NP satisfa[z]esse	NP tra[z]i	P	P	P	P	P	P	
Subjunctive Present	1st person	P	NP fa[z]a	NP satisfa[z]a	P	P	P	P	NP mi[d]a	NP ou[v]a	NP pe[d]a	
	2nd person	P	NP fa[z]a	NP satisfa[z]a	P	P	P	P	NP me[d]a	NP ou[v]e	NP pi[d]a	

Informant 6, 08 years of age, male, only conjugated the verbs “*dizer*, *poder* and *ter*” in agreement with the language pattern.

As for the other verbs of the study, Informant 6 distanced himself from the pattern in the production of some inflections and produced them in regularized form, without the use of the morphophonological rule. Data on Informant 6, as well as data on the other children, indicate that the child, who is still in the phase of acquisition of the morphophonology of the language, reveals floating morphological characteristics by comparison with the standard grammar of the target language. These are features that may either show up properly or may be far from the pattern.

Informant 7

Informant 7/ FE4/ F			dizer	fazer	satisfazer	trazer	poder	perder	ter	medir	ouvir	pedir
Instrument I	Indicative Present	1st person	P	P	P	P	P	P	P	P	P	P
		2nd person	P	P	P	P	P	P	P	P	P	P
	Indicative Simple Past	1st person	P	P	P	P	P	P	P	P	P	P
		2nd person	P	P	P	P	P	P	P	P	P	P
	Subjunctive Present	1st person	P	P	P	P	P	P	P	NP mi[d]a	P	P
		2nd person	P	P	P	P	P	P	P	NP me[d]a	P	P

Informant 7, 09 years of age, female, used regularized verb conjugations for the verb “*medir*” (‘to measure’) in the Present Subjunctive; both forms *mi[d]a* and *me[d]a* show that, although the child’s grammar is almost reaching the target system of the standard language, the instability generated by the complexity of the acquisition of BP

morphology is still present at the age of 09. They are conjugations that are produced in regularized form, especially in the inflections in the Subjunctive mood of the verb system.

Informant 8

Informant 8/ FE4/ M			dizer	fazer	satisfazer	trazer	poder	perder	ter	medir	ouvir	pedir
Instrument I	Indicative Present	1st person	P	P	NP satisfã[z]o	P	P	P	P	NP me[d]o	NP o[v]o	NP pe[d]a
		2nd person	P	P	P	P	P	P	P	P	P	P
	Indicative Simple Past	1st person	P	P	P	P	P	P	P	P	P	P
		2nd person	P	P	P	P	P	P	P	P	P	P
	Subjunctive Present	1st person	P	P	NP satisfã[z]a	P	P	P	P	NP mi[d]a	NP o[v]a	P
		2nd person	P	P	NP satisfã[z]a	P	P	P	P	NP me[d]a	NP o[v]a	P

Informant 8, 09 years of age, male, produced inflections whose roots did not comply with the rules of consonantal alternations required by the irregular Portuguese verb pattern for the verbs *satisfazer*, *medir*, *ouvir* and *pedir*.

Like the other children in this study, this informant regularized some conjugations – that pertain to the standard of PB regular verbs –, guided by the root of the irregular verb in the infinitive. The forms *satisfã[z]o*, *satisfã[z]a*, *m[ed]o*, *m[id]a*, *m[ed]a*, *o[v]o*, *o[v]a* and *p[ed]a* are examples of this regularization.

Data in the light of Lexical Phonology and Morphology

All informants performed some verb inflection in disagreement with the standard norm of conjugation of the irregular verb category. Table 3 shows how often regularizations of each verb under investigation were produced by the children.

Table 3 – Estimates of the regularization process.

FORMS OF NONSTANDARD (NP) PRODUCTION		
Verb	The use of verb forms	
	Instrument I	
	Number of occurrences	Production
DIZER	100% production in agreement with P (standard)	
FAZER	02	fa[z]o
	03	fa[z]a
SATISFAZER	05	satisfa[z]o
	01	satisfa[z]ei
	01	satisfa[z]eu
	01	satisf[eito]
	02	satisfa[z]i
	03	satisfa[z]esse
	11	satisfa[z]a
TRAZER	05	tra[z]o
	04	tra[z]i
	02	tra[z]eu
	01	tra[z]
	01	tra[z]ei
	07	tra[z]a
PODER	01	po[d]a
PERDER	10	per[d]o
	16	per[d]a
TER	100% production in agreement with P (standard)	
MEDIR	06	mɛ[d]o
	01	mɛ[d]o
	03	mi[d]o
	19	mi[d]a
	05	mɛ[d]a
	06	mɛ[d]a
OUVIR	07	ou[v]o
	02	ou[z]o
	04	o[v]o
	18	ou[v]a
	03	ou[z]a
	05	o[v]a
PEDIR	06	pɛ[d]o
	01	pi[d]o
	05	pɛ[d]a
	07	pɛ[d]a
	05	pi[d]a

Source: Goulart (2015).

Data show that the most recurrent regularizations in the informants' conjugations were forms *per[d]o*, *per[d]a* (verb - *perder*), *m[id]a* (verb - *medir*), *p[ed]a*, *p[id]a* (verb - *pedir*), *ou[v]a* (verb - *ouvir*) and *satisfa[z]a* (verb - *satisfazer*). The Subjunctive mood (Subjunctive Present) has greater instability as to its inflection, in high percentage by comparison with productions in the Indicative Present. This fact is believed to be related to the complexity that involves the acquisition of the morphophonology of BP and to the fact that it is the tense and the verb mood (Subjunctive Present) that is considered marked in the language. The more marked the verb mood in the language, the greater the possibility of variation in relation to the standard form. The Subjunctive mood is also used in subordinate sentences; it implies the construction of a period composed of subordination and requires great syntactic complexity to the point that, in the oral use of the language, it is seldom used, even by adults.

The Indicative Simple Past had low index of regularization, which is attributed to the fact that this is a tense that demands few consonant changes in its inflections in the Indicative mood. Moreover, its use does not require syntactic complexity either, since it can either be employed in simple periods or composed of coordination, which is often used in the language.

Regarding the Indicative Present, data can be considered relevant, since they are based on previous studies (YAVAS; CAMPOS, 1988; SANTOS; SCARPA, 2003) which consider this tense as one of the first to be acquired by native BP speakers. Thus, it may be inferred that, although it is a tense which is early used by the subjects, especially in the regular class of verbs, the irregular verb forms of the Indicative Present that are carried out with consonantal alternations are complex for children in the acquisition phase, a fact that contributes to their late emergence⁶.

Difference in non-standard production between boys and girls was below 1%, a fact that leads to the understanding that verb regularization is not related to the subjects' gender. In view of it, it is evident that the use of morphophonological events in the conjugation of irregular verbs is found in the linguistic development of all children in the sample, regardless of the gender, unlike other language acquisition processes in which girls and boys may present different behavior, such as the acquisition of the segmental inventory of language phonology.

The corpus under analysis also reveals that there is gradual development of irregular verb acquisition in relation to age, which is also superimposed on the subjects' schooling level. The older the group (and the higher the schooling level), the more the process of producing different forms from the standard (NP) decreases.

This relationship proposes that irregular verb forms of BP are acquired as the child's exposure to the language system increases. So, the older the subjects, the lower the regularization rate they produce.

⁶ Data described in this paper also point out that the phenomenon of verb regularization occurs at higher percentage with verbs of the third conjugation (-ir). The determining factor that explains these occurrences was not investigated in detail, but it is emphasized that instruments have been developed to investigate this influence, as well as to highlight the possible differences that exist in irregular verb acquisition, when dealing with different verb moods.

The frequency of use of verbs was a factor that was of particular relevance to this analysis. In this context, data show that non-consonantal alternation occurs, in a prevalent way, when dealing with the less frequent verbs in the informant's linguistic input, as Andersen (2008) had already pointed out. He stated that the verbs “*ter*, *poder*, *dizer* and *fazer*” are among the ten most frequent BP verbs. In fact, in this research, these were the verbs that least suffered the process of verb regularization. Besides, both verbs “*ter* and *dizer*” were not inflected any time in a nonstandard way, whereas the verbs “*poder* and *fazer*” were targets of a very low number of regularized productions.

In accordance with Lexical Phonology and Morphology, there are at least three explanations for the process that affects NP conjugations, that is, regularized conjugations of verb forms, evidenced by this paper:

- a) the assumption that the subjects have not yet fully acquired the Verbal Morphology of the language and, because of it, present a blockade at the morphological level;
- b) the assumption that the lack of alternations in the conjugation of irregular roots is motivated by a phonological gap, directly linked to the phonological level;
- c) the assumption that the child has already acquired both the Verbal Morphology of BP and its Phonology and, thus, has regularized verbal morphemes due to the motivation required by the morphological relationship that, in the lexical component, requires interaction between Morphology and Phonology.

Firstly, regarding (b): it does not seem to account for verb forms produced differently from the standard, since the segmental and syllabic inventory of the child with typical development and most rules that determine its functioning in the language are acquired until the age of 05 (LAZZAROTTO-VOLCÃO, 2009).

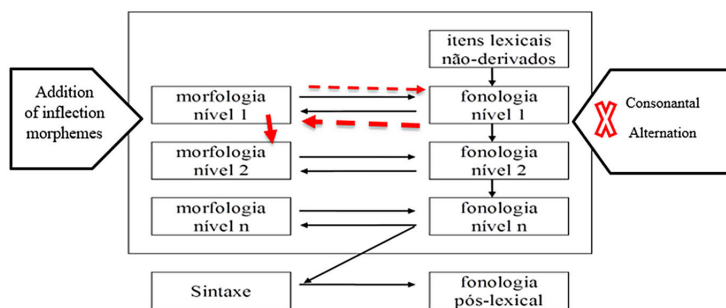
Considering (a), it seems to be discarded, because data collected by this study show that the informants have already acquired the Verbal Morphology, since they master, in accordance with the language pattern, the morphemes of tense and mood and of number and person, that is, all verb inflections, including the verbal paradigm. Examples of this fact are the inflections *satisfa[z]o* and *per[d]a*, which reveal that informants retain, in the different forms of the pattern, the tense-indicating morphemes, as well as those of number and person. As a result, it could be understood that Verbal Morphology in all age ranges under study has already been acquired. It seems, therefore, that inflectional morphemes of the class of verbs, corresponding to the categories under investigation by this study, have already been acquired. In addition, all children, in all age groups under study, used the forms of the verb *ter* (‘to have’) at 100% adequacy.

The alternative proposed in (c) is able to explain the phenomenon of nonstandard occurrences, demonstrating, through LPM (Figure 3), that regularizations are motivated by the lack of correlation that must be maintained between Morphology and Phonology so that the process of alternations in irregular verbs follows the pattern of the language. The phonological rule of alternation is not applied to the conjugation of some verbs, because

there is no adequate match between morphological and phonological components and, therefore, the morphophonological interaction is not carried out.

Figure 4 shows lack of match between phonological and morphological components, based on Kiparsky's proposal (1982, 1985), in order to understand the forms produced by the subjects in this research.

Figure 4 – Proposal for nonstandard forms, based on Kiparsky (1982, 1985).



Source: Goulart (2015), based on Kiparsky's Model (1982).

In the theoretical model of LPM, proposed by Lee (1995)⁷ for Brazilian Portuguese, irregular flexion is at level 1 (α), while regular flexion manifests at level 2 (β).

Verb productions carried out by children in this study indicate that, at the age of 06, subjects already operate with irregular forms, since they adequately produce the consonant phonological alternations of certain verbs, especially those whose frequency is high in the linguistic input.

However, data also point out that, in all age groups under study, children still regularize irregular verb forms, thus evidencing the late acquisition of morphophonological processes of the BP verb system, especially of less frequent verbs (the case previously emphasized) and the less frequent verb tense: Subjunctive Present. Simultaneous use of irregular forms for some verbs and non-use for others lead to the interpretation that the acquisition of these verbs requires incorporation into the child's grammar:

- I) of regular inflectional verbal morphemes (mood and tense, number and person);
- II) of irregular verbal morphemes (irregularities due to the paradigm);
- III) of alternations of irregular roots (irregularities due to root).

Facts in (II) and (III) are irregular; therefore, they are unpredictable and have to be learned by the child with the use (the frequency) of the language. Besides, they

⁷ According to Lee (1995), at level 1 (also identified as (α)), there are irregular inflections, the Derivation and the Composition I; at level 2 (β), productive formation of PB occurs, together with regular verb inflections of the language; in the post-lexical level, there is Composition II. For further details, see Lee (1995).

require interaction between Morphology and Phonology. For this reason, the frequency of the use of verbs in the language is a conditional factor of the acquisition of irregular verbs, i. e., the more frequent the use of an irregular verb, the more easily its structure will be acquired.

Based on these arguments, the proposal in (c) is the one that seems to be most adequate to explain the corpus of this study, taking into account, above all, the morphophonological nature of the process, which is essential for the standard irregular BP. Because it is complex in language, it contributes to the late acquisition of verb forms whose root involves consonantal alternations in their conjugations.

According to Lee's proposal (2005), in the analysis of data described by this paper, non-communication of morphological and phonological components of the language occurs only when considering irregular verb forms, which are inflected in the child's speech in a regularized way. Then, they go to level 2 (β) without undergoing rules of irregular inflection and, at level 2 (β), they are submitted to the treatment given to regular verbs. This division of verb, irregular and regular inflection in BP at different levels occurs in compliance with the Elsewhere Condition Principle, in which more restricted rules apply before the most general ones, that is, irregular inflection, which is the most marked and most restricted one, occurs before regular inflection, whose rules are less marked and more universal, not only in BP, but in languages of the world.

In the passage to level 2 (β), the verb that did not undergo irregular inflection (because, despite submitting to morphological rules, it did not reach the consonantal changes at the phonological level⁸ due to lack of correlation between the components) suffers regular inflection exclusive of level 2 (β), preserving itself in a regular and faithful way to the root of the verb, which is a morpheme that is in the deep lexicon, integrating the underlying representations of the speakers of the language.

According to Lee (1995), it is also at level 2 (β) that the productive formation of BP occurs, together with regular verb inflections of the language. It highlights the reason why regular verbs are understood as the productive class of Portuguese and, therefore, of unmarked nature in the language. In this sense, regularization in the process of verb acquisition shows that children operate in accordance with the unmarked pattern. It becomes the most natural phenomenon, when they have not yet acquired the irregularities of the linguistic system.

In addition, this fact may also show that, when speakers produce regularizations (nonstandard forms), they are dealing with a single internalized grammar, unlike studies (LORANDI, 2006; AVELEDO, 2006) which postulate two operating grammars in the verb system: one is responsible for the conjugation of regular verbs and the other one is in charge of the conjugation of irregular verbs. Regularization, in these researches, is understood as being an inflection established by the grammar of regular verbs and, consequently, maintained in the subjects' speech with faithfulness to the root of the verb.

⁸ The locus of the absence of consonantal alternation, as part of the process of acquisition of irregular verb forms, is represented in Figure 4 (on the right).

In the light of the Lexical Theory, the process of non-standard forms was observed to occur through the relations established between the components and strata that constitute the grammar of the language. Thus, the regularization phenomenon is situated in the field that establishes the interchange between the components to form the BP vocabulary and, because of it, it is a process that operates with a single grammar, capable of explaining both the standard and the non-standard inflection. It seeks for linguistic parameters for events that mark the development of language acquisition, specifically the acquisition of BP irregular verbs.

Final considerations

In the verb acquisition phase, the child operates with at least two possibilities of inflection of irregular verbs: either in agreement with the target of the language, performing phonological alternations in line with the pattern; or in disagreement with the target, carrying out the phenomenon that is understood in the literature as regularization (LORANDI, 2006). Inflection that occurs without the proper alternations of irregular conjugation maintains the root of the verb in the subject's speech and, therefore, inflects the irregular class in accordance with the conjugation of regular verbs.

Taking into account that Brazilian studies carried out up to the present moment attest that the phenomenon of verb regularization just occurs until the age of 5 years, data collected by this research disagree, since it shows evidence that children over the age of 5 years produce regularized verb forms in the conjugation of certain irregular verbs.

Therefore, this study reaffirms the importance of the schooling level, a variable linked to age, to the stabilization of BP irregular inflection. In addition, the analysis concluded that:

- a) the corpus of this study shows, through the conjugations under analysis, that the subjects under investigation have already got the morphology of the language, since they produce the morphemes of mood and tense, of number and person and the markers of the BP verb paradigm;
- b) regularizations in the conjugation of irregular verbs in the view of this study, which is based on LPM, have morphological nature in the BP system, because they are associated with relations conditioned by the mismatch between the phonological and the morphological components of the language;
- c) because it implies a morphophonological phenomenon, acquisition of the irregular verb system is late and may extend to at least 9 years of age, in the case of native BP speakers; in this study, the variable age, linked to the schooling level, points out that the greater the child's linguistic experience, the greater the irregular conjugations s/he produces, considering the standard form of the language;
- d) verbs – and their inflections – that are maintained at high frequency in the language are acquired earlier than those that show low frequency.

Under the assumptions of Lexical Phonology and Morphology, the use of verb forms which are different from the standard, without the presence of consonantal alternations, can be explained by the non-articulation between the modules of Morphology and Phonology of the language. Lack of matching between these components in the construction of certain irregular conjugations, especially in the first person of the Indicative Present and in the 1st and 2nd persons of the Subjunctive Present, points to the high complexity that permeates the acquisition of the BP irregular verb class. Considering that the subjects of this study already operate with this relation and produce consonantal alternations, mainly for the high frequency verbs in the linguistic input, this study understands that they are still in phase of acquisition of the morphophonology of the language due to the coexistence of standard (P) and nonstandard forms (NP) in their productions.

With this analysis, we have evidence of the complexity of morphophonological phenomena and, in this fact, there is a justification for the late stage of its acquisition: the acquisition of morphology of verbs is complex due to the different affixes that it involves. Besides, difficulty gradually increases when tenses are in the subjunctive mood (from the syntactic and semantic point of view, the use of this verb mood implies a demanding operation in the relations between clauses and meanings). Complexity becomes even greater when there is interaction between the morphological and phonological levels of the language, thus, requiring vowel and consonantal alternations in the process of verb inflection.

Results achieved by this study therefore confirm that, when phenomena of morphological nature are considered, the process of language acquisition by children can extend to the age of 9 years or more, including the use of irregular verbs.

GOULART, T.; MATZENAUER, C. A conjugação de verbos irregulares por crianças falantes nativas de português brasileiro: um estudo sob o viés da fonologia e morfologia lexical. *Alfa*, São Paulo, v.62, n.1, p.169-189, 2018.

- *RESUMO: Este estudo investiga o processo de aquisição de verbos irregulares do Português Brasileiro (PB), quando conjugados nos tempos Presente do Indicativo, Presente do Subjuntivo e Pretérito Perfeito do Indicativo, por crianças falantes nativas da língua, com o objetivo de descrever e analisar, sob o enfoque da Fonologia e Morfologia Lexical (Lexical Phonology and Morphology - LPM), a relação morfofonológica presente nas flexões dos verbos irregulares. Os dados revelam que os fenômenos linguísticos de origem morfofonológica são de alta complexidade para os falantes e podem ser considerados como processos de aquisição tardia pelas crianças brasileiras. Por meio da LPM compreendemos que a regularização verbal, uma das manifestações das conjugações irregulares, pode ser explicada pela não-correspondência entre os níveis fonológico e morfológico da língua.*
- *PALAVRAS-CHAVE: Aquisição morfofonológica. Verbos irregulares. Fonologia e Morfologia Lexical.*

REFERENCES

- ANDERSEN, E. M. L. Representações Lexicais Subjacentes: verbos e léxico inicial. **ReVEL**, v.6, n.1, p.1-31, 2008.
- AVELEDO, F. El procesamiento de verbos regulares e irregulares en el español infantil: mecanismo dual vs. Conexionismo. **Boletín de Lingüística**, v.18, n.26, p.5-32, jul. 2006.
- BASILIO, M. **Teoria Lexical**. 7. ed. São Paulo: Afiliada, 2004.
- BISOL, L. **Introdução e estudos de fonologia do português brasileiro**. 5. ed. Porto Alegre: EDIPUCRS, 2010.
- CÂMARA JÚNIOR, J. M. **Uma forma verbal portuguesa**: estudo estilístico-gramatical. Rio de Janeiro: Jornal do Comércio – Rodrigues & Cia, 1975.
- _____. **Estrutura da Língua Portuguesa**. 38. ed. Rio de Janeiro: Vozes, 1970.
- CASTILHO, A. T. de. **Nova Gramática do Português Brasileiro**. São Paulo: Contexto, 2012.
- GOULART, T. P. D. **A Produção de Formas Verbais Irregulares por Crianças Falantes do Português Brasileiro (PB)**. 2015. 147 f. Dissertação (Mestrado em Linguística Aplicada) – Universidade Católica de Pelotas, Pelotas, 2015.
- KIPARSKY, P. Lexical morphology and phonology. In: YANG, S. (Ed.). **Linguistic in the morning Calm**. Seoul: Hanshin Publishing Co, 1982.
- _____. **Some consequences of lexical phonology**. Phonology yearbook 2. London: Cambridge University Press, 1985.
- LAZZAROTTO-VOLCÃO, C. **Modelo Padrão de Aquisição de Contrastes**: uma proposta de avaliação e classificação dos Desvios Fonológicos. 2009. 218 f. Tese (Doutorado em Letras) – Universidade Católica de Pelotas, Pelotas, 2009.
- LEE, S. Fonologia Lexical do Português. **Cadernos de Estudos Linguísticos**, Campinas, v.23, p.103-120, 1992.
- _____. **Morfologia e Fonologia Lexical do Português do Brasil**. 1995. 201 f. Tese (Doutorado em Linguística) – Instituto de Estudos da Linguagem, Universidade Estadual de Campinas, Campinas, 1995.
- _____. Fonologia Lexical – Modelos e Princípios. **Letras de Hoje**, Porto Alegre, v.31, n.2, p.129-137, 1996.
- LORANDI, A. **Formas Morfológicas na Gramática Infantil**: um estudo à luz da Teoria da Otimidade. 2006. 185 f. Dissertação (Mestrado em Linguística Aplicada) – Pontifícia Universidade Católica, Porto Alegre, 2006.

MOHANAN, K. P. **Lexical Phonology**. 1982. 218 f. Doctoral dissertation – Massachusetts Institute of Technology, Cambridge, 1982.

SANTOS, R. S.; SCARPA, E. M. A aquisição da morfologia verbal e sua relação com o acento primário. **Letras de Hoje**, Porto Alegre: EDIPUC, v.38, n.4, p.249-260, 2003.

SCHWINDT, L. C. A relação entre Morfologia e Fonologia na História dos Estudos Linguísticos. In: MARTINS, E. S.; CANO, W. M.; MORAES FILHO, W. B. (Org.). **Léxico e morfofonologia: perspectivas e análises**. Uberlândia: EDUFU, 2006.

SOUZA & SILVA, M. C. P.; KOCH, I. V. **Linguística Aplicada ao Português: Morfologia**. 17. ed. São Paulo: Cortez, 2009.

WETZELS, W. L. Mid Vowel Neutralization in Brazilian Portuguese. **Cadernos de Estudos Linguísticos**, n.23, p.19-55, 1992.

YAVAS, F.; CAMPOS, J. Aquisição da Morfologia Verbal do Português como L1 e L2. **Letras de Hoje**, Porto Alegre: PUCRS, n.74, p.81-95, 1988.

Received in March 27, 2017

Approved in September 1, 2017

