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ACQUISITION OF MORPHOLOGICAL RULES BY EFL BRAZILIAN STUDENTS

por

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Para Uds. dos que son mi mejor y mayor motivo...

y a la memoria del tercero.

Agradezco a TODOS los que de una forma u otra estuvieron cerca ayudandome a andar por estos caminos, creciendo.

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ABSTRACT

The present research analyses EFL Brazilian students' production in terms of morphophonemic rules of English as foreign language. Forty students at intermediate and advanced levels in the extracurricular courses at UFSC took part in the experiment. They were divided into two groups according to their proficiency in the FL. The experiment consisted in a reformulation of Berko-Gleason's test of morphology (1958) to determine whether the subjects have stored productive morphological rules of their L2 and whether they are influenced by Portuguese morphophonemic rules. The latter was confirmed by the data, fact that has interesting implications for foreign language teaching.

RESUMO

O objetivo do presente trabalho é analisar a produção oral de alunos brasileiros em termos das regras morfofonêmicas do Inglês como língua estrangeira. Quarenta alunos de níveis intermediário e avançado matriculados nos cursos extra curriculares da Universidade Federal de Santa Catarina participaram do estudo. Os alunos participantes foram divididos em dois grupos segundo o seu nível de competência linguística. Uma reformulação do teste Berko- Gleason (1958) de morfologia foi aplicado. O interesse principal foi descrever os problemas com os quais os alunos se defrontam no momento de utilizarem regras morfofonêmicas para a produção de plurais, terceira pessoa do singular do presente simples e o passado simples. A hipótese principal foi a da existência de interferências do sistema do Português. Os dados obtidos corroboraram essa hipótese evidenciando os problemas que a partir daí surgem. Os resultados tornam-se interessantes também como referência para o ensino de Inglês como língua estrangeira.

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Chapter 1

1. INTRODUCTION

The present research analyses EFL Brazilian students' production in terms of morphophonemic rules of English as foreign language. departing from the assumption that each stem is not represented in the mind with all the possible inflections that it may assume in a context. Berko-Gleason's test of morphology (1958) and an adapted Portuguese version of such test applied by Scliar cabral (1975) made this point clear. Moreover, subjects are able to use grammar rules with pseudo-words. that is to say, invented words that correlate to phonological and morphemic rules but happen not to be in the language on focus. This suggests that individuals have rules of extension that enable them to deal with new items. a fact that shows the creative aspect of language.

In order to test the above mentioned assumption on EFL students an adaptation of Berko-Gleason's test of English morphology was cross-sectionally applied to forty Brazilian EFL Brazilian students testing their productive knowledge. The main objective in doing this was to describe the problems students are confronted with when producing specific types of data.

The main hypothesis tested refers to the influence that Portuguese morphophonemic rules responsible for the production of allophones and allomorphs may exercise when Brazilian learners produce similar counterparts in the FL.

This work is divided in the following parts: Chapter 2 contains a review of related literature, where only the most relevant points to the work are developed. A comparison of L1 and L2 phonological systemsis made. The main differences in terms of sounds and distribution that may give rise to interferences are also highlighted.

In Chapter 3 the experiment, and procedure are described. The allomorphs involved in the experiment were: plural noun formation, third person singular and past tense. The general rules for the production of such allomorphs, secondary hypotheses and reanalyses of the English system also appear in this part of the work. The Chapter concludes with a list of the pseudo-words used, in the context where they appeared, that is, the sample-phrases that allowed the production of the allomorphs on part of the Ss.

Chapter 4 includes the analysis of the data reorganized in tables according to each pseudo-word. Special attention is devoted to homorganic sounds produced by the Ss. that result from the interference of L1. The discussion follows each item presented in the tables.

The last Chapter presents concluding remarks and problematic areas, as well as the productivity of each of the secondary hypotheses (reanalyses).

Chapter 2

2 MORPHOLOGICAL DESCRIPTION

2.1 General Considerations

The purpose of this work is to analyse the productive English morphemes as used by EFL Brazilian students. In order to do so, the morphological rules involved in the process of the experiment will be delimited, as well as the general rules governing the morphophonemic system in both languages, English and Portuguese. Rules will be restricted to what is the main concern of the experiment itself. That is, the production of simple past, plural and third person singular morphemes.

Traditional morphology involves the study of the internal structure of words and their relationship to other words within a paradigm. Saussure states:

> relationships "in absentia" are obtained when only one element is chosen (paradigmatic relationships) (apud Matthews 1974 p.155).

The main domain of morphology refers to such relationships in absence within the paradigms form. Hockett (1970) establishes what a paradigm is:

> The whole set of words built in inflectional affixes on a stem, together with the bare stem if it occurs as a whole word, constitutes the paradigm of a stem. (p.210)

In contrast, where meaningful units are considered in their relationships within a specific construction, there are

sintagmatic relations. Saussure (apud Matthews, 1974) called them relations " in praesentia".

Matthews states that the word must be represented as a sequence of morphemes, where the order is potentially contrastive. According to Halliday and Pike:

> The morpheme is the minimal indivisible or primitive unit, the word is merely one of a hierarchy of complex or non-minimal units including the phrase, the clause, the sentences etc.(apud Matthews p 12)

These minimal units of grammar where form and meaning are, in some way, in union represent the ultimate bases for the description of the primary articulation of grammar.

An important property of language is its three articulations. The primary articulation , just mentioned, describes how meaningful units or similar elements relate to each other in grammar patterns. Secondary articulation involves the level of phonemes or sound patterns. The third one deals with features either semantic or phonetic.

The main concern in this work refers to the primary articulation, as morphemes will be described in terms of their relationship to similar elements at the grammatical level. Morphemes are abstract grammatical units, and according to Matthews (1974): Their necessary properties are simply those of combining in grammatical construction. (p.11)

Words belonging to the primary articulation are distinguished and identified by the combination of smaller

units, in our case, morphemes. These combinations allow generalizations, that permit the formulation of rules.

Morphemes are identified in terms of combinations of phonemes and different grammatical aspects, like plurality in the noun system. For example, these combinations may be described as follows:

Contrast of vowels	Man/Men
Complex of contrasts	That/those
Presence or absence of certain morphemes	Boy/s Ox/en

Note, however, that in the example above the morpheme of plurality remains constant. Both in English and Portuguese the general rule of plurality of the noun system implies the presence of final /-s/, that is, the automatic productivity by which in any plural formation any X becomes Xs barring some reason to the contrary. This kind of combination allows the identification of morphemes and the contrastive analysis of the elements involved in different processes.

According to Bloomfield and his successors the concern is basically a distributional problem . For example: why certain morphemes appear in environments where others cannot, and vice-versa.

2.2 Inflexional Morphology

At this point, and before the experiment itself is presented, it is necessary to describe the processes involved in

inflexional morphology.

An important process, and with which this work is mainly concerned, is affixation. It is the main type in English morphology, involving most lexical formations like *happy/ness*, *dis/order* and all inflexional formatives *sail/ed*, *boy/s*.

This process is defined by two characteristics:

Operand	+	New Formative affixed	=	Derivand
sail		*ed*	=	*sailed*

In this work, I will observe and describe how these particles are added to the different stems. In order to do so, some concepts which are basic for the description of the data will be considered.

The stem is a dynamic form capable of inflexional, derivational, or compositional analysis; while the affixes are morphemes of bound quality as they must necessarily be joined to another element.In Portuguese, the majority of stems are also bound forms.

Addition or affixation may take three different forms according to the position in which such new formatives appear. They are:

Prefixes - the new formative is placed prior to the stem
Infixes - the new formative appears within the stem.
Suffixes - it appears after the stem, in final position.

According to Matthews, some authors would also include in this classification suprafixes and simulfixes. The former refer to morphological elements represented by suprasegmental features; while the latter refer to modifying features like nasalization or palatization. (Scliar Cabral 1985 p.73).

Actually, in English the commonest process is that of suffixation ,as it involves most lexical formations and all inflexional formations. According to Matthews (1974)

> The English tendency to suffixation continues a characteristic of Indo-European which has substantially resisted change through the millenia. (p.124)

The term affix is a grammatical one, while infix, prefix, and suffix also refer to the position of these bound forms, besides their grammatical function. On the other hand, inflexion is that part of morphology which involves inflexional affixes; the remainder of morphology is derivational. Matthews (1974) defines inflexion as follows:

> Inflexion of a word, category or whatever will refer to the entire process or any part of the process by which a word-form is derived. The inflexional formatives refer to elements at any stage throughout the derivation. (p.4)

The analysis of such elements is relevant as the additional formatives (affixes) are a constant whatever operand is in question. However, any suffix may be modified in accordance with other rules. For example: the suffix of regular forms of Past Tense and Past Participle varies among /-t/-d/ and /-ɪd/

but the basic form is the same throughout. This variation implies the rules of allomorphy, that is to say, in certain environments the formative acquires a different characteristic. This variation is based on phonological rules. Such rules will be specified later .

It is necessary to integrate the concept of alternation to the morphemic theory herein exposed. Alternants hold between the allomorphs of a morpheme and they usually have much of their phonological make-up in common. A common formulation is that of /-t/-d/-ɪd/ which are allomorphs of the appropriate abstract unit: Past Tense/Past Participle of regular verbs.

Thus, it is helpful to talk about alterations not only between allomorphs as wholes but also between parts of these allomorphs which actually differ. Alternants take place in different conditions. These are the bases for classification: (Matthews 1974)

Grammatically conditioned	MY - MINE
Phonologically conditioned	(/-t/-d/-ɪd/)
Morphologically conditioned	venus/venereal

Grammatically conditioned alternants: This alternation is determined by grammatical features. The appearance of a form excludes the other. For example: in English a verb form always requires a pronoun. In addition,the use of a possessive pronoun or adjective depends on grammatical features of the

environment in which they occur. In Portuguese, the verb stem and time/mode and number/person suffixes are bound; one cannot appear without the other.

Phonologically conditioned alternants: They may be determined by the phonemes immediately after and/or before the unit analyzed, as well as those appearing close to it, or according to the position of the unit; and even suprasegmental features like stress, duration and tone.

An example of phonologically conditioned alternation may be Plural, third person singular and possessive formation that follow this rule (Features were taken from Chomsky 1968 pp.176-7):

If the preceeding morph ends in a $\begin{bmatrix} + & strid \\ + & coron \end{bmatrix}$

the plural allomorph will take the form /-ɪz/

badge[bæʤ]/ *badges* [bæʤɪz]

buzz [bʌz]/ *buzzes*[bʌzɪz]

While a $\begin{bmatrix} c \\ + & voice \\ - & strid \end{bmatrix}$ will receive the /-z/ form.

bird [bɛrd]/ *birds* [bɛrdz]

pail [peɪl]/ *pails* [peɪlz]

If it ends in a $\begin{bmatrix} c \\ - & voice \\ - & strid \end{bmatrix}$ the allomorph is /-s/.

Cliff [klɪf]/ *Cliffs* [klɪfs]

Jack [ʤæk] *Jack's* [ʤæks]

death [deθ] *deaths* [deθs]

Morphologically conditioned alternants: They occur whenever there is no grammatical or phonological conditioning. This process is quite common. However, there is no possibility of predicting the variation, unless an underlying form is proposed, from which, applying derivational rules, it is possible to cover all forms. For example: venus/venereal, where the process can be explained diacronically.

Morphemic restriction occurs because of phonological factors that condition the alternants. Camara Jr. Capud Koch 1986, p.130 calls this kind of alternation morphophonemic because although it operates within the phonemes it affects the morphological level.

The solution seems to be the setting up of the basic form to see the modification which it undergoes. Generally this process implies assimilation, that is to say, the process by which two elements are made more alike. Thus, one part of the utterance becomes more like some other nearby part in the phonetic shape. There are two kinds of assimilation.

-Progressive assimilation: For example, the voicing is changed because of the adjacent preceeding sound.
e.g. *guessed* [gɛst]

Here, the /-d/ is devoiced to make it more like the voiceless preceeding /-s/.

-Regressive assimilation: For example, in Portuguese, the plural morpheme |-S| shows the following allomorphs $\left\{ \begin{matrix} /-s/ \\ /-ʃ/ \end{matrix} \right\}$ before $\left[\begin{matrix} c \\ - \text{ voice} \end{matrix} \right]$ or silence; $\left\{ \begin{matrix} /z/ \\ /ʒ/ \end{matrix} \right\}$ before $\left[\begin{matrix} c \\ + \text{ voice} \end{matrix} \right]$ and /z/ before a vowel. In addition, there is also a syllabic reanalysis e.g. *rosas abertas* /'Rɔ-za-za'-bɛr-tas'/

Câmara Jr. (1986) explains that:

> the final consonant of a word is linked to the vowel in the following, in a way that the former loses its post-vocalic position in the final syllable of the first word so as to become pre-vocalic in the initial syllable of the late. (p. 35, my translation).

Progressive assimilation is a process observed in English, while, as a rule, regressive assimilation appears in Portuguese. This difference may be regarded as giving rise to certain types of interference.

The process just mentioned is part of what is called Sandhi (from Sanskrit: joining). It refers to the process that ends in an alteration where there is phonetic compulsion to. This is basically a dynamic process because the form: emerges by the interaction and influence of one basic form on another. (Matthews 1974 p.103)

Lewis (apud Matthews 1974) states this phenomenon is due to the natural human tendency towards economy of muscular effort. Although more recent psycholinguistic approaches suggestthat the dynamics of speech gestures produces a continua resulting in the phenomenon of Sandhi. The process of Sandhi may be classifiedas internal or external.

Internal Sandhi: the process operates within word boundaries.e.g. *in* + animado(The prefix /Ĩ/ is dismembered and a $\begin{bmatrix} c \\ + \text{nas} \end{bmatrix}$ immigrates to the next syllable as it is close to a vowel, thus resulting in a syllabic reorganization.

Ĩ + animadu ⟶ inani'madu /i-na-ni-ma-du/

External Sandhi: the process is external to the word, that is, it occurs across word boundaries.

In the example in Portuguese already presented /'Rɔ-za-za-'bɛR-tas'/ and according to Camara Jr. (1986)

> the process of external Sandhi happens through the adaptation in the final part of the word to the initial of the following within the same group of force.(p.43 ,my translation).

So, in order to summarize, I will quote Hockett (1970):

> Morphemes in a single word vary in their phonemic representation depending on other morphemes in the same word and the shape of the whole words vary depending on their position relative to each other and on the shapes of adjacent words. (p.277)

Other major morphological processes may be labelled in terms of total or partial modification of the operand itself. Total modification or suppletion occurs ,for example, in the past tense of go/went, because two different roots are involved in the process. Partial modification occurs in the plural form of man/men as it involves a change in the vowel This process called Unmlaut may also be illustrated in terms of verbs like get/got, or sink/sank. Despite the fact that there is a modification within the operand that would to some extent derive to irregularities, it is necessary to determine a generalization whenever such modification is coherent to the phonological system. For that purpose, the following chart of vowels and diphthongs will suit.

VOWELS	Front	Back
Close	i	u
mid	e	ɔ
open	æ	ʌ

DIPHTHONGS	Front	Back
close	i:	u:
mid	ei	ou
open	ai	au

(Matthews 1974)

Thus, considering the previous charts ,we will be able to establish possible generalizations. For example, the modification of the vowel in *got* happens because the front vowel in *get* turns into its back equivalent, that is an

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/-ɔ-/. Another possibility is to use Chomsky and Halle's phonetic features (1965) for the description, which will be prefered for the sake of clarity. According to their classification:

$$[\text{V}\ -\text{back}] \longrightarrow [\text{V}\ +\text{back}]$$

In the case of *sink/sank* the close /-i-/ turns to an open /-æ-/

or $\begin{bmatrix} \text{V} \\ +\text{high} \\ -\text{low} \\ -\text{back} \end{bmatrix} \longrightarrow \begin{bmatrix} \text{V} \\ -\text{high} \\ +\text{low} \\ -\text{back} \end{bmatrix} / \ \text{C} \ \underline{\quad} \ \begin{bmatrix} \text{C} \\ +\text{high} \\ +\text{back} \\ +\text{nas} \end{bmatrix}$

In the same way the diphthongs in *found*, *broke* are the back equivalents of those in find and break. These modifications seem to follow a single operation:

$$\text{FRONT} \longrightarrow \text{BACK} \quad \text{or} \quad \begin{bmatrix} \text{V} \\ -\text{back} \end{bmatrix} \longrightarrow \begin{bmatrix} \text{V} \\ +\text{back} \end{bmatrix}$$

then, generalizing in one direction.

However, in some cases it is also possible to describe two different operations altogether, like shortening and lowering (*shoot/shot*) covering the process from a back close /u:/ to a mid /ɔ/.

According to Chomsky and Halle $\begin{bmatrix} \text{V} \\ +\text{high} \\ -\text{low} \\ +\text{tense} \end{bmatrix} \longrightarrow \begin{bmatrix} \text{V} \\ -\text{high} \\ +\text{low} \\ -\text{tense} \end{bmatrix}$

Up to this point, the major processes involved in the morphological analysis necessary to this work have been covered. Nevertheless, it is also important to remind the reader of a piece of advice given by Matthews (ibid)

> The crucial lesson is that the same facts may be handled in an entirely contrary way by different analysts. Hence, the same process stands in danger of falling under two quite contrary typological headings. (p. 134)

For this reason, it is possible that some elements may fall under different headings, moreover, some features of an element may overlap, include or coincide with those identifying another element.

2.3 Description and comparison consonant and vowel systems (English-Portuguese)

The following description is partial: the purpose is to highlight the pertinent characteristics to the development of the experiment. The concern is to provide a general theoretical background that will form the base for the description of the results obtained and the possible underlying processes in the production of the language as well as to explore the reasons for the kind of linguistic data obtained.

2.3.1 Classification of sounds

An important basic contrast found among sounds is the one which signals the difference between [+ voice] and [-voice]. In terms of articulatory phonetics,

> A sound is voiced if our vocal cords vibrate as we pronounce it, a sound is voiceless if it is pronounced without such vibration.
> (Clifford et al 1985 p.90)

The [+ voice] English consonants are:

b/d/g/v/ð/z/ʒ/ʤ/m/n/ŋ/l/r/.

According to Chomsky and Halle (1965) the last five phonemes are [+sonorant], consequently, the [+ voice] feature is redundant.

On the other hand, the [- voice] English consonants are: p/t/k/f/ɵ/s/ʃ/ʧ/h/. Therefore, it is possible to establish several similar pairs. They are:

b/p	d/t	ʤ/ʧ	g/k
v/f	ð/ɵ	z/s	ʒ/ʃ

All vowel sounds are voiced.

Because of the differences found between the English phonological system and the German system, Clifford et al (1985) state that:

> It is extremely easy to make the error of pronouncing one in place of another. If he sees the word bed, he may think he pronounces it as (*bed*) but to a native speaker it will probably seem that he says (*bet*). (p. 4)

The reason is that in German the [$\pm$ voice] difference neutralizes in favor of [- voice] when the final consonant is [- continuant]

In the same way, in Portuguese the sound /-z/ in final position may be devoiced into /-s/ before silence or a word beginning with a voiceless consonant. This kind of problem derived from L1 phonological system interference, specially in relation to EFL Brazilian students' will be herewith developed through establishing a contrast at compromising areas.

2.3.2 Phonological systems

The phonological systems will be analysed contrastively so as to obtain:

1- The phonemes in English that do not occur in Portuguese.

2- English phonemes that also occur in Portuguese, but with a different distribution.

3- Phonemes that occur in both languages but have different allophones.

4- Differences in the phonetic conditioning and neutralization. That is to say, when a contrastive feature between two units is substituted by a similar one, this new feature replaces the other two.

At this point, the contrastive system of consonants and vowels as described by Steimberg (1985) will be included .Steimberg's description is used since there was no contrastive analysis available using phonetic features such as those employed by Chomsky and Halle (1968).

2.3.3 English Consonants

The following charts are based on manner,zone of articulation and voicing or lack of it.

		bilab	lab/dent	alveol	palat	velar	glot.
Plosives	-vo	p		t		k	
	+vo	b		d		g	
Fricative	-vo		f	θ	ʃ		h
	+vo		v	ð	ʒ		
Affricated	-vo				ʧ		
	+vo				ʤ		
Sibilant	-vo			s			
	+vo			z			
Lateral	+vo			l			
Nasal	+vo	m		n		ŋ	

2.3.4 Portuguese Consonants

		bilab.	labiodent.	alveodent.	palat.	velar
Occlusive	-vo	p		t		k
	+vo	b		d		g
Fricative	-vo		f		ʃ	*H
	+vo		v		ʒ	
Sibilant	-vo			s		
	+vo			z		
Lateral	+vo			l	ʎ	
Nasal	+vo	m		n	ɲ	
Flaps	+vo			ɾ		
Semivowels					y	w

Steinberg (Page 14-15)

In this chart the semivowels were added. On the other hand, there is no natural explanation for Steinberg choosing the glottal [h] consonant as the archiphoneme for two main reasons:

1- it is not the most frequently used variant.

2- it is not phonologically motivated.

It would be better to maintain either the symbol used by Câmara Jr. or a question mark, considering the number of existing variants in Brazilian Portuguese. The possible variants are: [x] [ɣ] [r] [ɾ] [R] [ʁ] [R̠] [h].

2.3.5 English vowels

	Front		Back	
(beat)	i:		u:	(boot)
(bit)	ɪ		ʊ	(put)
(bait)	ei	ə	oʊ	(boat)
(bet)	ɛ	(but)		
(bat)	æ	a	ɔ	(bought)
		(pot)		

(Clifford 1985 p.13)

2.3.6 Portuguese vowels

Close	1 degree	/ i			u	High
	2 degree	e		o		
Open	1 degree		ɛ	ɔ		Medial
	2 degree			/		
			a			Low

Scliar-Cabral, 1982, p.66

(Description based on Câmara Jr. 1964, p.63)

It is also necessary to state that the undergoing analysis is based on the scope proposed by Steimberg (1985) with the corrections already mentioned..From the analysis of the tables in both languages it is possible to determine that :

1- There are English consonants that do not appear in Portuguese e.g. θ/ð/.

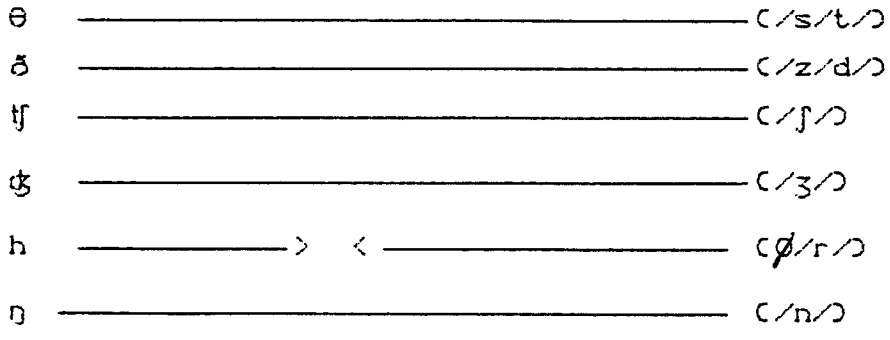
/ʤ/ʧ/h/ŋ appear as allophones in some sociolinguistic varieties and/or phonetic environments.

- The English vowels that do not appear in Portuguese are: ɪ/æ/ʊ:/.
  /ə/ appears as an allophone when nazalized.

2- Certain phonemes of the same type do have a different point of articulation e.g. /t/d/s/z/.

Therefore, observing the articulatory proximity, it is possible to hypothesize which phonemes that being different in both systems will be substituted by homorganic ones, as well as, which they might be.

Sounds in the first column will probably be substituted by



(Steimberg 1985 pp.18/9)

In relation to Steinberg's table some comments must be made:

a- It is not possible to assure that all these sounds will

actually be substituted; and her assertion must be modalized as it is probable but not definite that substitution will occur .

b- English phonemes /tʃ/ and /ʤ/ occur in Portuguese as allophones before $\overset{V}{\begin{bmatrix} + \text{ high} \\ - \text{ back} \end{bmatrix}}$ so, in the last context there are no difficulties for EFL Brazilian students.

c- The mentioned nasal consonant [ŋ] $\overset{C}{\begin{bmatrix} + \text{ high} \\ + \text{ back} \\ + \text{ nas} \end{bmatrix}}$ is usually substituted by [g] loosing its nasality.

/ŋ/ ⟹ [g] but will be preceeded by a nasalized vowel followed by an anticipatory [ŋ]*

3- Allophones of common phonemes may also provoke interferences. They are the English consonants /p/t/k/ whose pronunciation is different according to the context in which they occur. Consider for example /-t-/.

In English /t/ has two allophones: /t/ and /th/

/th/ occurs at the beginning of a word not followed by a semivowel/y/r/w/. e.g.

tame[theɪm].

or in a stressed intervowel syllable not followed by /y/r/w/l/. e.g attack [əthæk].

/t/ occurs when preceeded by /-s/ and in all other contexts e.g stay [steɪ], butter [bʌtə].

Whereas, in Portuguese /t/ has the allophone /ʧ/ in front of /i/ like in tia [ʧɪa] , as a variation of /t/ depending on the sociolinguistic variety. (Examples were taken from Steinberg 1985 p.20).

4- A quite different problem is that related to the distribution of the phonemes that appear in both systems,but is defective in Portuguese.

Phonemes distribution is considered defective when they do not occur in certain positions within the words. For example /p/b/t/d/k/g/f/v/m/n/ŋ/ do not appear in final position in Portuguese. Because of their not appearance in final position, the tendency of the EFL Brazilian student will be to add a vowel sound immediately after those phonemes. (m/n/ŋ where added to Steinberg's description. Accordingly, a word like cap [kæp] will be pronounced [kæpɪ].

The vowel systems have almost no point of coincidence. This is so, because there are different elements forming the pattern and also because of the different conditioning of the allophones. It is hypothesized that such differences will influence the processes underlying automatisms. For example:

English vowels are lengthened when they are stressed before a final voiced consonant: buzz [bʌz], pad [pæd]. In Portuguese, vowels in unstressed final position partially or entirely lose their voicing when the preceeding consonant is voiceless. Canta ['kɐ̃tɐ].

Thus, vowels in unstressed positions make it possible for the process of neutralization or replacement by a similar feature to happen. Conditions for this process vary from language to language. In some Brazilian Portuguese dialects the difference between $\begin{bmatrix} V \\ +\ high \end{bmatrix}$ and $\begin{bmatrix} V \\ -\ high \\ -\ low \end{bmatrix}$ in unstressed final position are neutralized. The occurrence of one feature or another depends on external conditions. This needs exemplification:

> Neutralization happens when the distinction between two phonemes is lost in a particular environment. (Crystal ,1988)

Appart from the differences between both systems already mentioned, I will now present some general considerations.

Some phonotactic combinations, or groups or sequences of phonemes in initial position which are absent in Portuguese are the following: (below mentioned examples have been taken from Steimberg 1985, p.24)

/θr/	through	/θw/	thwart	/hw/	when
/ʃr/	shrew	/spl/	splash	/spr/	spray

These examples may be generalized in a simple rule that constraints the possibility of a cluster beginning with a

$$\begin{bmatrix} c \\ +\ \text{strid} \\ +\ \text{coron} \end{bmatrix}$$

. On the other hand, [θ] and [h] are automatically excluded because they do not belong to the Portuguese system. Certain groups of consonants in initial position, those considered strange to the Portuguese system, generally receive an additional vowel , e.g.

/espy/	instead of	/spai /
/espouse/		/spauz /
/estrange/		/streinʤ/

(p.52)

On the other hand, the groups of consonants occurring in final position without addition of other morphemes, whether derivational or inflexional, that is, simple words, offer a good example of contexts where EFL Brazilian students are also inclined to add a vowel sound turning the consonant not admited in this position into a syllable, more alike to the Portuguese canonical form (CV). Here are some of the possible contexts where this may happen :

/nd/ mend	/lp/ help	/nt/ ant	/ls/ false
/lf/ self	/ft/ soft	/sp/ grasp	/nk/ pink
/kt/ act	/lm/ film	/dz/adze	/ln/ kiln

(Steimberg 1985 P. 26/27)

In the next paragraphs I will present Odlin's opinion on this matter.

Eckman (1981) (apud Odlin 1989) considers

> such errors to syllable structure typology. The addition of a vowel such as /pig/ seems to be a consequence of a typological preference for open syllables. (p.122)

This problem has been observed by Eckman in relation to Japanese, however it can only be applied to Portuguese. This pattern may mark a universal predisposition on thepart of the learner to CV syllables ,despite the native language, as documented by Greenberg (1983), Hyman (1975) ibid.

As far as the written system is concerned, the principal point of interference is based on the fact that both languages employ the same written system: the Latin alphabet. The symbols are almost the same, however, their values are different. Therefore, the trouble is the correspondence between the grapheme and the phoneme ; specially if we assume that this kind of correspondence is more regular in Portuguese than it is in English. The fact that the Portuguese regularity is unconsciously applied to the FL gives rise to interferences. In Portuguese, for example, the phoneme /p/ is always represented by the letter (p), and vice-versa like in (pato). As regards to English, the phoneme /p/ may be written

p - pair
pp - upper
pe - ape
pph - sheppherd

(Steimberg 1985 p.60)

The same happens with the phoneme /t/ like *tela* in Portuguese, that has several representations in English:

t - tip
tt - utter
te - ate
th - Thames
ght - light
bt - doubt
ed - hoped. (ibid)

Generally speaking, errors involve the substitution of a sound by a homorganic one, that is to say, a sound whose zone of articulation is very close to the appropriate one; and/or the application of allophonic rules that belong to the students' L1 system. It can therefore be assumed that Brazilian Portuguese, may interfere with the production of the FL, thus, blocking the acquisition of FL rules. Learning certainly does not occur by rote but through the internalization of productive rules.

The main problem in fact is that automatisms are unconscious, making it difficult to perceive or develop an awareness for the difference. A FL student neglects noticing some features of the new system he/she is acquiring. Again, it is hard to become aware of features that do not appear in the L1 system. Clifford et al. (1985) state:

> In learning a new language a speaker usually internalizes its relatively restricted phonological system at an earlier stage than its much more extensive grammar or lexical systems. (p. XXVI)

It is therefore implied that the choices involved in the production of the FL are made largely below the level of awareness. For this reason, it was important to mark in this work the limits of those aspects which might be involved in the interferences, through a partial contrastive analysis,already done, in morphological and phonological terms always in relation to the requirements of the research.

Just to round up the theoretical part,I will present a definition of transfer. According to Odlin (1989)

> Transfer is not a simply consequence of habit formation. p.25
> Transfer is not simply interference.
> Transfer is not simply falling back on the native language. p.26

In his terms, the acquisition of L2 may not necessarily imply a replacement of the learner's L1 but cross-linguistic influences in the performance of the L2. On the other hand, Krashen (1983 apud Odlin 1989) refers to transfer as

> the result of falling back to old knowledge or L1 rule when there is lack of knowledge as a kind of strategy until the new rule is acquired.(p.34)

The concept seems properly applicable to inaccuracies in the phonological system resembling the L1 for the purpose of this work. Nevertheless, some other factors appart from native

language are cited by Odlin (1989) as influences on the production of the L2, and not always these factors imply negative transfers or just a strategy that will be abandoned later on.

In this work it is assumed, as Odlin (1989) determined, that:

> Transfer is the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired.
> (p.27)

It is also assumed that transfer is basically the result of different systems in confrontation together with nonstructural factors that may interact. Although, it is not simple to analyse learners' personality, aptitude for phonetic mimicry, linguistic competence and literacy, they should all be considered as possible sources of some deviation in any research. I will only consider one of those factors,native language. But there is still a lot of work to be done in this area, and I assume that in this way the area for the analysis is more accurately delimited for a starting point. Future research would include other influencing factors. However, knowing which the troublesome areas are, then there is a chance of reverting the fact or an opportunity of diminishing those factors causing the transfers.

2.3.7 Phonetic and phonological transfers

Phonetic and phonological transfers depart from the basic concept of different language systems. Any inaccurary results in the not attendance of the L2 rules, and gives rise to approximations to L2 pronunciation. Generally EFL students tend to categorize English sounds in terms of L1 phonemic inventory and their respective distributional patterns and allophones.

This presupposition does not necessarily mean lack of perception in terms of differences, however, high phonetic sensitivity is necessary so as to overwhelm native language patterns.

According to Moulton's taxonomy (apud Odlin 1989 p.116) in terms of errors in pronunciations there are:

1- Phonemic errors

They arise when the phonemic inventories of two languages differ. e.g. Japanese, Chinese and Korean confusion between /r/ and /l/ when learning English, or between $\left\{ \begin{matrix} /t/ \\ /s/ \end{matrix} \right\}$ and /e/; and $\left\{ \begin{matrix} /d/ \\ /z/ \end{matrix} \right\}$ and /ð/ among EFL Brazilian students.

2- Phonetic errors

e.g. the German uvular /r/ and the English retroflex /r/ are corresponding consonants in cognate forms .however, the acoustic properties differ considerably . The same with /r/ (Eng. [ɾ] and Port. [r]

3- Allophonic errors

They arise in cases of interlingual identifications of phonemes in two languages. e.g the German /t/ remains voiceless between vowels, while in English the /t/ is not always voiceless, so Americans learning German are liable to use a voiced consonants between vowels. A similar problem arise with $\begin{bmatrix} c \\ + \text{strid} \\ + \text{coron} \end{bmatrix}$ in final position for Brazilian Portuguese students.

4- Distributional errors

They generally resemble allophonic errors, but may involve combinations of sounds. e.g the German sound /ts/ is similar to the cluster /ts/ in final position in English (bits). Speakers of English have no difficulty in pronouncing this sound in final position when learning German but, they do often have difficulties when it appears in initial position. The same happens with Brazilian Portuguese students when they are confronted to $[+ \text{nas}]_c$ in syllable closing position.

(examples were taken from Odlin (ibid) but those pertaining to Portuguese were added by the author, as well as the adaptation to phonetic features.)

From the discussion and definitions so far presented, it is possible to establish that native language is a very important factor in the acquisition of another language, in the same way

> the importance of transfer is evident in studies of specific pronunciation contrasts and also in research comparing the overall pronunciation accuracy of speakers.
>
> (ibid p 127)

On this basis, in this thesis I analyse the performance of EFL Brazilian learners in order to discover the factors influencing the phonological and morphological transfers and I examine the possibilities of reducing their occurrence.

Chapter 3
THE EXPERIMENT

3.1 Statement of the purpose

The purpose of this study is to discover what is actually produced in terms of morphology by EFL Brazilian students exposed to English input during their extracurricular courses at UFSC. Students' productive knowledge of English morphology was tested by eliciting various inflexions and derivations in a reformulation of the Berko-Gleason's test of English morphology (1958). The principal interest in doing so was to describe the main problems students are confronted with at the time of producing specific types of data. Two hypotheses were tested:

a- EFL Brazilian students have stored productive morphological rules of their second language.

b- EFL Brazilian students are influenced by Portuguese morphophonemic rules responsible for the production of allophones and allomorphs.

Berko-Gleason's test (1958) departs from the theoretical presupposition of linguistic productivity. It consists of the

application of certain already internalized rules given the appropriate context. In order to establish whether there was a kind of development in terms of application of morphological rules and the kind of interferences appearing in the behaviour of two groups of students with different levels of competence were tested. A contrast between the data obtained in each group was considered.

As this test was applied to second language learners, special attention was devoted to interferences of subjects' native language automatisms. It is assumed that automatisms from native language are very difficult to overcome, specially because of their unconscious character. For that reason, it was assumed that conscious perception of the differences between both languages is necessary. Monitoring was perceived at the time of applying the test, when hesitation and self-correction after an utterance occurred. The ultimate goal of the research is to consider the pedagogical implications of introducing metalinguistic strategies in our daily teaching, in an attempt to aid our students in an area that may be considered conflictive.

3.2 Methodology

3.2.1 Subjects

Forty adult EFL Brazilian students of both sexes taking extracurricular courses at UFSC were tested, twenty at advanced and another twenty at intermediate level. Most of them were undergraduate students at UFSC in different areas. They were chosen at random, considering the variables hereinafter described.

3.2.2 Materials and Procedure

An adaptation of Berko-Gleason's test of Morphology (1958) was cross-sectionally applied. It consists in exposing the subject to legal words connected to pictorial stimuli. The first intention was to introduce such pseudo-words in a story so as to facilitate comprehension. Story and pictures together would provide the subjects with a context intended to provoke the use of morphological rules which are already stored in their minds allowing the possibility of developing the test in a more spontaneous context. However, the results in the pilot research showed that the story, despite its simplicity, disturbed the intended elicitation of responses. As it was explained in the

pilot work (Pereira 1992), students demonstrated a great preocupation in terms of semantics attempting to establish a word to word correspondence between L1 and their FL .

For the reasons already exposed, it was decided to present the pseudo words in smaller contexts, not more than three or four short sentences together with the pictorial stimuli as previously done by Berko Gleason. The structure of the context where the pseudo words appeared was quite similar avoiding students become desoriented.

Simple pictures to represent the pseudo words were drawn on cards, aiding the subject to produce the forms to be tested, in a way enlarging the context of the sentences, providing a visual stimulus. Note that no phrase was written on those cards.

Real words were also included, as opposed to the pilot research, with the purpose of checking any possibility of rote learning because those words could appear as marked forms.

The test was applied by two researchers. The subject sat in front of the one who provided for the phonetic transcription "*in loco*" of subjects' production to take advantage of visual cues. The other researcher sat at the side and presented the cards. Application was done with each subject individually. The cards were presented in different orders to avoid some detriment of always having the same pseudo words at the end, because weariness could provoke extra errors.

Each session was recorded for further analysis. The commands were given in simple English and a point was stressed: that it was not a regular test or part of the marks of the course itself, but an experiment with no expectations of correctness on their part. These facts were clarified trying to avoid a high affective filter from the students.

It was applied at the video room at UFSC, but not at the Language Laboratory trying to keep a balance between external and internal validity, although we agree with Hatch and Farhady (1982) when they say that

> In order to have the most valid results we restrict our procedures as carefully as possible, often to laboratory; and maximizing external validity militates against internal validity. (p.9)

The decision to let this statement aside was our confidence on the fact that the outcome of the research is important only if applied to other similar situations in classroom, and the laboratory is not always a reflexion of a common teaching environment.

Tapes and transcriptions were analysed quantitatively and qualitatively trying to discover any possible pattern in the subjects' production of allophones and allomorphs, bearing in mind patterns of Portuguese that might appear, as a result of any possible interference of the native language.

3.2.3 Controlled Variables

Information about subjects' schooling, age and competence was obtained through questionnaires prepared for that purpose. A copy of such questionnaires is annexed in the appendix.(3) It is self-rating. However,the main concern involved the character or type of input to which the subjects were exposed to, learning the FL in classroom environment was considered the best one for this experiment. As linguistic competence is extremely difficult to ascertain accurately, personal insight of the subjects on part of the course teacher was also used .The researcher has been the course teacher in both groups during a whole term. Sex was disregarded in this particular study because this is an area where no significant differences were reported.

3.2.4 Pilot Research

The pilot research was conducted during the second term 1992/93 with a group of students at the extracurricular courses at UFSC, (six students from the third level). The intention was to check the instruments in order to avoid any possible biases, and to brush up the final version of the instrument.

All the decisions for the present work were based on the pilot research experience, that is: the application of sentences instead of a story, the substituition of the language laboratory

for a more class-like place, as well as the fact of the presence of L1 interference which encouraged the following up of this work.

The most important detail to be mentioned about the pilot experience is that the results obtained therein, were similar to those obtained by Berko-Gleason when studying children's morphology rule formation. FL students seem not to have a very different pattern of acquisition than that observed by Berko, however, their L1 played an important role. Probably, the difference in kind of input received can account for dissimilarities and interferences.

Since language is used for communicative purposes subjects usually tend to lexicalize pseudo words. This tendency was shown in researches by Nepomuceno (1988) and Blasi Rodriguez (1994)

3.3 Allomorphs involved in the experiment

3.3.1 A- Pronunciation of /-ed/ (according to Clifford et al. 1985)

The suffix of Past Tense and Past Participle is added to regular English verbs, however, this ending implies three different pronunciations /-t/-d/-ɪd/ according to a basic principle:

> When two consonants are pronounced together, it is easier to voice both consonants or leave both voiceless than it is to voice one and leave the other voiceless. (p.94)

Following this simple rule, it is possible to derive the other three rules that cover all the possibilities of pronunciation of Past Tense and Past Participle regular formation. They are : (ibid.)

1. /-ɪd/ as a separate syllable, after /-t/ and /-d/. e.g. protected [prɔtɛktɪd] intended [ɪntɛndɪd] Because it will be almost impossible to add a /-t/ or a /-d/ sound to words with the same ending, for this reason it is necessary to insert a vowel sound between such consonants.

2. /-t/ after all voiceless consonants except /-t/.

rocked [rakt] kissed [kɪst]

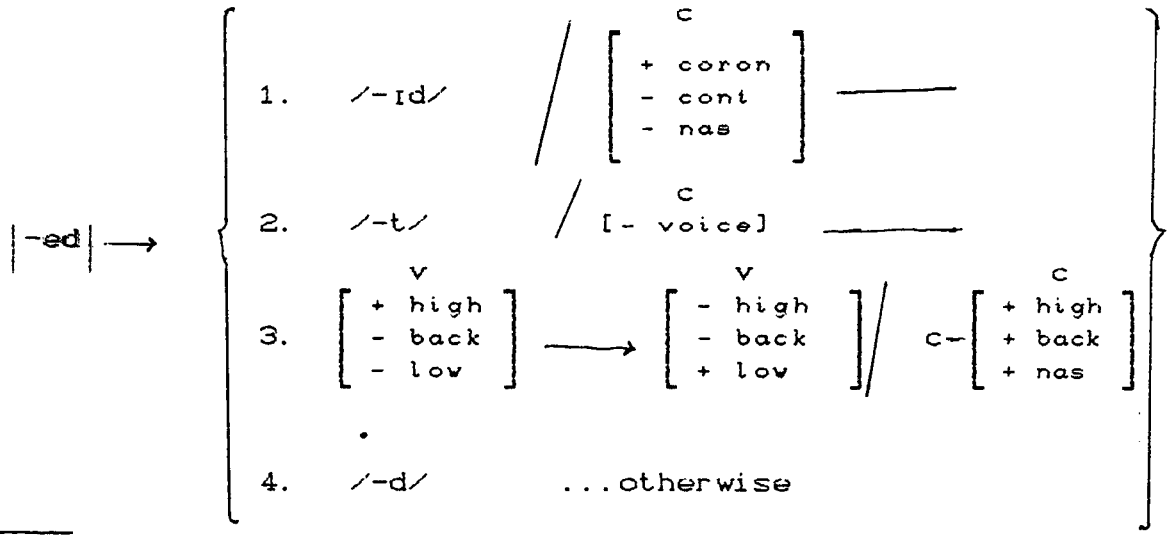
3. d/ after all voiced consonants except /-d/, and after all vowel sounds, as they are voiced too.

planned [plænd] played [pleɪd]

The above description may be formalized as follows, observe the addition of Umlaut rule):

RULE A (formalization)

Rules of Past Tense and Past Participle *



* Adaptation to phonetic features

3.3.2 B- Pronunciation of /-s/ in final position

This final sound is quite productive in English as it is used in the formation of plural forms of nouns, to turn a verb into third person singular of simple present tense, and in possessive formations. Although the final /-s/ may be spelled the same way, the correspondent phonemes follow strict phonological rules. That is,they may be /-s/-z/-ɪz/.

The ending /-s/ is pronounced : (ibid. p.96)

1. as a separate syllable /-ɪz/ after a sibilant*

/-s/-z/-ʃ/ʒ/ʧ/ʤ/ or $\begin{bmatrix} \overset{C}{} \\ +\text{coron} \\ +\text{strid} \end{bmatrix}$ in SPE (1968)

dishes [dɪʃɪz] George's [ʤɔrʤɪz] foxes [faksɪz]

* Different from Steimberg's labelling.

In the same way as /t/ or /d/ which cannot be pronounced being added to the same ending, final sibilants also require the insertion of a vowel sound in between.

2. /-s/ after all voiceless consonants except sibilants, that is, it will follow a $\begin{bmatrix} \overset{C}{} \\ -\text{voice} \\ -\text{strid} \end{bmatrix}$ using SPE (1968) features,

e.g. grants [gra:nts] wraps [ræps] Jack's [ʤæks]

3. /-z/ after all voiced consonants except sibilants . that is, will follow a $\begin{bmatrix} + \text{ voice} \\ - \text{ strid} \end{bmatrix}^{C}$ (SPE) and all vowel sounds.

e.g. games[geimz] calls [kɔ:lz]

RULE B (formalization)

Rules of plural, 3rd. person and possessive formation

$$|\ S\ | \rightarrow \begin{cases} 1. \quad /\text{-ɪz}/ \;/\; \begin{bmatrix} + \text{ coron} \\ + \text{ strid} \end{bmatrix}^{C} \text{ ——— } \# \\ 2. \quad /\text{-s}/ \;/\; \begin{bmatrix} - \text{ voice} \\ - \text{ strid} \end{bmatrix}^{C} \text{ ——— } \# \\ 3. \quad /\text{-z}/ \ldots \text{ otherwise} \\ 4. \quad \begin{bmatrix} - \text{ coron} \\ - \text{ voice} \\ + \text{ strid} \end{bmatrix}^{C} \rightarrow [+ \text{ voice}]^{C} \;/\; \text{—— } z \; \begin{matrix} \# \\ N \end{matrix} \end{cases}$$

The previous description of the pronunciation of final /-ed/ and final /-s/ serves as an example of how a specific morpheme is sometimes phonologically conditioned. Thus, in such cases it is possible to say that the shapes stand in alternation with each other. These alterations representing some given morpheme are called allomorphs.

Up to this point, the allomorphs pertinent to the

experiment (a formulation similar to Berko's (1958) have been presented as well as the description of the Portuguese system, plus a partial contrastive analysis of the points of main interest in relation to the work.

In next section general rules and secondary hypotheses will be examined.

3.4 General Rules and Secondary Hypotheses

2.4.1 General rules in Portuguese and subsequent reanalyses

FORMALIZATIONS

Consonants in final position $\left\{ \begin{matrix} j \\ w \\ R \\ \left\{ \begin{matrix} S \\ \int \end{matrix} \right\}^{(1)} \\ (Z) \end{matrix} \right\} / \_\_ \#$

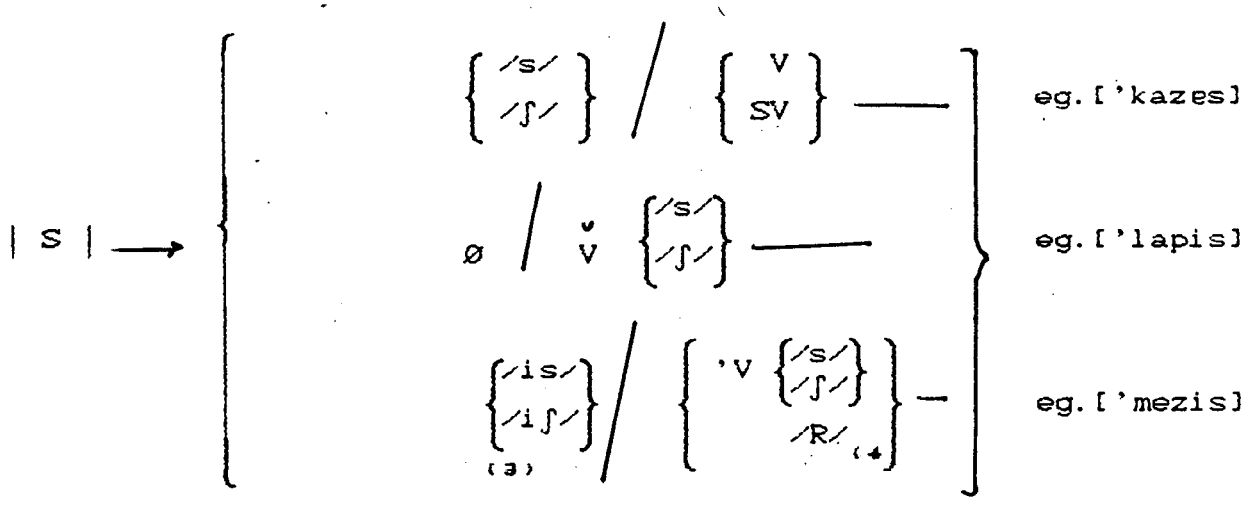
1- the realization depends on the learner's sociolinguistic variety. (However in this experiment all Ss. used /s/ to close the syllable).

2- some authors admit the archiphoneme | N |, which nasalizes the precedent vowel. In this case, coherently they do not accept nasalized vowels as phonemes.

Condition : If $\left\{ \begin{matrix} /s/ \\ /\int/ \end{matrix} \right\}$ # are followed by # V they become /z/ with syllabic reanalysis. For example pa$\left\{ \begin{matrix} s \\ \int \end{matrix} \right\}$ # in the following context: ['paza'gɔrɐ]. If they are followed by a $[+ \overset{c}{\text{voice}}]$ they become voiced.

For instance [paz'bɐlɐ], [paʒ'bɐlɐ].

Condition : For the plural formation rule the following derivation from Portuguese applies:



3-Except other marked rules which are ommitted since they are irrelevant to this research.

4- For the sake of economy we used the archiphoneme since there are many possible sociolinguistic variants in Brazilian Portuguese.

3.4.2 Reanalyses of the English System

Reanalysis 1- Add one of the noun thematic vowels (/i/ /e/; /u/ /o/ or /a/ ,if it is a noun,whenever other consonant appears in final position.
e.g.*cap* [kæp] --->. ['kɛpi]

Reanalysis 2- Whenever an [i] is produced after [d] or [t] the latter affricates. e.g. *kitty* [kiti] --->[kiʧi]
(depends on sociolinguistic variety)

Reanalysis 3- If the English allomorph is $\left\{ \begin{matrix} /-z/ \\ /-ʒ/ \end{matrix} \right\}$ it devoices ---> $\left\{ \begin{matrix} /-s/ \\ /-ʃ/ \end{matrix} \right\} / \_\_ \left\{ \begin{matrix} C \\ [-voice] \\ \# \end{matrix} \right\}$

e.g. *game* [geimz]-->[geimi$\left\{ \begin{matrix} s \\ ʃ \end{matrix} \right\}$]

Reanalysis 4- If the English consonant or vowel, and/or its distribution do not exist in the Portuguese system, they are adapted into a homorganic one. e.g. *children* [ʧildrən]--->['ʃiwdrẽǰ]

Reanalysis 5- If there is a cluster, in English, in final position there is an insertion of the vowel /-i/. with the consequent syllabic reanalysis.e.g.

e.g. *worked* [wʌrkt]---> [wərkiʧi].

Reanalysis 6- English irregular formation tends to be absorved into overgeneralizations in case of legal words.

Obs: In the formation of Simple Past the effect of written modality and/or inefficient instruction is also notorious.

Reanalysis 7- Add /-i/ before /-s/ whenever it appears in initial position within a cluster.

e.g. *spouse* [spaʊz]--->[is'paws]

3.5 Samples and Secondary Hypotheses

1- This is a wug [wʌg]. Now there is another one. There are two of them. there are two wugs.[wʌgz]

ENGLISH: Applies rule B.3

PORTUGUESE: Applies reanalyses 4 ,1 and 3. ['wag TV$\left\{\begin{matrix} s \\ ʃ \end{matrix}\right\}$]

2- This is a man who knows how to spow [spɔw]. He is spowing. He did the same thing yesterday. What did he do yesterday? Yesterday, He spowed [spɔwd].

ENGLISH: Applies rule A.4

PORTUGUESE: Applies reanalyses 7, 1 and 2. [is'pɔwʤi]

3- This is a kazh [kæʒ]. Now there is another. There are two of them. There are two kazhes[kæʒɪz].

ENGLISH: Applies rule B.1

PORTUGUESE: Applies reanalysis 4, the Portuguese rules of consonants in final position and plural allomorphs.['kɛzi$\left\{\begin{matrix} s \\ ʃ \end{matrix}\right\}$]

4- This is man who knows how to rick [rɪk]. He is ricking. He did the same thing yesterday. What did he do yesterday?

Yesterday, He ricked [rɪkt].

ENGLISH: Applies rule A.2

PORTUGUESE: Applies reanalyses 4, 5, 1 and 2. [ʔikiʧi]

5- This is a tor [tɔr]. Now there is another. There are two of them. There are two tors [tɔrz].

ENGLISH: Applies rule B.3

PORTUGUESE: Applies reanalyses 4, Portuguese rules of plural allomorphs and 3.[ʹtɔri $\left\{\begin{matrix}s\\ʃ\end{matrix}\right\}$]

6- This is a glass [glæs]. Now there are two more. There are three of them. There are three glasses [glæsɪz].

ENGLISH: Applies rule B.1

PORTUGUESE: Applies reanalyses 4,Portuguese rules of plural allomorphs and 3. [ʹglɛzi $\left\{\begin{matrix}s\\ʃ\end{matrix}\right\}$] (if not learnt by rote)

7- This is a niz [nɪz]. Now there is another one. There are two of them. There are two nizes [nizɪz].

ENGLISH: Applies rule B.1

PORTUGUESE: Applies reanalyses 4, Portuguese rules of consonants in final position and plural allomorphs and 3 [ʹnizi $\left\{\begin{matrix}s\\ʃ\end{matrix}\right\}$]

8- This is a lun [lʌn]. Now there is another one. There are two of them. There are two luns [lʌnz].

ENGLISH: Applies rule B.3

PORTUGUESE: Applies reanalyses 4 and 3. [lʒ* $\left\{ \begin{matrix} s \\ ʃ \end{matrix} \right\}$]

9- This is a man who knows how to mot [mɔt]. He is motting. He did the same thing yesterday. What did he do yesterday? Yesterday, he motted [mɔtɪd].

ENGLISH: Applies rule A.1

PORTUGUESE: Applies reanalysis 1,2,1,and 2. [ˈmɔtʃiʤi]

10- This is a cra [kra].Now there is another. There are two of them. There are two cras[kraz].

ENGLISH: Applies rule B.3

PORTUGUESE: Applies reanalyses 4 and 3. [kra $\left\{ \begin{matrix} s \\ ʃ \end{matrix} \right\}$]

11- This is a man who knows how to bod [bɔd]. He is bodding. He did the same thing yesterday. What did he do yesterday? Yesterday, He bodded [bɔdɪd]

ENGLISH: Applies rule A.1

PORTUGUESE: Applies reanalysis 1, 2, 1 and 2. [ˈbɔʤiʤi]

12- This is a man who knows how to sing [sɪŋ]. He is singing. He did the same thing yesterday. What did he do yesterday? Yesterday, he sang [sæŋ].

EMGLISH: Applies rule A.3 (Umlaut)

PORTUGUESE: Applies reanalysis 4, 4,6,1,and 2.['sĨ*giʤi] (if not learnt by rote, as it is not a legal word).

13- This is a heaf [hiyf]. Now there is another. There are two of them. There are two heaves. [hiyvs].

ENGLISH: Applies rule B.4

PORTUGUESE: Applies reanalyses 4, 5 (6) and 3. ['ʔi* $\begin{Bmatrix} f \\ v \end{Bmatrix}$ TV $\begin{Bmatrix} s \\ ʃ \end{Bmatrix}$]

*(Whenever the phone [h] appears in English, the reanalysis depends on the S's sociolinguistic variety.)

14- This is a man who knows how to gling [glɪŋ]. He is glinging. He did the same thing yesterday. What did he do yesterday? Yesterday, he glang. [glæŋ].

ENGLISH: Applies rule A.3 (Umlaut)

PORTUGUESE: Applies reanalyses 4, 4, 6,1, and 2.. ['glĨ*giʤi]

15- This is a man who knows how to loodge [luwʤ]. He is loodging. He does it every day. Every day He loodges [luwʤɪz]

ENGLISH: Applies rule B.1

PORTUGUESE: Applies reanalysis 4, Portuguese rules of consonants in final position, plural allomorphs and 3. ['luʤi $\left\{ \begin{matrix} s \\ ʃ \end{matrix} \right\}$]

16- This is a man who knows how to bing [biŋ]. He is binging. He did the same thing yesterday. What did he do yesterday? Yesterday, he bang [bæŋ].

ENGLISH: Applies rule A.3 (Umlaut).

PORTUGUESE: Applies reanaylses 4, 4,6, 1,and 2. ['bĨ*giʤi]

17- This is a tass [tæs]. Now there is another. There are two of them. There are two tasses [tæsɪz]

ENGLISH: Applies rule B.1

PORTUGUESE: Applies reanalyses 4,rules of Portuguese Plural allomorphs and 3. ['tɛzi $\left\{ \begin{matrix} s \\ ʃ \end{matrix} \right\}$]

18- This is a man who knows how to naz [næz]. He is nazzing. He does it every day. Every day he nazes. [næzɪz].

ENGLISH: Applies rule B.1

PORTUGUESE: Applies reanalyses 4, and 3 ['nazi{ s / ʃ }]

19- This is a gutch [gʌtʃ]. Now, there is another one. There are two of them. There are two gutches [gʌtʃɪz]

ENGLISH: Applies rule B.1

PORTUGUESE: Applies reanalyses 4, 4, Portuguese rules of consonants in final position, and 3. ['gaʃis]

20- This is an ice-cream. Ice-cream melts [mɛlts]. Now it is all gone. What happened to it? It melted [mɛltɪd]

ENGLISH: Applies rule A.1

POTUGUESE: Applies reanalysis4,1, 2, 1 and 2. [mɛwtʃiɠi]

---

* stands for [ŋ], phonoarticulatory anticipation.

It is important to note that Berko's test (1958) has not been used in its complete form. The samples were taken considering those examples that would result of major interest, in relation to possible interferences from Brazilian Portuguese.

The examples not introduced in the present work are the following:

those implying diminutives e.g. wuggy

comparatives and superlatives e.g.quirkest.

compounds e.g. afternoon, birthday.

possessives e.g. wug's hat.

Therefore, we are mainly concerned with plural, and past tense formation; as it is possible to notice from the descriptions and rules presented hereto.

3.6 Tables of stimuli and hypothesized responses.

3.6.1 Nouns

Item	Hypothesized Response	Correct Response
01- wug [wʌg]	wagTV{s, ʃ}	[wʌgz]
02- kazh [kæʒ]	kæzi{s, ʃ}	[kæʒɪz]
03- tor [tɔr]	tori{s, ʃ}	[tɔrz]
04- glass [glæs]	glæzi{s, ʃ}	[glæsɪz]
05- niz [nɪz]	nizi{s, ʃ}	[nizɪz]
06- lun [lʌn]	lə̃{s, ʃ}	[lʌnz]
07- cra [Kra]	kra{s, ʃ}	[kraz]
08- heaf [hiyf]	ʔ* i {f, v} TV {s, ʃ}	[hiyfs/hiyvs]
09- tass [tæs]	tazi{s, ʃ}	[tæsɪz]
10- gutch [gʌtʃ]	gaʃis	[gʌtʃɪz]

3.6.2 Verbs

Item	Hypothesized Response	Correct Response
11- spow [spɔw]	is'powʤi	[spɔwd]
12- rick [rɪk]	?ikitʃi	[rɪkt]
13- mot [mɔt]	mɔtʃiʤi	[mɔtɪd]
14- bod [bɔd]	bɔʤiʤi	[bɔdɪd]
15- sing [siŋ]	sɪ*giʤi	[sæŋ]
16- gling [gliŋ]	glɪ*giʤi	[glæŋ]
17- loodge [luwʤ]	luʤi {s, ʃ}	[luwʤɪz]
18- bing [biŋ]	bɪ*giʤi	[bæŋ]
19- melt [melt]	mɛwtʃiʤi	[meltɪd]
20- naz [næz]	nɛzi {s, ʃ}	[næzɪz]

* stands for [ŋ] phonarticulatory anticipation.

Chapter 4

4.1 ANALYSIS (Nouns)

Item 01 WUG [wʌg], plural [wʌgz], hypothesized response ['wagTVs]

Order	Variables	Freq.	Subjects	%	Reanalyses
1	wəgs	8	3-5-9-15-22-29 30-34	20%	4-3
2	wʌgs	5	23-24-25-26-27	12.5%	3
3	wɔgs	4	1-6-14-37	10%	4-3
4	wugs	3	17-18-38	7.5%	4-3
5	wɔg	2	7-16	5%	4 -No Pl.
6	wɤgs	2	2-40	5%	4 - 3
7	wugəs	2	35-36	5%	4-1-3
8	weg	1	31	2.5%	4 -No Pl.
9	wages	1	4	2.5%	4-1-3
10	wɔgɪs	1	10	2.5%	4 - 1 - 3
11	wɤgis	1	20	2.5%	4 - 1 -3
12	wəgʌs	1	13	2.5%	4-1-3
13	wəgis	1	33	2.5%	4 - 1 - 3
14	wugɪs	1	32	2.5%	4-1-3
15	wugɤs	1	39	2.5%	4-1-3
16	wogis	1	19	2.5%	4 - 1 -3
17	wogɤs	1	8	2.5%	4-1-3
18	wogəs	1	12	2.5%	4-1-3
19	wɔgʌs	1	21	2.5%	4-1-3
20	wɔgz	1	28	2.5%	4
21	wægs	1	11	2.5%	4 - 3

Table 1. Responses to the stimulus [wʌg]

Plural allomorph ending in [s] was applied by 36 Ss (90%)
" " " " [z] " " " 1 S (2.5%)
Uninflected Form was applied by 3 Ss (7.5%)

There is only one response (Ss.28) with the appropriate final [z] which may be considered an indication of advanced proficiency. Most Ss. produced the plural allomorph with a final voiceless [s] showing the resistance of the 2nd. condition of general rules in Portuguese.

There were three uninflected forms (Ss 7-16-31) that may be due to a general tendency in informal Portuguese: If an initial constituent is marked with plural, the subsequent members in the same NP remain uninflected.

The presence of [s] in final position marker results from the application of the Portuguese rule (condition 2) and Portuguese phonological restrictions. In this item reanalysis N.3 is the most productive as it was used in 90% of the responses.

Although the final consonant in this item [g] does not appear in Portuguese: 26 Ss. could deal with the cluster CC#, thus showing some proficiency; only 13 Ss applied reanalysis N.1 thus adding a vowel sound. These additions are also the result of assessing L1 rules. In relation to the hypothesized thematic vowel, other homorganic sounds appeared in this position

Freq.	Homorganic	Ss
5	[ɪ] [i]	10-19-20-32-33
4	[ə] [e] [ɐ]	4-12-35-36
2	[ʊ] [o]	8-30
2	[ʌ]	13-21

Table 2. Thematic vowels and homorganic occurrences

That is, just 27.5% used a vowel sound to form the plural. In these cases such addition resulted in a syllabic reanalysis consistent with L1 canonical form (CV), although many vowels were closer to the English system.

The appropriate [ʌ] sound in the stem appeared only 5 times out of 40 (12.5%) (Ss. 23-24-25-26-27). These occurrences reveal a better proficiency on part of the Ss. A variety of homorganic sounds were produced ranging from $[+ \overset{v}{\text{back}}]$ to $\begin{bmatrix} \overset{v}{} \\ - \text{back} \\ - \text{anterior} \end{bmatrix}$.

An intermediate stage occurred 10 times, where the Ss. produced a sound closer to [ʌ], but also homorganic to Brazilian Portuguese vowels. Excluding three occurrences of [ʊ], which is also close to [ʌ], all the other belong to the Brazilian Portuguese system either as phonemes or allophones.

Freq.	Homorganic to [ʌ]	Ss
11	[ə] [ɜ] [e]	3-5-9-13-15-22-29 30-31-33-34
9	[ɔ]	1-6-7-10-14-16-17 21-28
7	[u]	17-18-32-35-36 38-39
3	[ɤ] [o]	2-8-12-19-20-40
1	[a]	4

Table 9. Reanalyses of [ʌ]

These occurrences result from the difficulty Ss. show in acquiring the English vowel system and because the item, as it is not a real word, vanishes quickly and the S. can only recover an approximation of the given stimulus. They also reveal different stages of L2 proficiency.

Item 02 KAZH [kæʒ], plural [kæʒɪz], hypothesized response ['kɛzis]

Order	Variables	Freq.	Subjects	%	Reanalyses
1	'kɛʒis	13	6-11-12-13-14-15-17 19-22-23-24-27-28	37.5%	4-4-1-3
2	'kæʒis	7	9-21-25-26-29-35-38	17.5%	4-1-3
3	'kɛʒɪs	4	4-36-39-40	10	4-4-1-3
4	'kaʒis	3	8-10-18	7.5%	4-4-1-3
5	kaʒ	1	16	2.5%	4-4 No Pl.
6	kæʒ	1	3	2.5%	4 No Pl.
7	keʃ	1	31	2.5%	4-4 No Pl.
8	'kawʒis	1	1	2.5%	4-4-1-3
9	'kaʒis	1	2	2.5%	4-1-3
10	'kaʒes	1	7	2.5%	4-1-3
11	'kaʒɪs	1	33	2.5%	4-4-1-3
12	'kɛzɪs	1	20	2.5%	4-4-1-3
13	'kɛtʃɪs	1	5	2.5%	4-4-1-3
14	'kæʒɪs	1	32	2.5%	4-3
15	'kɛʒ	1	34	2.5%	4-4 No Pl.
16	'gɛʒis	1	30	2.5%	4-4-1-3
17	'katʃes	1	37	2.5%	4-4 1-3

Table 4. Responses to the stimulus [kæʒ]

Plural allomorph ending in [s] was applied by 36 Ss (90%)
Uninflected form was applied by 4 Ss (10%)

The response ['kɛʒis] was produced by 13 Ss., that is 32.5% of possible occurrences. In this case the plural formation resulted in the substitution of the appropriate [-ɪz] for [-is]; [ʒ] does not exist in the context / —— # in Portuguese: followed by [is] the [+ sonorant] is [z], showing the Ss application of L1

rule for consonants in final position and plural allomorphs. Reanalysis 3 was applied thus devoicing the final sound, excluding four Ss. who prefered the uninflected form ø,(see precedent comments about this rule in informal Brazilian Portuguese), all the other Ss. used the plural morpheme ending in [s] what confirms that this automatism is more resistant since ninety percent of the Ss. produced the final voiceless [s] and there is not a single [z] final sound. Reanalysis 4 was applied by 28 Ss where [ɪ] was substituted by a homorganic existent in Portuguese. The occurrence of [i] instead of [ɪ] shows the great difficulty EFL Brazilian students have when learning English vowels.

Freq	Homorganic to [ʤ]	Ss
25	[ʒ]	1-4-6-8-10-11-12-13-14-15 16-17-18-19-22-23-24-27- 30-33-34-36-39-40
1	[ʃ]	31
1	[z]	20
2	[ʧ]	5-37

Table 5. Reanalyses of [ʤ]

Reanalysis 4 was also applied the finalconsonant in the stem. 25 Ss. reanalized [ʤ] as [ʒ]; although the former allophone exists in Brazilian Portuguese, it is restricted to the context /—— i. so it never occurs in final position. The tendency of the majority of Ss. was to use the homorganic [ʒ] mainly followed by the plural morpheme. There were only two responses followed by

silence.

Another frequent use was the maintenance od [ʤ] followed by the plural morpheme (10 occurrences). This phenomenon may be explained by concomitant or at least immediate processing of [kæʤ] retained in short term memory and the suffixation of plural morpheme either correctly (s. 32) or followed by Brazilian Portuguese plural morpheme [is](Ss: 9-21-25). In both cases the responses did not clash with Brazilian Portuguese phonological rule internalized by the Ss. It reads:

$$\left\{ \begin{matrix} /t/ \\ /d/ \end{matrix} \right\} \longrightarrow \left\{ \begin{matrix} [ʧ] \\ [ʤ] \end{matrix} \right\} / \_\_ \left[\begin{matrix} V \\ + \text{high} \\ - \text{back} \end{matrix} \right]$$

Freq.	Homorganic to [æ]	Ss
30	[ɛ]	3-4-5-6-9-11-12-13-14-15-17-19 20 -21-22-23-24-25-26-27-28-29-30 32 -34-35-36-38-39-40
8	[a]	7-8-10-16-18-33-37
1	[aw]	1
1	[e]	31

Table 6. Reanalyses of [æ]

Item 03 TOR [tɔr].plural [tɔrz], hypothesized response [tɔris]

Order	Variables	Freq.	Subjects	%	Reanalyses
01	tɔrs	15	1-3-12-14-15-17-18 23-26-29-31-34-35-38-40	35%	3
02	tors	7	4-19-22-24-27-33 36	17.5%	4-3
03	tɔris	3	21-32-37	7.5%	1-3
04	twɔrs	1	19	2.5%	4-3
05	tɔərs	1	7	2.5%	4-3
06	'tɔrds	1	20	2.5%	3-cons.
07	'tɔrɪs	1	11	2.5%	4-(1)-3
08	'tawers	1	30	2.5%	4-3
09	'tawars	1	10	2.5%	4-3 syl.reo
10	'tawərs	1	6	2.5%	4-3 syl.reo
11	'tawəɹ	1	16	2.5%	4-No Pl.syl
12	kars	1	9	2.5%	lexical
13	ɾaders	1	2	2.5%	lexical
14	twɔrɪs	1	39	2.5%	4-1-3
15	tɔrns	1	5	2.5%	3-Cons.
16	tɔɹs	1	8	2.5%	4-3
17	tɔr	1	28	2.5%	No Plural
18	tɔrs	1	12	2.5%	4-3
19	'tɔrns	1	25	2.5%	4-3-cons.

Table 7. Responses to the stimulus [tɔr]

Plural allomorph ending in [s] was applied by 38 Ss (95%)
Uninflected form was applied by 2 Ss (5%)

The hypothesized response [tɔris] was not produced by any of the subjects, although Ss. applied either [-is] or [ɪs] to the stem. The [r] English sound was produced by most of the subjects (37), contrary to the hypothesis, showing they have already acquired that sound. They represent 92.5% of the total. These responses show that the pronunciation of [r] is easier than learning the allomorphemic rules of plural formation. The explanation for the faster learning of this cluster is the possibility of its appearance in some contexts like /peRspeki'tiva/. In addition, the two consonants may be found, generally adjacently, but in separate syllables: /maRsu/; /teRsa/ and so on, then, this phonoarticulatory gesture is not blocked.

In relation to Reanalysis 3 there were only three occurrences: Ss. 21-32 and 37. In the same position [-ɪ-] occurred in 11 and 39. This is also the result of the application of a L1 rule, however, it seems this rule was less resistent for reasons already explained. Again, the plural allomorph gets the voiceless [-s] resulting from the application of L1 rules, as observed in previous stimuli.

On the other hand, the vowel in the stem turned into the following homorganic sounds.

Freq	Homorganic to [ɔ]	Ss
9	[o]	4-11-13-22-24-25-27-33 36-39
4	[aw]	6-10-16-30
1	[a]	9
1	[ow]	39
1	[ə]	2

Table 8 Reanalysis of [ɔ]

This reanalysis, however, cannot be explained in terms of what was stated in reanalysis 4, since [ɔ] exists in the Portuguese vocalic system. The prevailing factor ,already mentioned,is that pseudo words stay for short periods in the STM.

The appropriate /-ɔ-/ was produced by 24 Ss (60%). There are some responses that have some similarities to real words, that is, when searching for meaning they came to the item "*tower*" or close to it (Ss. 6-10-16-30). Others came closer to "*towards*" (Ss. 4-13-22-24-27-28-36-21-31-37-19). Responses 2-9-11 are successful or nearly successful attempts to lexical access: "*cars*", "*toris*", "*readers*". This kind of processing has been observed by researchers like Nepomuceno (1988) and Blasi Rodriguez (1994) when dealing with pseudo words.

Item 04 GLASS [glæs] plural [glæsɪz], hypothesized resp. ['glɛzis]

Order	Variables	Freq.	Subjects	%	Reanalyses
1	'glɛsis	31	1-2-3-4-7-8-9-10 12-13-15-16-17-18 19-21-22-23-24-26- 27-28-29-30-31-32- 33-35-36-38-39	77.5%	4-1-3
2	'glɛsɪs	5	5-6-11-14-20	12.5%	4-3
3	gla:ses	1	37	2.5%	4-1-3
4	'glasis	1	25	2.5%	4-1-3
5	'glɛzis	1	40	2.5%	4-1-3
6	'glɛsəs	1	34	2.5%	4-1-3

Table 9. Responses to the stimulus [glæs].

Plural allomorph ending in [s] was applied by 40 Ss (100%)

Every subject added [-is] or [-es] to the stem obeying the Portuguese rule that states that

$$\begin{bmatrix} +\text{strident} \\ -\text{voice} \end{bmatrix} / \underline{\qquad} \#.$$

In addition, one S. (40) applied the rule

$$\begin{bmatrix} +\text{strid} \\ -\text{voice} \end{bmatrix} \longrightarrow [+\text{voice}] \,/\, \overset{c}{v} \underline{\qquad} vS \#,$$

and all Ss. applied the plural allomorph with a voiceless sound as hypothesized. however, they did not absolutely correspond to the hypothesized response as they did not produce a [z] in the stem with one exception. This means they did not completely apply the L1 rule either. The possibility here is that they incorporated this item (one of the real words in the experiment) as a marked form, rote learned. Only one S. (40)

produced exactly the hypothesized form.

Different stages in the process of acquiring morphophonemic rules of English can be observed. This will be discussed in more detail in the conclusion part.

Reanalysis 3 is the most productive here too. It was applied by 77.5% of the cases. This is the noun-item with the highest frequency in relation to reanalysis 3. Again, it shows the influence of L1 rules. Only 5 Ss (12.5%) produced [ɪz]. As hypothesized, the vowel sound in the stem [æ] was turned into the homorganic [ɛ] by most Ss. (37) i.e. they applied reanalysis 4. There were only three different responses which are homorganic of the appropriate [æ]:

1	['gla:ses]	S. 37
1	['glasis]	S. 25
1	['glɛsəs]	S. 34

Item 05 NIZ [niz] plural [nizɪz], hypothesized resp. ['nizis]

Order	Variables	Freq.	Subjects	%	Reanalyses
1	'nizis	17	2-4-5-7-8-9-13-14 15-16-19-25-26-28 29-33-38	42.5%	4-(1)-3
2	'nizɪs	6	1-11-30-32-39-40	15%	3
3	'niziz	3	6-17-21	7.5%	1-voiced
4	nis	2	3-34	5%	3 No Pl.
5	'nises	2	36-37	5%	3-(1)-3
6	'ni:zis	2	22-23	5%	4-1-3
7	ni:zɪs	2	10-27	5%	(1)-3
8	niz	1	18	2.5%	No Plural
9	'izis	1	12	2.5%	No cons. 1-3
10	'niz:	1	20	2.5%	No Plural
11	'nizəs	1	35	2.5%	(1)-3
12	nisis	1	31	2.5%	3-1-3
13	'ni:z	1	24	2.5%	No Plural

Table 10. Response to the stimulus [niz].

Plural allomorph ending in [s] was applied by 32 Ss (80%)
" " " " [z] " " " 3 Ss (7.5%)
Uninflected Form was applied by 5 Ss (12.5%)

42.5% of the Ss produced the hypothesized form ,that is, a final [is] as a result of L1 rules of plural formation. Reanalysis 3

was applied by 80% of the Ss. and only 7.5% affixed the appropriate final [z]. Five Ss. did not apply the plural allomorph. just repeating the stimuli , phenomena already discussed. These forms were:

2	[nis]	Ss	3-34
1	[niz:]	S	20
1	[ni:z]	S	24

In addition. it must be pointed out that since it has already been proved that the more resistant L1 is $\begin{bmatrix} C \\ + \text{ strident} \\ - \text{ voice} \end{bmatrix}$ ——— # the more Ss perceived the final consonant of the stimulus as [-$\overset{C}{\text{voice}}$], thus probably assessing their internalized lexical items [ni:s] "*niece*", and/or [ni:] "*knee*", the plural of which result in [ni:z], consequently minimal pairs for the Ss. This factor may also explain Ss 3.34.36.31 and 36's responses.

No homorganic was introduced in the stem. because the vowel exists in the Portuguese system. but the vowel of the inflection resulted in a homorganic [i] in 24 responses. The appropriate [ɪ] was produced by 8 Ss. Other responses with reanalysis 4, that is a homorganic sound. were [e] and [ə]. All the vowels. except [ə] exist as phonemes in Portuguese. [ə] may be considered as a further step towards the English vocalic system.

Freq	Homorganic to [ɪ]	Ss
24	[i]	2-4-7-8-9-5-13-14-15-16 19-25-26-28-29-33-38-6- 17-21-22-23-12-31
2	[e]	36-37
1	[ə]	35

Table 11. Reanalyses of [ɪ].

Item 06 LUN [lʌn], plural [lʌnz], hypothesized response [lə̃*s]

Order	Variables	Freq.	Subjects	%	Reanalyses	
1	lə̃ns	3	12-24-31	7.5%	4-3	
2	lə̃nis	3	4-11-12	7.5%	4-1-3	
3	lə̃*z	3	9-16-35	7.5%	4	
4	lə̃nz	3	10-21-27	7.5%	4	
5	lə̃nz	2	19-23	5%	4	
6	lɛnz	2	1-5	5%	4	
7	lɛns	2	36-37	5%	4-3	
8	lə̃ns	2	2-40	5%	4-3	
9	ˈlə̃nis	2	8-32	5%	4-1-3	
10	lə̃ndets	1	7	2.5%	4-cons-3	syl/r
11	lɛ*gs	1	30	2.5%	4-cons-3	syl/r
12	mə̃niz	1	17	2.5%	Cons. 4-1	
13	lə̃nts	1	15	2.5%	Cons. 4-cons3	
14	lə̃*s	1	38	2.5%	4-3	
15	lɛ*zis	1	26	2.5%	4-cons-1-3	syl/r
16	lɛmz	1	3	2.5%	4-cons	
17	lɛms	1	33	2.5%	4-cons-3	
18	lɛ:ms	1	22	2.5%	4-cons-3	
19	lɛd	1	34	2.5%	4-cons-No Pl	
20	ˈlɛnes	1	6	2.5%	4-(1)-3	

c

* stands for /ŋ/ phonoarticulatory anticipation to [+ strident] in Portuguese.

n stands for /ɲ/ phonoarticulatory anticipation to $\begin{bmatrix} c \\ -\text{cont} \\ -\text{nas} \end{bmatrix}$

Item 06 Cont.

Order	Variables	Freq.	Subjects	%	Reanalyses
21	'lɛnɪs	1	39	2.5%	4-(1)-3
22	'lɛ*zis	1	28	2.5%	4-cons-1-3
23	'lɛ̃nds	1	14	2.5%	4-cons-3
24	'lɛ̃nds	1	18	2.5%	4-cons-3
25	'lenis	1	29	2.5%	4-1-3
26	'rɛ̃nts	1	25	2.5%	cons-4-cons-3
27	lɛ̃	1	20	2.5%	4 No Plural

Table 12. Responses to the item [lʌn].

Plural allomorph ending in [s] was applied by 26 Ss (65%)
" " " " [z] " " " 12 Ss (30%)
Uninflected form was applied by 2 Ss (5%)

No response is entirely identical to the one hypothesized. In this item the frequency of each response is very low. 60% of the responses correspond to a single different occurrence.

As assumed in the hypothesized response many Ss. produced a nasalized vowel, but followed by an articulated $[+ \overset{c}{\text{nasal}}]$ in the rhyme. Phonologists discuss whether there is a $[+ \overset{c}{\text{nasal}}]$ in this position or whether it is only an anticipation of the subsequent

onset consonant.(The last interpretation is the one followed in this dissertation). In any case, it nasalizes the preceding vowel, which cannot show the feature [+ lov]. This rule of nazalization, when applied, was observed by 22 Ss, with only three exceptions (Ss.10-21-27). The presence of 19 responses with the [+ ^{c}nasal] favours either the theory of [+ ^{c}nasal] in the rhyme in Portuguese, or the more advanced proficiency of the Ss. in the phonotactics of English, compared with what was hypothesized initially.

95% of the Ss. produced a plural form, although 65% added an [s] from L1 rule. Twelve Ss appropriately applied the (z) sound what may be considered a sign of the acquisition of the FL rule of allomorphy. Those subjects belong to both groups and surprisingly most of them are in the intermediate group (7 to 4) However, it must be pointed out that all [+ ^{c}nasal] are redundantly voiced which favours progressive assimilation, voicing $\begin{bmatrix} ^{c} \\ + \text{ strident} \\ - \text{ voice} \end{bmatrix}$ ——— #, which therefore becomes [+voice].

Reanalysis 1 that is the addition of [i] sound in final position was observed in 10 Ss. (25%) 4-8-11-13-17-26-28-29-32-39. This addition produced syllabic reanalysis The preceding vowel assumes the trace of nasality as discussed above, resulting in homorganic [ẽ] and [ɐ̃] instead of the appropriate [ʌ]. Reanalysis 4, that is homorganic vowel sounds in the stem varied from:

Freq	Homorganic to [ʌ]	Ss
20	[ɛ]	7-8-9-11-12-13-14-15-16-17 4-18-19-23-24-25-31-32-35-38
12	[ɛ]	1-3-5-6-22-26-30-33-34 36-37-39
3	[ɛ]	10-21-27
3	[ɛ]	2-20-40
2	[e]	28-29

Table 13. Reanalyses of [ʌ].

Some of the responses may be due to lexical access: "*lambs*", "*lungs*", "*lense*", "*lenis*".

Item 07 CRA [kɹa], plural [kɹaz], hypothesized response [kɹas]

Order	Variables	Freq.	Subjects	%	Reanalyses
1	kɹas	8	1-7-18-19-35-36 38-39	20%	3
2	kɹɛs	6	2-29-29-31-32-33	15%	4-3
3	kɹaws	3	40-16-22	7.5%	4-3
4	kɹa	2	20-34	5%	No Plural
5	kɹɔs	2	3-8	5%	4-3
6	kɹaz	1	17	2.5%	correct
7	kɹɛz	1	21	2.5%	4
8	kɹɔs	1	14	2.5%	4-4-3
9	kɹa:s	1	27	2.5%	3
10	kɹæs	1	24	2.5%	4-3
11	kɹɛs	1	5	2.5%	4-3
12	kɹəws	1	28	2.5%	4-3
13	kɹawəs	1	30	2.5%	4-syl.reap 3
14	kɹais	1	10	2.5%	1-3
15	kɹɛbs	1	15	2.5%	4-cons-3
16	kɹibs	1	26	2.5%	4-cons-3
17	kɹɛbs	1	25	2.5%	4-cons-3
18	kɹɛts	1	6	2.5%	4-cons-3
19	kɹɛbs	1	37	2.5%	4-cons-3
20	'kɹauzi	1	11	2.5%	4-1-syl.reor

Item 07 Cont.

Order	Variables	Freq.	Subjects	%	Reanalyses
21	krɛvɪs	1	19	2.5%	4-cons-syl.re (1)-3
22	krɛsis	1	4	2.5%	4-1-3
23	krɛ	1	12	2.5%	4-No Plura
24	krɛm	1	9	2.5%	4-Cons-No Pl

Table 14. Responses to the stimulus [krɛa].

Plural allomorph ending in [s] was applied by 33 Ss (82.5%)
" " " " [z] " " " 3 Ss (7.5%)
Uninflected form was applied by 4 Ss (10%)

There was only one correct response produced by S.17. On the other hand a response close to the one hypothesized was produced by 8 Ss: 1-7-18-19-35-36-38-39 with the appropriate [r] retroflex of the English system. This response had the highest frequency.

Reanalysis 3 can be observed in 82.5% of the total, as a result of the assessment of L1 rules. Only 7.5% of the subjects produced the final [z] that corresponds to L2 system of allomorphy. Just 10% repeated the stimulus without affixing any morph.

Reanalysis 4: retroflex [r]was used by 38 Ss (95%) while only two Ss 14-16 used a flap [ɾ] (5%). This shows the Ss have already acquired this sound from the American English system.

The central vowel [a] in the stem, although it exists in the Portuguese system, was substituted by the following homorganics:

Freq	Homorganic to [a]	Ss
11	[ɛ]	2-4-6-13-15-21-23-29 31-32-33
4	[aw]	16-22-30-40
3	[ɔ]	3-8-14
3	[e]	5-12-37
2	[e]	9-25
1	[æ]	24
1	[i]	26
1	[au]	11
1	[a]	10
1	[əw]	28

Table 15. Reanalyses of [a].

Although [a] exists in the Portuguese system, it was not repeated as previously hypothesized. Except responses given by Ss 24 and 28 all the other reanalyzed vowels exist in the Portuguese language. This phenomena may be due to the fact that pseudo words vanish quickly from STM.

The rule $\begin{bmatrix} C \\ +\ strid \\ -\ voice \\ +\ coron \end{bmatrix} / \_\_\_\_ \#$ continues to be applied by 33 Ss.

There are some responses that may correspond to lexical access: "*cross*" (Ss. 3-8-14). "*cream*" (S. 9). "*crabs*" (S. 37).

Item 08 HEAF [hiyf], pl. [hiyvs], hypothesized resp. [?i{f, v}] is

Order	Variables	Freq.	Subjects	%	Reanalyses
1	xivs	6	1-24-26-27-33-34	15%	4-4-3 irreg.
2	xifs	5	18-20-21-37-40	12.5%	4-4-3-6
3	'hifis	5	4-7-8-12-15	12.5%	4-4-1-3-6
4	'xifis	5	6-11-25-29-32	12.5%	4-4-1-3-6
5	hifs	2	3-28	5%	4-4-3-6
6	haɪvs	1	31	2.5%	4-4-3—
7	'xifies	1	19	2.5%	4-4-6-1-3
8	xɪvis	1	38	2.5%	4-4-1-3 irreg
9	'xivis	1	5	2.5%	4-4-1-3
10	'xifɪs	1	30	2.5%	4-4-6-(1)-3
11	'xi:vis	1	22	2.5%	4-4-1-3
12	'xi:fis	1	23	2.5%	4-4-6-1-3
13	'xivɪs	1	10	2.5%	4-4-(1)-3
14	'xifɤs	1	32	2.5%	4-4-6-(1)-3
15	'xifəs	1	35	2.5%	4-4-6-(1)-3
16	'hivɪs	1	16	2.5%	4-4-(1)-3
17	'hifes	1	17	2.5%	4-4-6-(1)-3
18	'hwifs	1	13	2.5%	4-4-6-3
19	xiv	1	9	2.5%	4-4 No Past
20	xivz	1	36	2.5%	4-4-voiced
21	rifs	1	14	2.5%	4-4-6-3

Item 08 Cont.

Order	Variables	Freq.	Subjects	%	Reanalyses
22	rivs	1	2	2.5%	4-4-3

Table 16. Responses to the item [hiyf].

Stem allomorph ending in [f] was applied by 25 Ss (62.5%)
" " " " [v] " " " 14 Ss (35%)

Plural allomorph ending in [s] was applied by 38 Ss (95%)
" " " " [z] " " " 1 Ss (2.5%)

Uninflected form was applied by 1 Ss (2.5%)

Eleven Ss. gave the hypothesized response. This large number of occurrences was due to two factors: First, for the initial consonant many variants were admitted, since this is the consonant which represents the largest amount of allophones.

Second, if a stem ends in a $\begin{bmatrix} C \\ -\text{coron} \\ -\text{voice} \\ +\text{strid} \end{bmatrix}$ it turns into $[+\overset{C}{\text{voice}}]$

before the plural morpheme. However, unproficient students may ignore this rule, so both $\begin{bmatrix} C \\ +\text{voice} \\ -\text{voice} \end{bmatrix}$. appear.

Reanalysis 6 was applied by 62.5% of the Ss., they applied the regular plural form to this item, overgeneralizing the rule and thus, maintaining [f]. Only 35% chose the irregular formation.

Portuguese rule refering to $[+\overset{C}{\text{strident}}]$ ——— #

was applied by 95% of the Ss, there was only one response with final [z]. This rule continues to be the most productive in this item too.

The first consonant in the stem presented the following responses:

Freq	Homorganic	Ss.
27	[x]	1-5-6-9-10-11- 18-19-20-21-22-23 24-25-26-27-29 -30-32-33-34-35-36 37-38-39-40
2	[r]	2-14

Table 17. Reanalyses of [h].

From the table above it is possible to state that 11 Ss. have already acquired the [h] from English, probably due to the most frequent Portuguese allophone used by them, which is [x]. This latter allophone is [h] nearest counterpart in terms of point of articulation.

Also in the stem the diphthong /-iy-/ was substituted by:

Freq	Homorganic to [iy]	Ss
37	[i]	1-2-3-4-5-6-7-8-9-10-11-12 13-14-15-16-17-18-19-20-21 22-23-24-25-26-27-28-29-30 32-33-34-35 36-37-39-40
1	[ɪ]	38
1	[aɪ]	31
1	[wi]	13

Table 18. Reanalyses of [iy].

No S. gave the correct response to this diphthong. Most students gave the hypothesized answer and two of them came closer to the correct response producing a diphthong.

Many different responses were produced to this item , maybe because of its irregularity. Some of these unique responses are close to the hypothesized response: (Ss. 10-16-22-23-30-38). Other homorganic variants to the hypothesized plural were produced by Ss. 32 and 35.

Closer to the correct plural were answers given by Ss. 2 and 36.

Some possibly analogical forms were given by S. 31 ("*knife*" plus its plural) and S. 19 (analogy with numerals and influence of the written modality ("*thirties*", "*forties*" and so on).

Item 09 TASS [tæs], pl. [tæsɪz], hypothesized resp. ['tɛzis]

Order	Variables	Freq.	Subjects	%	Reanalyses
1	'tɛsis	26	2-3-4-7-8-12-13 14-15-16-17-18-21 22-24-26-28-29-30 31-32-33-36-37-38 40	65%	4-1-3
2	'tɛsɪs	6	5-10-11-25-35-39	15%	4-3
3	'tɛzis	3	19-23-27	7.5%	4-4-1-3
4	tɛs	2	6-34	5%	4-No Pl.
5	'tasis	1	9	2.5%	4-1-3
6	'tæsis	1	1	2.5%	4-1-3
7	'tɛsi	1	20	2.5%	4-1 No Pl.

Table 19. Responses to item [tæs].

Plural allomorph was applied by 37 Ss (92.5%)
Uninflected form " " " 3 Ss (7.5%)

There are three responses that correspond to our hypothesis. Once again it is possible to observe the application of L1 rules for plural formation. Thirty one Ss. applied the plural allomorph that follows L1 conditions. However, 34 Ss. (85%) did not turn the final consonant of the stem into /-z/ as expected.

The same phenomena was observed in item 4 GLASS, where Ss produced ['glesis]. Here too we can assume that this item similar somehow to item 4 received the same treatment, *glass* was acquired as a marked form, *tass* followed the same principle. That is, both items were joined into the same grouping, thus Ss

produced very similar responses although one belongs to the lexicon and the other is a pseudo word.

From the high frequency of ['tɛsis] we can assume a kind of mid-way rule. This same consideration was applied to item 4. They neither completely applied L1 rules nor the appropriate rule for English .

We can again, remark the productivity of reanalysis 3, undoubtedly the one with highest frequency.

On the other hand, the [æ] in the stem was adapted into the following homorganics (reanalysis 4):

Freq	Homorganic to [æ]	Ss
38	[ɛ]	2-3-4-5-6-7-8-10-11-12-13 14-15-16-17-18-19-20-21-22 23-24-25-26-27-28-29-30-31 32-33-34-35-36-37-38-39-40.
1	[a]	9
1	[ə]	1

Table 20. Reanalyses of [æ].

Considering the responses without plural inflection *[tɛs]*, (Ss 6-34), the stimulus was repeated with a change in the vowel sound. *[tɛsi]* appart from the change in vowel sound , a final [i], was added with the consequent syllabic reorganization closer to Portuguese canonical form CV.

Item 10 GUTCH [gʌʧ], pl.[gʌʧɪz], hypothesized resp. ['gaʃis]

Order	Variables	Freq.	Subjects	%	Reanalyses
1	'gɛʧis	14	1-9-12-15-20-23-25 27-28-29-31-32-36 40	35%	4-4-3
2	'gaʧis	5	6-8-19-33-37	12.5%	4-4-3
3	'gɛʧɪs	3	10-14-35	7.5%	4-3
4	'gɛʤis	2	11-26	5%	4-4-4-3
5	gɛʧ	1	34	2.5%	4-no allom.
6	geʧ	1	17	2.5%	4-no allom.
7	'geʤis	1	24	2.5%	4-4-4-3
8	'gaʧes	1	38	2.5%	4-1-3
9	'gaʧɪs	1	16	2.5%	4-3
10	geʧis	1	30	2.5%	4-3
11	'kɛʤis	1	22	2.5%	4-4-4-3
12	gɛtɪs	1	5	2.5%	4-4-3
13	gɛʃis	1	18	2.5%	4-4-1-3
14	gɤts	1	39	2.5%	4-4-3
15	'gɛʧə	1	21	2.5%	4-4-1 no all.
16	'gɛtid	1	2	2.5%	4-4-past
17	'kɛzith	1	7	2.5%	4-4-4-past
18	'kɛʧɪs	1	4	2.5%	4-4-3
19	gɛts	1	13	2.5%	4-4 3rd.p.s.
20	gɛst	1	9	2.5%	lexical

Table 21. Responses to the item [gʌʧ].

Plural allomorph was applied by 36 Ss (90%)
Uninflected form " " " 3 Ss (7.5%)
Simple Past allomorph was applied by 1 S (2.5%)

Ninety percent of the Ss. produced the voiceless plural allomorph according to L1 rule (reanalysis 3). The three responses without plural inflection are variants of the stimulus. In order to recall this item some Ss. may have tried to anchor it in already known lexical items resulting for example in " *guest*","*catches*", "*gɛts*", [gest], [ketʃis], [gɛts]. The item in the past tense (S.2) may be the result of interference of previous stimuli that required the past tense allomorph.

Rule $\begin{bmatrix} C \\ +\ \text{coron} \\ +\ \text{strident} \\ -\ \text{voice} \end{bmatrix} / \text{——} \#$ continues to predominate in the responses.

Freq	Homorganic to [tʃ]	Ss
5	[t]	2-5-13-34-39
4	[ʤ]	11-22-24-26
1	[z]	7
1	[ʃ]	18
1	[s]	3

Table 22. Reanalyses of [tʃ].

Then, the appropriate [tʃ] was used by 28 Ss. (70%).

Ss' responses showed different tendencies from those anticipated

by the hypothesis: First, 26 Ss. preserved the affricate [ʧ] while 4 voiced it [ʤ]. The explanation is that although [ʧ] is not found in ——— #, in Portuguese, it is the most frequent allophone of /t/ before /i/. Subjects probably applied the allomorphs $\begin{Bmatrix} -is \\ -ɪs \end{Bmatrix}$ immediately, since this facilitates their task. The only case (S.38) where the allomorph [-es] appears, shows an attempt to produce [ɪs], i.e., a higher level of proficieny.

Second: Subjects showed a tendency to preserve the feature openess instead of zone: 29 Ss. preferred [ɛ] instead of the hypothesized [a] as may be observed in the following table:

Freq	Homorganic to [ʌ]	Ss
29	[ɛ]	1-2-3-4-5-7-9-10-11-12-13 14-15-18-20-21-22-23-25-26 27-28-29-31-32-34-35-36-40
7	[a]	6-8-16-19-33-37-38
2	[ə]	17-30
1	[e]	24
1	[ɤ]	39

Table 29. Reanalyses of [ʌ].

4.2 Analysis (Verbs)

Item 11 SPOW [spɔw], past [spɔwd], hypothesized resp. [is'pɔwɘi]

Order	Responses	Freq.	Subjects	%	Reanalyses
1	is'pow	3	7-16-99	7.5%	7-1-2 No Pas
2	is'powed	2	20-30	5%	7-4 influenc of writ.sys.
3	is'pɔwit	2	1-31	5%	7-4-5
4	is'powth	2	9-34	5%	7-4
5	spowd	2	40-36	5%	4
6	spowt	2	26-4	2.5%	4
7	'spoud	1	5	2.5%	4-4
8	is'pɔwɪd	1	8	2.5%	7-5
9	ɪs'powɪd	1	14	2.5%	7-4-5
10	'spowid	1	24	2.5%	4-5 writ
11	'spowed	1	35	2.5%	4-Inf.
12	is'powədh	1	27	2.5%	7-4-5
13	is'powɪ	1	17	2.5%	7-4-5
14	is'powət	1	12	2.5%	7-4-5
15	ɪs'pawɪt	1	6	2.5%	7-4-5
16	is'powəth	1	38	2.5%	7-4-5
17	is'pɔət	1	22	2.5%	7-5
18	is'powəth	1	25	2.5%	7-4-5
19	is'pɔət	1	22	2.5%	7-5
20	is'pɔwəth	1	21	2.5%	7-5
21	'spownit	1	39	2.5%	4-5
22	is'powdh	1	28	2.5%	7-4

Item 11 Cont.

Order	Responses	Freq.	Subjects	%	Reanalyses
23	is'powetə	1	18	2.5%	7-4-5-1
24	is'pɔudə	1	19	2.5%	7-4-1syl.rea
25	is'powedh	1	29	2.5%	7-4 Infl.vrit
26	spoit	1	11	2.5%	4
27	is'pojld	1	32	2.5%	7-4
28	'spawɤd	1	3	2.5%	4-5
29	'spɔlәd	1	10	2.5%	Cons.
30	spoɪ̈n	1	13	2.5%	4-Cont
31	is'pɔɪ̈n	1	2	2.5%	7-5 Cont.
32	is'pɔ̃ɔ̃*	1	15	2.5%	7-4
33	ispoɪ̈*	1	37	2.5%	7-4

Table 24. Responses to the stimulus [spɔw]

There responses are not entirely consistent with the hypothesized one, although all Ss. except 9 added the initial vowel as expected. The diversity of past tense allomorphs demonstrates that the Ss. have not internalized the verbal rules of English. There are two responses that may be considered close to the appropriate one, they are: [spɔw] (S.40) and [spoud] (S.5)since the correct allomorph [-d] was applied, but also homorganic [o] and [ou] instead of [ɔ] occurred. The maintainance of the stem vowel [ɔ] was also rare because this

vowel is not followed by [w] in Brazilian Portuguese varieties. The rest of the data in this table show that Ss. do not appropriately apply the past tense allomorph, it seems that [-t] and [-d] are indistinctly used ,which implies that they have not acquired the productive rule. Possibly this phenomena is the result of insufficient instruction.On the other hand it seems that Ss. whether at intermediate or advanced level, would have already perceived from classroom input enough evidence and realiza that there is actually a difference in the realization of the past tense allomorph though they seem not to haveyet established the underlying principles for the application of [-t], [-d] or [-ɪd].

The influence of the written system appears in responses by Ss. 20-30 where the past tense marker used was [ed]. This fact may also be the result of inadequate instruction. 17 Ss. (42.5%) applied the allomorph [-t]. Note response 18 where a vowel sound was added [-ə].

The final [-t] was aspirated in responses: 9-21-25-34- and 39. In these cases the consonant cluster received an intermediate vowel sound resulting in syllabic reanalysis. The vowel sounds that appeared in that position were:

[i] Ss. 6-17

[ə] Ss. 12-29

[i] Ss. 39-11

The allomorph [-d] was produced by 10 Ss (25%). This final

consonant turned out to be aspirated in responses by Ss. 27-28-29. The only S. to add a vowel after [-d] was N 19 [ə]. Ss. 9 and 14 added [-ɪd] as past tense allomorph and there was an [id] (S. 24). There were also two lexical accesses: S. 23 and 32.

In this item the most productive reanalysis is N. 7, that is, the addition of the epenthetic vowel [i] before [sp]. It was used by 28 Ss. (70%).

The three last items in the table may correspond to a continuous form.

Item 12 RICK [ɹik], past [ɹɪkt], hypothesized resp. [ʔikiʧi]

Order	Responses	Freq.	Subjects	%	Reanalyses
1	ˈɹɛkid	3	20-29-30	7.5%	4-5
2	ˈɹɛkitʰ	3	26-28-31	7.5%	4-5
3	ˈɹikɛd	2	15-35	5%	inf.writ.sys
4	ɹikət	2	23-25	5%	5
5	ɹʔɛkit	1	3	2.5%	4-5
6	ɹikthʰ	1	38	2.5%	aspirated
7	ɹɛkthʰ	1	21	2.5%	4-aspirated
8	ˈɸɛkəd	1	7	2.5%	4-4-5
9	ˈɹɛkɪd	1	39	2.5%	4-5
10	ɹɛkədʰ	1	27	2.5%	4-5
11	ɹikɛt	1	1	2.5%	5
12	ˈɹikiʧi	1	9	2.5%	4-2-1-1
13	ˈɹɛkətə	1	17	2.5%	4-5-1
14	ˈɹiket	1	2	2.5%	4-5
15	ɹɛkts	1	5	2.5%	4-3rd.p
16	ˈɹiketə	1	8	2.5%	5-1.
17	ɲɸikid	1	12	2.5%	4-5
18	ˈɹekɪd	1	4	2.5%	4-4-5
19	ɹɛkɪt	1	40	2.5%	4-5
20	ˈxɛkit	1	22	2.5%	4-4-5
21	ˈɹʔɛkət	1	14	2.5%	4-5
22	ˈɹikɛdə	1	18	2.5%	5-1

Item 12 Cont.

Order	Responses	Freq.	Subjects	%	Reanalyses
23	'ɹikid	1	11	2.5%	5
24	ɹikədh	1	24	2.5%	5
25	'ɹikəd	1	32	2.5%	4-4-5
26	'ɹekəd	1	36	2.5%	4-5
27	'ɹekiʤi	1	37	2.5%	4-4-2-1
28	ɹowk	1	34	2.5%	4 No past
29	ɹɪk	1	6	2.5%	4 No past
30	'ɹiki	1	19	2.5%	1 No past
31	'ɹikɪ	1	16	2.5%	1 No past
32	'ɹekĩn	1	33	2.5%	4-cont.
33	ɹĩkĩn	1	13	2.5%	4-Cont.
34	ɹikĩn	1	10	2.5%	4-Cont.

Table 25. Responses to the stimulus [ɹik].

The response belonging to S.9 almost corresponds to the hypothesis because the English [ɹ] had already been acquired, as it was observed in the previous section,but the vowel has been substituted by a homorganic [i], the consonant [t] has been affricated and a vowel added. S. 37's answer is also close to the hypothesized answer.

Eleven Ss. produced the past tense allomorph with a vowel plus [t]. Different vowel sounds appeared in this position:

[i] Ss. 3-9-22-26-28-31.

[e] Ss. 2-9-15-35.

[ə] Ss. 14-17-23-25.

[ɛ] Ss. 1

[ɪ] Ss. 40

On the other hand the allomorph was formed with the following vowels plus [t]:

[ə] Ss. 7-27-32-36.

[e] Ss. 19-24.

[ɪ] Ss. 4-39.

[i] Ss. 11-12-37.

Note that Ss. 17-19 and 27 also added a vowel sound in final position, thus applying reanalysis 1. The non-acquisition of the English morphophonemic rules is obvious in this item too.

The stimuli repeated without past tense allomorph were produced by Ss. 6-16-19. In the last two, vowels were added. Response belonging to S. 34 may be considered an irregular formation or Umlaut.

Three responses in continuous form appeared: 33-10-13; these last two were formed with [ɪ] plus [n̥] . This phenomenon was also observed with the noun forms. Again, it is possible to observe that contrary to what was hypothesized, most students have already acquired the English [r].

Item 13 MOT [mɔt] past [mɔtɪd], hypothesized response [mɔʧiʤi]

Order	Responses	Freq.	Subjects	%	Reanalyses
1	'mɔtɪd	7	15-23-28-29-32 35-39	17.5%	correct
2	'mɔtɪdə	3	18-25-26	7.5%	1
3	'mɔtidə	3	8-22-37	7.5%	4-1
4	'mɔtid	2	11-38	5%	4
5	'mɛtid	2	2-3	5%	4-4
6	mɔt	2	24-33	5%	No past
7	iz'mowt	1	34	2.5%	4-No past
8	'mawtit	1	6	2.5%	4-4-1
9	mɔtiʤi	1	31	2.5%	4-2-1
10	'mɔtidi	1	14	2.5%	4-4-1
11	mətɘd	1	1	2.5%	4-4-Inf.
12	'motid	1	9	2.5%	4-4
13	'motɪd	1	30	2.5%	4
14	'mawtəd	1	27	2.5%	4-4-4
15	'matəd	1	7	2.5%	4-4
16	'mʌtid	1	40	2.5%	4-4
17	'mɔti	1	19	2.5%	1 No past
18	'mɔʧɪ	1	16	2.5%	2-1
19	'mɔtɘd	1	20	2.5%	Inf.writ.
20	'mɔtɪt	1	17	2.5%	3
21	mownted	1	36	2.5%	4-4-Inf.v.

Item 13 Cont.

Order	Responses	Freq.	Subjects	%	Reanalyses
22	'mɔtɪdʰ	1	21	2.5%	aspirated-
23	mɔtɪdɪ	1	12	2.5%	1
24	'mɔwtʃn	1	19	2.5%	4-cont.
25	'mɔtʃʃn	1	10	2.5%	2-1-cont.
26	'mɛsɪd	1	4	2.5%	4-4
27	mɛd	1	5	2.5%	4-no past

Table 26. Responses to the stimulus [mɔt].

There is not a response equal to the form hypothesized. However [t] was affricated by Ss. 10-16. and [d] was affricated by S. 31 with the addition of a vowel. The allomorph to be added to [+coronal, -continuant] seemed easier for the examined Ss. Seven of the Ss. gave correct responses (see first line in the table) and many other Ss. gave responses very close to the correct one, either changing the vowel into its homorganic counterpart or changing the stem vowel but adding the correct allomorph. Only one subject (6) gave the unvoiced [et].

In this item the most productive rule is /-ɪd/, considering its variants too. This may be so because there is no possibility of reduplicating the final sound in the stem.

The vowel sounds appearing in the suffix were:

[ɪ] Ss. 15-23-28-29-32-35-39-18-25-26. (The last three responses also had an epenthetic vowel).

[i] Ss. 2-3-9-14-22-37-40.

[e] Ss. 1-20-36.

[ə] Ss. 7-27.

On the other hand, the written system influenced responses 1-36-20 as they produced a suffix equal to the written form. Two Ss. (10-13) produced an *ing* form, both with nasalized [Ĩ].

Uninflected forms were produced by Ss. 2-16 and 19. Number 16 affricated the [t] and Ss. 16 and 19 added an epenthetic vowel.

Response of S. 5 may be considered an Umlaut followed by

$$\begin{bmatrix} c \\ +\text{voice} \end{bmatrix}.$$

Item 14 BOD [bɔd] past [bɔdɪd], hypothesized response [bɔɡiɡi]

Order	Responses	Freq.	Subjects	%	Reanalyses
1	'bɔdɪd	5	4-15-27-28-29	12.5%	correct
2	'bɔdith	4	31-32-37-38	10%	4-aspir.
3	'bɔtid	3	7-20-30	7.5%	- voice
4	'bɔdɪt	3	1-12-39	7.5%	- voice
5	'bɔtidə	2	18-25	5%	4-1
6	'bɔdit	2	3-5	5%	1 -voice
7	bɔd	2	9-34	5	no past
8	'bɔdid	2	36-40	5%	4
9	'bɔdɪdə	2	17-22	5%	1
10	'bɔded	1	11	2.5%	inf.vrit.
11	'bɔtet	1	14	2.5%	1 -voice
12	'bewdit	1	8	2.5%	4-1 -voice
13	'bədit	1	2	2.5%	4-1 -voice
14	mɔtid	1	24	2.5%	4
15	bɔridh	1	35	2.5	4-4-aspir.
16	bi:dh	1	21	2.5%	4-aspir.
17	'bɔdɪdh	1	26	2.5%	aspirated
18	bɛdh	1	6	2.5%	lexicaliz
19	'bɔdĩn	1	10	2.5%	cont .
20	bɔdɪn	1	13	2.5%	cont.
21	'bɔɡi	1	19	2.5%	1-2 nopast
22	ben	1	33	2.5%	4-4 nopast

Item 14 BOD Cont.

Order	Responses	Freq.	Subjects	%	Reanalyses
23	bɔt	1	29	2.5%	4- no past
24	bɔtə	1	16	2.5%	4-1 nopast

Table 27 - Responses to the stimulus [bɔd]

12.5% of the Ss. used the appropriate allomorph. Others replaced the vowel sound in the suffix for a homorganic. The vowels appearing in this position were:

[i] Ss. 7-20-30-18-25-36-40-17-22-24-35-28.

[e] Ss. 11 (Influence of the written system).

Ss. 17-22-18-25 also added in final position a [ə] producing syllabic reanalysis, more consistent with Portuguese canonical form.

The final [d] was produced aspirated by Ss. 26 and 35.

The suffix was produced with [t] in the responses of Ss. 31-32-37-39-3-5-14-9-2. They were aspirated in the first four cases. Only S. 19 produced an affricated sound. Three are also two *ing* forms (10-13) and the following realizations were produced without past tense allomorph : [ben] (33), [mɔt] (23) probably interference of a previous stimulus, and [bɔtə]. There were also two lexical accesses: [badh] and [boridh].

Item 15 SING [sɪŋ], past [sæŋ], hypothesized response [sɪ̃*gid͡ʒi].

Order	Responses	Freq.	Subjects	%	Reanalyses
1	sə̃*g	11	3-6-7-9-10-11-19 29-32-36-37	27.5%	4-4
2	sə̃*g	6	12-22-27-28-30-38	15%	4-4
3	sɪ̃*g	5	4-5-1-5-16-34	12.5%	4-4
4	sə̃*g	3	1-17-21	7.5%	4-4
5	sɪ̃*gid	2	20-24	5%	4-4-6
6	sæ̃*g	2	2-40	5%	4-4
7	sɪ̃*kə	1	14	2.5%	4-4-1
8	sə̃*g	1	12	2.5%	4-4
9	sə̃*gi	1	35	2.5%	4-4-1
10	sə̃*g	1	29	2.5%	4-4
11	sʊ*g	1	8	2.5%	4-4
12	sɪ̃*gədə	1	18	2.5%	4-4-6-1
13	sə̃*gith	1	25	2.5%	4-4-1-asp
14	sə̃*gid͡ʒi	1	26	2.5%	4-4-5-1-2
15	sɪ̃*gɪ̃*g	1	33	2.5%	4-4-cont.
16	sɪ̃*git	1	39	2.5%	4-4-5
17	sɪ̃*gɪ̃	1	13	2.5%	4-4
18	no resp.	1	31	2.5%	

Table 28. Responses to the stimulus [sɪŋ].

In item 15 there was a factor to be considered, that is the possibility of rote learning, as it is a real word. The data showed that this was not the case since the approprite [æ] was

not applied. However Ss. produced a kind of irregular formation by using not [ʃ] as expected but [ʃ], [ʒ]. This phenomenon may be due to the non existence of [ŋ] as a phoneme in the Portuguese system, though all the Ss. substituted this by a [+nasal] + [ŋ], articulatory anticipation of [g]. This can be considered a strategy on the part of the subjects in this experiment. The data show that it is not definite that EFL Brazilian students always substitute [ŋ] for [n] as Steinberg stated. The only vowel sound that is not nasal is [ɔ] (S8). Response 26 is the closest to the hypothesis but contains an [ʃ] instead of the hypothesized [ʧ]. The overgeneralizations were :24-20-18-25-26-39. There were also two *ing* forms (19-33).

Answers given to this stimulus showed that the hypothesized form underestimated Ss' proficiency, just a few of them (5 Ss.) produced responses close to the appropriate past tense, even when this was one of the real words in the experiment.

Nevertheless, 27.5% of the answers do not correspond to the verbal paradigm. Ss. produced a noun form instead, showing lack of syntactic competence.

All Ss. have problems with the production of [ŋ], they all added a [g]. This arises from Portuguese phonetic conditioning. On the other hand, five Ss. repeated .more or less accurately, the stimulus with the above mentioned conditioning and they also produced a $\begin{bmatrix} + \text{high} \\ - \text{back} \\ - \text{tense} \end{bmatrix}^{V}$.

ResponsesfromSs.. 2-12-22-27-28-30-35-38-40 are close to past tense form, that is, the Umlaut. They reanalyzed the vowel in the stem into a homorganic $\begin{bmatrix} V \\ +\text{high} \\ -\text{back} \end{bmatrix}$.

Ss. 35-12 also added an epenthetic vowel.

Other answers are also close to the past tense : 1-9-17-21-29 but this time with $[\overset{V}{+\text{back}}]$. However, Ss. are not proficient enough to apply the past tense Umlaut, either because they do not control the English vocalic pattern and/or for syntactic reasons. In addition, they are still influenced by the phonetic conditioning of a $[+\overset{V}{\text{nasal}}]$ followed by $\begin{bmatrix} C \\ -\text{cont} \\ -\text{nas} \end{bmatrix}$ and the already mentioned phenomenon of anticipation of a consonant [+ nasal] in this particular case [+ high].

Item 16 GLING [glɪŋ] past [glæŋ], hypothesized resp. [glɪ*gidʒi]

Order	Responses	Freq.	Subjects	%	Reanalyses
1	glɪ*gid	6	23-24-25-27-29-32	15%	6-4-4
2	glɪ*gəd	5	14-15-17-35-36	12.5%	6-4-infv.
3	glɪ*gʊd	2	8-11	5%	6-4-4
4	glɪ*g	2	5-33	5%	4-no past
5	glẽ*g	2	31-38	5%	4
6	glɪgədə	1	18	2.5%	4-5-1-6
7	glɪ*gitʃi	1	3	2.5%	4-4-1-2
8	glɪgidi	1	12	2.5%	4-4-1-6
9	glɪ*gedə	1	22	2.5%	4-4-1-6
10	glã*gedə	1	37	2.5%	4-4-6-1
11	glɪ*gidh	1	7	2.5%	4-4-6-asp
12	glɪ*gʊdh	1	9	2.5%	4-4-6-asp
13	glẽ*gid	1	30	2.5%	4-4-6-5
14	glẽ*gɪd	1	28	2.5%	4-4-6
15	glæ̃*kəth	1	26	2.5%	4-4-6 asp
16	glɪ*gəth	1	39	2.5%	4-4-6asp
17	glɪ*gɪt	1	1	2.5%	4-4-6
18	glɪndid	1	2	2.5%	4-4-6
19	glinedə	1	16	2.5%	4-6-1
20	glẽnded	1	4	2.5%	4-4-6-inf.v
21	lẽ*g	1	34	2.5%	4-4
22	klɪ*g	1	40	2.5%	4-4-4

Item 16 GLING Cont.

Order	Responses	Freq.	Subjects	%	Reanalyses
23	klɪ*gəth	1	21	2.5%	4-4-6-asp
24	glɪ*gɪn	1	10	2.5%	4-4-cont.
25	gləɪ*g	1	20	2.5%	4-4-cont.
26	glɪngɪ	1	13	2.5%	4-cont
27	glɛjg	1	6	2.5%	4-4-no pas
28	glɛ*gi	1	19	2.5%	4-4-1no pa

Table 29. Responses to the stimulus [glɪŋ]

Response 3 is quite similar to the one hypothesized. the only difference is the affricated [ʧ] instead of [ʤ]. Other responses close to the hypothesized form, although without affrication, were produced by Ss. 12-18-22-37.

Most Ss. did not link this item to the stems ending in $\begin{bmatrix} C \\ +\ nas \\ +\ high \end{bmatrix}$ which would have given them a clue in relation to the Umlaut rule of past tense. Overgeneralized responses varied from: small changes either in the stem and/or the suffix vowel (21 responses) to different final stops: [d, dh, t, th]. Twenty one Ss. unvoiced the initial consonant.

The vowel previous to [d] were the following:

[i] Ss. 23-24-25-27-29-32-7-12-30-2.

[ɪ] Ss. 28.

[e] Ss. 14-15-17-35-36-18-22-4-37-16. This shows the influence of the written system

[ɛ] Ss. 8-11-9.

[d] was followed by an epenthetic vowel with the consequent syllabic reanalyis in responses belonging to Ss: 18-22-37-16.

[d] was aspirated by Ss. 9-7. the same happened with [t] in Ss. 26 and 39.

In this item it is also possible to observe the conjunction of nasal vowels and [ŋ] phonoarticulatory anticipation in Ss. 23-24-25-27-29-32-14-15-17-35-36-8-11-5-33-31-39-34-40-9-3-7-22-490-28-37-2. reinforcing what has already been said in relation to what EFL Brazilian students use instead of [ŋ].

In the case of a subsequent $\begin{bmatrix} C \\ +\ coron \\ -\ nas \\ -\ cont \end{bmatrix}$ subjects 2 and 4 produced the following anticipation: $\begin{bmatrix} C \\ +\ coron \\ +\ nasal \end{bmatrix}$.

Only three continuous forms appeared (10-13-20) showing some Ss' morphosyntactic inadequacies. No past tense allomorph was applied by Ss: 5-33-6 and 19. When comparing responses to stimuli 15 and 16 some subjects showed some consistencies (5-13-24-25-38-39).

Item 17 LOODGE [luwʤ] 3rd.p.sing. [luwʤɪz], hypothesized resp. [luʤɪs]

Order	Responses	Freq	Subjects	%	Reanalyses
1	'luʤɪs	6	29-28-29-32-38-39	15%	Hyp.4-4-3
2	'ləʤɪs	4	22-24-36-40	10%	4-4-3
3	'luʤɪn	2	10-34	5%	4-4 Cont.
4	'luʤɪd	2	2-8	5%	4-4-Past
5	'luʤdi	2	9-18	5%	4-cons-1
6	'luʤəd	2	11-15	5%	4-Past-inf.vr
7	'ləʤɪs	1	26	2.5%	4-3
8	'lwʤɪs	1	27	2.5%	4-4-3
9	'luʤəs	1	35	2.5%	4-infl.vrit.
10	'laʤɪs	1	31	2.5%	4-4-3
11	'laʤəs	1	21	2.5%	4-4-3
12	lʊds	1	17	2.5%	4-4-3
13	lãdɪ*g	1	37	2.5%	4-4--Cont.
14	lɔʤɪn	1	19	2.5%	4-cont.
15	'lãʤɪn	1	20	2.5%	4-cont.
16	'lʌʤɪn	1	33	2.5%	4-cont.
17	luʤət	1	14	2.5%	4-4-past
18	'lutʃɪt	1	1	2.5%	4-4-past
19	lʊʤ	1	30	2.5%	4- no allom.
20	ləʤ	1	25	2.5%	4-no allom

Item 17 Cont.

Order	Responses	Freq.	Subjects	%	Reanalyses
21	ˈludʒi	1	4	2.5%	4-1-no allom.
22	ˈludet	1	3	2.5%	4-4-past
23	ˈludɪt	1	5	2.5%	4-4-past
24	ˈludəth	1	7	2.5%	4-4-4-past
25	ˈludidɪ	1	12	2.5%	4
26	ˈluded	1	13	2.5%	4-4-past-inf.v
27	ˈlɔdʒid	1	6	2.5%	4-4-past
28	ˈlədʒĩn	1	16	2.5%	4-cont.

Table 30. Responses to the stimulus [ludʒ]

In this item there are six responses similar to the hypothesis, here the diphthong [uw] in the stem was replaced by a homorganic [u], or by [ə] or [a]. This sound seemed to be quite difficult: no subject produced it. Everyone applied the ediphthongation rule, that is, preserving the syllabic center [u].

The same thing happened to the vowel in the suffix that resulted in a homorganic [i], [e] or [ə]. the most proficient S. (26) gave [ɪ].

Again the final [z] appropriate to this context is not internalized: Ss. used a [-voice] that is the conditioned form in their Portuguese rule of $/-s/ \underset{C}{\longrightarrow} \#$ is observed here too.-

The third person singular allomorph was applied by 16 Ss. (40%) although none of them used the appropriate [z], for the reasons already exposed.

14 Ss. (35%) applied a past tense allomorph. may be an over extension of the strategy required for previous items, that is. in most of the stimuli a plural form of noun or a past tense was required, so probably they did not realize that in this case they were supposse to use a third person singular inflection.

The past tense allomorph showed a variety of responses: [id.ed.ət, ɪt, əth] and was applied by Ss. 1-3-5-6-7-12-13-14.

There are 5 responses in continuous although only one (37) presents the pattern $\overset{V}{[+\text{nasal}]} + \begin{bmatrix} C \\ +\text{nas} \\ +\text{high} \end{bmatrix}$ phonoarticulatory anticipation before $\begin{bmatrix} C \\ -\text{cont} \\ +\text{high} \\ -\text{nas} \end{bmatrix}$.

The last three responses in the table were considered repetition of the stimulus .though they show small reanalyes. no allomorph was added.

Item 18 **BING** [bɪŋ] past [bæŋ], hypothesized response [bɪ̃*gi̯i]

Order	Responses	Freq.	Subjects	%	Reanalyses
1	bɛ̃*g	9	4-19-22-25-27-28 31-34-38	25.5	4-4
2	bɪ̃*gid	2	11-29	5%	4-4-6
3	bɪ̃*gedə	2	14-18	5%	4-4-6-infl.v 1
4	bɪ̃*ged	2	15-35	5%	4-4-6-inf.v.
5	bɪ̃*gɪt	2	1-39	5%	4-4
6	bɪ̃*gɪ̃n	2	8-10	5%	4-4-cont.
7	no response		37	2.5%	--
8	bɪ̃gəd	1	17	2.5%	4-5
9	bɪ̃*gidid	1	40	2.5%	4-4-1-4
10	bɛ̃j̆g	1	5	2.5%	4-4-no allo
11	mɛ̃j̆g	1	6	2.5%	4-4-no allo
12	bɛ̃*gi	1	36	2.5%	4-4-1-no al
13	bɛ̃*gə	1	16	2.5%	4-1-no all
14	bʌ*g	1	9	2.5%	4-no allom
15	bɪ̃*kət	1	23	2.5%	4-4-4-voice
16	bɪ̃*git	1	3	2.5%	4-4-4-voice
17	bɪ̃*gəth	1	26	2.5%	4-4-voice asp.
18	bɪ̃*gət	1	24	2.5%	4-4-voice
19	bɪ̃*gedh	1	7	2.5%	4-inf.v-asp
20	bɛ̃j̆gid	1	2	2.5%	4-4-4
21	bɛ̃*gid	1	20	2.5%	4-4-4
22	bɛ̃nt	1	32	2.5%	4-4

Item 18 - Cont.

Order	Responses	Freq.	Subjects	%	Reanalyses
23	ˈbɐ̃*gɪ̃*g	1	33	2.5%	4-4-cont.
24	bɪ̃*gɪ̃*g	1	30	2.5%	4-cont
25	bɐ̃ngɪ̃	1	13	2.5%	4-cont
26	bɐ̃*gthə	1	21	2.5%	4-4-voice-1
27	ˈbigidə	1	12	2.5%	4-4-1

Table 31 . Responses to the stimulus [bɪŋ]

This item repeats the pattern of item 16 (gling) where Ss. overgeneralized the past tense rule, as well as applying the homorganic $\begin{bmatrix} C \\ +\ nas \\ +\ high \end{bmatrix}$ (phonoarticulatory anticipation) for the sound in the stem that does not exist in the Portuguese system [ŋ] (in final position).

Responses at the top of the table may be considered the closest to the appropiate one, considering the forms used by the students. They passed from a [+ low] to a [-low] vowel. [æ] --> [e]. As thee former does not exist in the Brazilian Portuguese system Ss. 5-6-16-36 also gave answers that are close to the correct one, although with some variants.

In the stem [e] appeared as many times as [i] that is they used a $\begin{bmatrix} V \\ -\ back \\ +\ high \end{bmatrix}$ as well as a $\begin{bmatrix} V \\ -\ back \\ -\ high \end{bmatrix}$ in that position.

The regular past tense allomorph with some variants was used by 8 Ss. 1-39-23-3-26-24-32-21-17-7-2-20-40-12-11-29-14-18-15-35.

The influence of the written system is observed in Ss. 14-18-15 and 35. There are five responses in continuous form that, as previously stated, show morphosyntactic gaps (Ss. 19-30-39).

Item 19 MELT [mɛlt] past [mɛltɪd], hypothesized response [mɛwʧiʧi]

Order	Responses	Freq.	Subjects	%	Reanalyses
1	mɛltid	6	11-29-30-31-34-35	15%	4
2	'meltid	4	21-32-33-40	10%	4-4
3	no resp.	4	4-6-14-19-39	10%	--
4	melt	3	7-36-38	7.5%	4- no allom.
5	'mɛltiɫ	2	20-27	5%	4-4
6	'mɛltidə	2	17-25	5%	4-1
7	mɛlt	2	13-28	5%	no allom.
8	all gone	1	1	2.5%	---
9	it's gone	1	3	2.5%	---
10	'mɛltɪth	1	26	2.5%	-voice,asp
11	'mewtid	1	37	2.5%	4-4-4
12	'mɐutid	1	9	2.5%	4-4
13	'mɛwtəd	1	2	2.5%	4-4
14	'mɛltəd	1	23	2.5%	4
15	'mewtədə	1	22	2.5%	4-4-4-1
16	'mɛwtidi	1	5	2.5%	4-4-1
17	'mɛwtedɪ	1	16	2.5%	4-4-1
18	'mɛltədə	1	18	2.5%	inf.v.-1
19	'mɐutɪ	1	15	2.5%	4-1-no all
20	mɛlz	1	12	2.5%	3rd.p.sing
21	'mɐuts	1	8	2.5%	4- 3rd.p.
22	mɛlth	1	24	2.5%	-voice, asp no past
23	iz'mew	1	10	2.5%	4-4

Item 19 MELT - Cont.

Order	Responses	Freq.	Subjects	%	Reanalyses
24	'mætis	1	4	2.5%	1-3

Table 32 . Responses to the stimulus [mælt]

Responses to this item neither correspond to the hypothesized form nor are they the correct one. As this is a real word rote learning could have been a possible response, but Ss. showed the already demonstrated difficulty to produce the $\begin{bmatrix} V \\ + \text{ high} \\ - \text{ back} \\ \text{tense} \end{bmatrix}$ which does not exist in the Brazilian Portuguese system.

Six Ss.gave [mæltid].Close to this response are the forms in which the stem vowel was substituted and those in which the suffix consonant was unvoiced, with or without aspiration and/or centering and lowering the suffix vowel.

It is important to note here the tendency of EFL Brazilian students to neutralize the difference between [l] and [w] in favour of the last one when closing the syllable. This shows a phonotactic transfer from L1. This phenomenon was observed in 8 Ss (20%).

During the experiment the Ss.showed certain difficulty with this item, the stimulus had to be repeated several times. When questionedabout it after the experiment they said they knew the word but could not produce the past form.

There are two responses with a third person singular inflection

(Ss. 8-12), (the former used a [- voice]). There are no responses similar to a continuous form.

Item 20 **NAZ** [næz] 3rd.p.sing [næzɪz], hypothesized resp. ['næzis]

Order	Responses	Freq.	Subjects	%	Reanalyses
1	'nɛzid	7	2-4-5-7-15-19-29	17.5%	4-4- past
2	'nɛzis	7	7-17-21-27-28-35 38-40	17.5%	4-4
3	nɛs	2	16-39	5%	4- no allom
4	'nɛzĩn	2	8-10	5%	4-cont.
5	'nɛzɪd	2	11-14	5%	4-past
6	'nɛ:zis	2	22-23	5%	4
7	nɛ:z	2	24-25	5%	4- no allom
8	'nɛsis	1	26	2.5%	3-4-3
9	nɛzɪt	1	1	2.5%	4-4-past
10	'nɛzit	1	20	2.5%	4-4
11	'nauzid	1	6	2.5%	4-4-past
12	nɛzɪt	1	12	2.5%	4- past
13	'mɛzit	1	3	2.5%	4- past
14	naz	1	36	2.5%	4-no allom.
15	nas	1	31	2.5%	4-4-no allom.
16	nɛz	1	32	2.5%	4- no allom.
17	nez	1	18	2.5%	4-no allom.
18	nʌzĩ*g	1	33	2.5%	4-cont.
19	nɛzĩ*g	1	30	2.5%	4-cont.
20	nãsĩ*g	1	37	2.5%	4-cont.
21	'nazĩ*g	1	34	2.5%	4-cont.
22	nɛzĩn	1	13	2.5%	cont.
23	'nɛziʤi	1	9	2.5%	4-1-2-1

Table 33. Response to the stimulus [næz]

The third person singular allomorphs were applied by 10 Ss. (25%). This time also as observed with nouns and item 17 the Ss. used a [-voice^{c}], that is, a transfer from their L1. The vowel in the stem turned into [ɛ] and was used by 31 Ss. Other vowels in the same position were

[a] Ss. 34-6-36-31.

[ɐ] S. 19

[e] S. 20

[ə] S. 1

[ʌ] S. 33

Past tense allomorphs were applied by 15 Ss. and other 8 Ss. repeated the stimulus without adding any allomorph.

There are seven continuous forms: (Ss. 8-10-33-30-37-34-13).

Chapter 5

Conclusion

The two main working hypotheses guiding this dissertation were:

1- EFL Brazilian students have stored productive morphological rules of their L2. The rules that were tested are:
Simple Past (regular forms), Simple Present Third Person Singular, and Plural of nouns.

2- EFL Brazilian students are influenced by Portuguese morphophonemic rules responsible for the production of allophones and allomorphs.

Considering the first hypothesis it is possible to conclude that in general terms our subjects have partially stored the productive morphological rules of L2, however different stages of proficiency were noted if the different reanalyses used by the Ss. are considered. The data however show that we cannot completely confirm the first hypothesis but it allowed the observation that the production of inflected forms does not only depend on the acquisition of the basic rules presented in the theoretical part of this work but also on other factors. In other words, the subjects applied different strategies broadly influenced by Portuguese morphophonemic rules responsible for the production of allophones and allomorphs, in fact confirming

the second hypothesis.

From the data, it is possible to recognize the use of morphological rules, although they do not always correspond to those of the native speaker/listener's ones. The data can probably be analyzed in terms of an interlanguage, considering the latter a constantly changing process where modifications may occur as result of new input and greater experience in L2.

Although the stimuli were the same, the purpose of this research was different from the author's, Berko-Gleason (1958), since I was more interested in discovering the role of the automatic L1 rules, in this case Brazilian Portuguese, when somebody is learning English as foreign language. Appart from the reanalyses hypothesized other rules were also applied by the Ss, such as overgeneralizations in cases where irregular forms were required i.e.[glɪŋ + allomorph] instead of [glæŋ], and some Ss. applied the [iŋ] form where the past tense inflection was required. Analyzing in general the secondary hypotheses it can be said that Ss did not always use the reanalyses described beforehand, but an analogous pattern. Students' performance has been underestimated. The working hypotheses are better applied to beginners.

Considering the reanalyses hypothesized the most consistently used was number three, it comes in first place in terms of productivity:

If the Eng. allomorph is

$$\left\{\begin{matrix}/-z/\\/-ʒ/\end{matrix}\right\} \text{ it devoices} \longrightarrow \left\{\begin{matrix}/-s/\\/-ʃ/\end{matrix}\right\} \Big/ \text{——} \left\{\begin{matrix}\text{c}\\[-\text{voice}]\\\#\end{matrix}\right\}$$

This shows the application of the Portuguese rule that says that: c

$$\begin{bmatrix}+\text{ strident}\\+\text{ coronal}\\+\text{ voice}\end{bmatrix} \longrightarrow \begin{matrix}\text{c}\\[-\text{voice}]\end{matrix} \Big/ \text{——} \left\{\begin{matrix}\text{c}\\[-\text{voice}]\\\#\end{matrix}\right\}$$

as had been shown in tables 1 to 10 where plural allomorph of legal words were required, as well as tables 17 and 20 for third person singular formation. On the other hand no /-ʃ/ appeared in final position, because of Ss' sociolinguistic variety. In addition, the different direction of rules of assimilation in English and Portuguese, regressive and progressive respectively, must be pointed out.

Reanalysis 1 comes in second place, that is, the addition of a thematic vowel whenever consonants other than [j/w/R/S] appear in final position, in the noun system. On the other hand, if it is a verb an epenthetic vowel appeared depending on Ss' proficiency in English. This phenomenon was observed in almost every table, as an evidence too of L1 interference in FL learning. From those thematic vowels the most frequently used by Ss in this experiment were [i] and [e], depending on their sociolinguistic variety. From this one, reanalysis 2 is derived because whenever an [i] sound is also added, [t] or [d] is affricated .See examples on table 28. However, this reanalysis

was not quite productive, probably because of Ss. sociolinguistic variety or because they have already acquired the sound pattern of English.

Following in order of importance, appears reanalysis 4. It refers to the adaptation into a homorganic of those consonants, vowels, and/or their distribution when they do not correspond to those of L1. Note that every table has a subtable that includes the variation of each sound adapted into a homorganic. This fact is stronger particularly in terms of vowel sounds, considering that there are 12 vowels in English, as opposed to 7 (considering only [- nasal]) in Portuguese, besides differences in distribution of sounds, and differences in direction of assimilation processes already mentioned.

The data permitted the observation of some differences in terms of substituion of homorganic sounds contrary to what was described by Steinberg (1985).

Another point that resulted contrary to expectations was the production of [r], in which most Ss. did not apply the hypothesized /R/ ,but most variants demonstrated they had already mastered the sound belonging to the American English system. Examples can be found in tables 7, 14 and 25.

Reanalysis 5 derives from the one above. It refers to the insertion of a vowel splitting English clusters. This insertion produced a consequent syllabic reanalysis towards L1 canonical form. An example of this appears in table 12 where the past tense of [rɪk] was required; the final cluster [kt] received a

vowel in between, because L1 does not have this kind of distribution.

Reanalysis 6, that is, the use of overgeneralizations can be observed in all the items where irregular allomorphs were required (Tables 16 ,29 and 31). It is possible Ss. could not compare the structure of these items to those of real words even when they had similar characteristics. Compare responses in table 15 for the item [sɪŋ] with those of irregular pseudo words.

The last, reanalysis 7 turned out to be quite productive in item 11 [spɔw], where prior to the first sound in the stem an epenthetic [i] was introduced. This phenomena was also described in the theoretical part and confirmed by the data.

Another important fact to be described is that of real words involved in the experiment. *Glass*, *sing* and *melt* (4-15-19) were items tested. No rote learning was observed in the data. Accordingly Ss. applied the same strategies and reanalyses as they did with pseudo words. The plural form of *glass*, past tense of *sing* and *melt* were not acquired as marked forms, Ss. did not internalize the rules for inflected forms. Still, L1 rules of allophones and allomorphs play an important role even in relation to real words. The purpose of using pseudo words was to get some information of what happens with real words, considering semantic memory uses morphological information about stems implying the relation of those items to others which are independent from the context.

Scliar-Cabral and Locket (1975) clearly stated that each stem is not represented in the mind with all the inflections that it may assume in a context. Furthermore, Berko-Gleason's test demonstrated in practice that Ss. are able to use rules with pseudo words. This determines that individuals have rules of extension that enable them to deal with new items, and the dynamic and reconstructed aspects of memory.

In relation to both groups, a strategy observed in the advanced group was the repetition of the stimulus, allowing total feedback, which reesulted in a closer approximation to what the correct response could be. The strategy of repetition gives the subject some time to assess the rule, to apply introspection and to avoid the immediate vanishing of the pseudo word in his/her short term memory. The advanced group also showed clear signs of monitoring their production (Appendix II includes all the items in contrast to each of the levels of proficiency tested).

When comparing the groups it became clear that the tendency to produce [- ^{c}voice] before silence occured in both groups and without great variance. It demonstrated that L1 interferes with FL plural formation. The same was true for the past tense allomorphs, where [t,d, or ɪd] were randomly used. However, in the vowel system, the advanced group appeared more proficient at the time of producing vowels of the English system. That is, subjects in the advanced group produced approximations closer to the appropriate sounds. The advanced group also produced

smaller number of thematic vowels in final position, although they aspirated [t] and [d] , what shows a higher level of proficiency. In the same way, fewer "*ing*" forms were produced by the advanced students, as well as more appropriate past tense allomorphs. (See item 13). When comparing the items where third person singular was required, the advanced group did better. In addition, the advanced group did not show the neutralization between [w] and [l] in final position. Summing up, it is possible to say that greater experience in the FL may diminish the interference from L1. There is some proof of this in the data.

The data provided clear evidences of L1 interferences in terms of allomorphs and allophones. The substitutions made by Ss. in this experiment refer to allophonic transfers when, for example, they used a final $[-\overset{c}{\text{voice}}]$ in a context where $[+\overset{c}{\text{voice}}]$ was required. ([wʌgs] instead of [wʌgz]; or distributional transfers when confronted with a $[+\overset{c}{\text{nas}}]$ in final position they produced a $\begin{bmatrix} +\overset{c}{\text{high}} \\ +\text{nas} \end{bmatrix}$ plus phonoarticulatory anticipation.

Just to conclude, in practical terms the instrument has proved adequate for :

1- determining different levels of perceptual and phonoarticulatory proficiency but what is more important , the command of productive morphophonemic rules,and consequently,those points where the teaching-learning process should be improved:

Plural formation

Third person singular formation

Vowel sounds

Distribution of velar-nasal

2- It shows when rules are productively internalized. (Note past tense formation where the application of allomorphs is completely random).

3- It shows the importance of metacognitive and metalinguistic strategies to make students notice they are not perceving the differences.

4- Last but not least, it was observed that even teachers do not perceive such differences also because of their automatisms.

The paradigm has proved useful in terms of EFL teaching-learning theories to be applied in classroom because the experiment has shown that perceptual and phonoarticulatory automatisms are the most difficult to overcome when learning EFL. It has also shown a certain order in relation to difficulties. Accordingly,

it has shown it is harder to acquire new automatisms for morphophonemic conditioning than it is to acquire phonemes that do not exist in the L1. For example, the conditioning rules in English are those of regressive assimilation while in Portuguese assimilation is progressive. Another important fact, from the point of view of theory, is that vowels proved to be more difficult in terms of perception and phonoarticulation than consonant patterns, although vowels are considered steady segments.

The confrontation of different systems and non-structural factors interact in this troublesome area. L1 was automatically assessed by the students at the time of producing allophones and allomorphs that belong to EFL. Choices were made below the level of awareness, and although only L1 has been analyzed as source, there are many other factors that may take part in this process, like individual differences and the kind of input received. If, as Krashen (1983, apud Odlin 1989) said:

> transfer is the result of falling back to old knowledge or L1 rule when there is lack of knowledge as a kind of strategy until the new rule is acquired (p.34)

then, these students have not acquired new rules of English allomorphs. On the other hand, this phenomenon is not just a question of memorizing rules, the solution is not so simple because tranfers are the result of unconscious processes in as much as they are automatic. Improvements will not be achieved just by drawing students' attention to differences in the

system, but through training perception and production. Metalinguistic knowledge may be useful, but monitoring on the part of the students is also necessary.

Discovering the problems in each group is the basic tool for the development of teaching strategies that would tend to solve or at least soften the interference of L1. Such strategies may include metalinguistic knowledge, perception training and greater exposure to appropriate input. Higher frequency of structures and items functionally used in classroom interaction may also help. It is necessary to involve the students in this process so that they may individually use learning strategies that would help overcome this stage in their learning process.

A longitudinal research would be an invaluable aid in this area. It would accurately describe the different stages through which students pass while learning and using morphophonemic rules. Further research would also include control groups to test directly the advantages of using certain teaching strategies.

Appendix I DATA

Berko-Gleason's test applied to EFLBrazilian INTERMEDIATE students

Nr:01/Interm. Name:Sida

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wɔgs	(wagis)	11	is'pɔwit	(ispowʤi)
02	'kawʒis	(kæzis)	12	ɾikɛt	(rikiʧi)
03	tɔɾs	(toris)	13	mətəd	(mɔʧiʤi)
04	'glɛsis	(glɛzis)	14	'bɔdɪt	(bɔʤiʤi)
05	'nizɪs	(nizis)	15	sə̃*g	(sʧgiʤi)
06	lɛnz	(lə̃s)	16	glʧ*gɪt	(glingiʤi)
07	kɾas	(kras)	17	'luʤɪt	(luʤis)
08	xivs	(?ifis)	18	bʧ*gɪt	(bingiʤi)
09	'tɛsis	(tazis)	19	all gone	(mɛwʧiʤi)
10	'gɛʧis	(gaʃis)	20	nəzɪt	(nazis)

Nr:02/Interm. Name: Daniel

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wɤgs	(wagis)	11	is'pɔʧn	(ispowʤi)
02	'kadʒis	(kæzis)	12	'ɾikət	(rikiʧi)
03	'ɾədeɾs	(toris)	13	'mɛtid	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bədit	(bɔʤiʤi)
05	'nizis	(nizis)	15	sə̃*g	(sʧgiʤi)
06	lə̃ns	(lə̃s)	16	'glʧndid	(glingiʤi)
07	kɾɛs	(kras)	17	'luʤid	(luʤis)
08	ɾivs	(?ifis)	18	bə̃ʧgid	(bingiʤi)
09	'tɛsis	(tazis)	19	mɛwtəd	(mɛwʧiʤi)
10	'gɛtid	(gaʃis)	20	'nɛzid	(nazis)

Nr:03/Interm. Name: Carlos

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wəgs	(wagis)	11	'spawɤd	(ispowʤi)
02	kɛʤ	(kɛzis)	12	ɾʧ*kit	(rikiʧi)
03	tɔɾs	(toris)	13	'mɛtid	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔdit	(bɔʤiʤi)
05	nis	(nizis)	15	sə̃*g	(sʧgiʤi)
06	lɛmz	(lə̃s)	16	'glʧgiʧi	(glingiʤi)
07	kɾɔs	(kras)	17	'ludɛt	(luʤis)
08	hifs	(?ifis)	18	bʧ*git	(bingiʤi)
09	'tɛsis	(tazis)	19	it's gone	(mɛwʧiʤi)
10	gɛst	(gaʃis)	20	'mɛzit	(nazis)

Nr: 04/Interm. Name: Flavia

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wages	(wagis)	11	spo'wt	(ispowʤi)
02	'kɛʒɪs	(kɛzis)	12	'rekɪd	(rikiʧi)
03	tors	(toris)	13	'mɛsɪd	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔdɪd	(bɔʤiʤi)
05	'nizis	(nizis)	15	sɪ̃ng	(sɪ̃giʤi)
06	lẽnis	(lẽs)	16	glẽnded	(glingiʤi)
07	'krɛsis	(kras)	17	luʤɪ	(luʤis)
08	'hifis	(ʔifis)	18	bẽnk	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛtɪs	(mɛwʧiʤi)
10	'kɛʧɪs	(gaʃis)	20	nɛzed	(nazis)

Nr: 05/Interm. Name: Debora

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wɛ̃gs	(wagis)	11	'spoud	(ispowʤi)
02	'kɛʧɪs	(kɛzis)	12	'rɛkts	(rikiʧi)
03	tɔrns	(toris)	13	'mɛd	(mɔʧiʤʒi)
04	'glɛsɪs	(glɛzis)	14	'bɔdit	(bɔʤiʤi)
05	'nizis	(nizis)	15	sɪ̃*g	(sɪ̃giʤi)
06	lɛnz	(lẽs)	16	glɪ̃*g	(glingiʤi)
07	krɛs	(kras)	17	'ludɪt	(luʤis)
08	'xivis	(ʔifis)	18	bẽ̃jg	(bingiʤi)
09	'tɛsɪs	(tazis)	19	'mɛwtidi	(mɛwʧiʤi)
10	'gɛtɪs	(gaʃis)	20	'nɛzid	(nazis)

Nr: 06/Interm. Name: Scheila

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wɔgs	(wagis)	11	is'pawit	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	ɣik	(rikiʧi)
03	'tawɛrs	(toris)	13	'mawtit	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɛdʰ	(bɔʤiʤi)
05	'niziz	(nizis)	15	sɛ̃*g	(sɪ̃giʤi)
06	'lɛnes	(lẽs)	16	glẽ̃jg	(glingiʤi)
07	krɛts	(kras)	17	'lɔʤid	(luʤis)
08	'xifis	(ʔifis)	18	mẽ̃jg	(bingiʤi)
09	tɛs	(tazis)	19	no response	(mɛwʧiʤi)
10	'gaʧis	(gaʃis)	20	'nauzid	(nazis)

Nr: 07/Interm. Name: Jorge

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wɔg	(wagis)	11	is'pow	(ispowʤi)
02	kadʒəs	(kɛzis)	12	'ɾɛkəd	(rikiʧi)
03	tɔərs	(toris)	13	'matəd	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔtid	(bɔʤiʤi)
05	'nizis	(nizis)	15	sðʷg	(sʧgiʤi)
06	lẽndets	(lãs)	16	glʧʷgidhh	(glingiʤi)
07	kɾas	(kras)	17	'ludəth	(luʤis)
08	'hifis	(ʔifis)	18	bʧʷgedh	(bingiʤi)
09	'tɛsis	(tazis)	19	melt	(mɛwʧiʤi)
10	'kɛzith	(gaʃis)	20	'nɛzid	(nazis)

Nr: 08/Interm. Name: Tricia

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wogɤs	(wagis)	11	ispɔ'wɪd	(ispowʤi)
02	'kaʒis	(kɛzis)	12	'ɾiketə	(rikiʧi)
03	tɔɻs	(toris)	13	'mɔtidə	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɐwdit	(bɔʤiʤi)
05	'nizis	(nizis)	15	sɤ~ʷk	(sʧgiʤi)
06	'lẽnis	(lãs)	16	glʧʷgɤd	(glingiʤi)
07	kɾɔs	(kras)	17	'luʤid	(luʤis)
08	'hifis	(ʔifis)	18	'bʧʷgʧn	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛuts	(mɛwʧiʤi)
10	'gaʧis	(gaʃis)	20	'nɛzʧn	(nazis)

Nr: 09/Interm. Name: Marilena

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wəgs	(wagis)	11	ispowth	(ispowʤi)
02	'kɛʤis	(kɛzis)	12	'ɾikiti	(rikiʧi)
03	kaɾs	(toris)	13	'motid	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔd	(bɔʤiʤi)
05	'nizis	(nizis)	15	sðʷg	(sʧgiʤi)
06	lẽʷz	(lãs)	16	glʧʷgɤdh	(glingiʤi)
07	kɾem	(kras)	17	'luʤi	(luʤis)
08	'xiv	(ʔifis)	18	bʌ~ʷg	(bingiʤi)
09	'tasis	(tazis)	19	'meutid	(mɛwʧiʤi)
10	'gɛʧis	(gaʃis)	20	'nɛziʤi	(nazis)

Nr:10/Interm. Name: Marluce

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wɔgɪs	(wagis)	11	'spɔlәd	(ispowʤi)
02	'kaʒis	(kɛzis)	12	ɾikĩn	(rikiʧi)
03	tawaɾs	(toris)	13	'mɔtʃĩn	(mɔtʃiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔdĩn	(bɔʤiʤi)
05	ni:zis	(nizis)	15	sõ*g	(sĩgiʤi)
06	lẽnz	(lẽs)	16	glĩ*gĩn	(glingiʤi)
07	'kɾais	(kras)	17	luʤĩn	(luʤis)
08	'xivɪs	(?ifis)	18	bĩ*gĩn	(bingiʤi)
09	'tɛsis	(tazis)	19	iz'mɛw	(mɛwʧiʤi)
10	'gɛʧis	(gaʃis)	20	'nɛzĩn	(nazis)

Nr:11/Interm. Name: Marcelo

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wɛgs	(wagis)	11	is'poit	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'ɾikid	(rikiʧi)
03	'tɔɾis	(toris)	13	'mɔtid	(mɔtʃiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔded	(bɔʤiʤi)
05	'nizɪs	(nizis)	15	sõ*g	(sĩgiʤi)
06	lẽnis	(lẽs)	16	glĩ*gɤd	(glingiʤi)
07	'Kɾauzi	(kras)	17	'luʤed	(luʤis)
08	xifis	(?ifis)	18	bĩ*gid	(bingiʤi)
09	'tɛsɪs	(tazis)	19	'mɛltɪd	(mɛwʧiʤi)
10	'gɛʤis	(gaʃis)	20	'nɛzɪd	(nazis)

Nr:12/Interm. Name: Katia

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wogãs	(wagis)	11	ispowãt	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'ɣikid	(rikiʧi)
03	tɔɾs	(toris)	13	'mɔtɪdɪ	(mɔtʃiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔdɪt	(bɔʤiʤi)
05	'izis	(nizis)	15	sẽg	(sĩgiʤi)
06	lẽns	(lẽs)	16	glĩgidi	(glingiʤi)
07	kɾɛ	(kras)	17	'ludidɪ	(luʤis)
08	'hifis	(?ifis)	18	'bigidə	(bingiʤi)
09	'tɛsis	(tazis)	19	mɛlz	(mɛwʧiʤi)
10	'gɛʧis	(gaʃis)	20	'nɛzɪt	(nazis)

Nr:13/Interm. Name: Alexandre

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wəgʌs	(wagis)	11	spoɪ̃n	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	ɾɪ̃kɪ̃n	(rikiʧi)
03	tors	(toris)	13	'mɔwtɪ̃n	(mɔtʃiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔdɪ̃n	(bɔʤiʤi)
05	'nizis	(nizis)	15	sɪ̃gɪ̃	(sɪ̃giʤi)
06	lẽnis	(lẽs)	16	glɪ̃*gɪ̃	(glingiʤi)
07	krɛvɪs	(kras)	17	'luded	(luʤis)
08	'hwifs	(?ifis)	18	bẽngɪ̃	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛlt	(mɛwtʃiʤi)
10	'gɛts	(gaʃis)	20	'nɛzɪ̃n	(nazis)

Nr:14/Interm. Name: Charles

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wɔgs	(wagis)	11	ɪs'powɪd	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'ɾɪ̃*kət	(rikiʧi)
03	tɔɾs	(toris)	13	'mɔtidi	(mɔtʃiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔtət	(bɔʤiʤi)
05	'nizis	(nizis)	15	sɪ̃*kə	(sɪ̃giʤi)
06	'lẽnds	(lẽs)	16	glɪ̃*ged	(glingiʤi)
07	krɔs	(kras)	17	luʤət	(luʤis)
08	'ɾifs	(?ifis)	18	bɪ̃*gedə	(bingiʤi)
09	'tɛsis	(tazis)	19	no response	(mɛwtʃiʤi)
10	'gɛtʃɪs	(gaʃis)	20	'nɛzɪd	(nazis)

Nr:15/Interm. Name: Saulo

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wəgs	(wagis)	11	ɪs'põ*̃	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'ɾiked	(rikiʧi)
03	tɔɾs	(toris)	13	'mɔtɪd	(mɔtʃiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔdɪd	(bɔʤiʤi)
05	'nizis	(nizis)	15	sɪ̃*g	(sɪ̃giʤi)
06	lẽnts	(lẽs)	16	glɪ̃*ged	(glingiʤi)
07	'krɛbs	(kras)	17	'luʤəd	(luʤis)
08	'hifis	(?ifis)	18	bɪ̃*ged	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛutɪ	(mɛwtʃiʤi)
10	'gɛtʃis	(gaʃis)	20	'nɛzid	(nazis)

Nr:16/Interm. Name: Ligia

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wɔg	(wagis)	11	is'pow	(ispowʤi)
02	kaʒ	(kɛzis)	12	'ɪikɪ	(rikiʧi)
03	'tawəɹ	(toris)	13	'mɔʧɪ	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔtə	(bɔʤiʤi)
05	'nizis	(nizis)	15	sɪ̃*g	(sɪ̃giʤi)
06	lẽ*z	(lẽs)	16	'glinedə	(glingiʤi)
07	kɪaws	(kras)	17	'lɐʤɪ̃n	(luʤis)
08	'hivɪs	(?ifis)	18	bẽ*gə	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛwtedɪ	(mɛwʧiʤi)
10	gaʧɪs	(gaʃis)	20	nɛs	(nazis)

Nr:17/Interm. Name: Marcela

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wugs	(wagis)	11	ispowɪt	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'ɪɛkətə	(rikiʧi)
03	tɔɪs	(toris)	13	'mɔtit	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔdidə	(bɔʤiʤi)
05	'niziz	(nizis)	15	sɪ̃*g	(sɪ̃giʤi)
06	mẽniz	(lẽs)	16	glɪ̃*ged	(glingiʤi)
07	kɪaz	(kras)	17	lʁds	(luʤis)
08	'hifes	(?ifis)	18	bɪ̃gəd	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛltidə	(mɛwʧiʤi)
10	'gets	(gaʃis)	20	'nɛzis	(nazis)

Nr:18/Interm. Name: Kênia

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wugs	(wagis)	11	is'powetə	(ispowʤi)
02	'kaʒis	(kɛzis)	12	'ɪikədə	(rikiʧi)
03	tɔɪs	(toris)	13	'mɔtɪdə	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔtidə	(bɔʤiʤi)
05	niz	(nizis)	15	sɪ̃*gedə	(sɪ̃giʤi)
06	'lẽnds	(lẽs)	16	glɪ̃gedə	(glingiʤi)
07	kɪas	(kras)	17	'luʤi	(luʤis)
08	'xifs	(?ifis)	18	bɪ̃*gedə	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛltedə	(mɛwʧiʤi)
10	'gɛʃis	(gaʃis)	20	nez	(nazis)

Nr:19/Interm. Name: Luciano

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wogis	(wagis)	11	is'poudə	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'ɪiki	(rikiʧi)
03	twɔɪs	(toris)	13	'mɔti	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔʤi	(bɔʤiʤi)
05	'nizis	(nizis)	15	sə̃*g	(sʔgiʤi)
06	lə̃nz	(lə̃s)	16	'glə̃*gi	(glingiʤi)
07	kɪas	(kras)	17	lɔʤʔ	(luʤis)
08	'xifiɛs	(?ifis)	18	bə̃*g	(bingiʤi)
09	'tɛzis	(tazis)	19	no response	(mɛwʧiʤi)
10	'gaʧis	(gaʃis)	20	'nɛzid	(nazis)

Nr:20/Interm. Name: Leandro

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wʊgis	(wagis)	11	is'powed	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'ɪɛkid	(rikiʧi)
03	'tɔɪds	(toris)	13	'mɔted	(mɔʧiʤʒi)
04	'glɛsɪs	(glɛzis)	14	'bɔtid	(bɔʤiʤi)
05	'niz:	(nizis)	15	sʔ*gid	(sʔgiʤi)
06	lə̃	(lə̃s)	16	gləʔ*g	(glingiʤi)
07	kɪa	(kras)	17	'ladʒʔn	(luʤis)
08	'xifs	(?ifis)	18	bə̃*gid	(bingiʤi)
09	'tɛsi	(tazis)	19	'mɛltiɬ	(mɛwʧiʤi)
10	'gɛʧis	(gaʃis)	20	'nɛzit	(nazis)

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Nr:21/Advanced Name: Flavia

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wɔgʌs	(wagis)	11	is'pɔwəth	(ispowʤi)
02	'kɛʤis	(kɛzis)	12	rɛkth	(rikiʧi)
03	'tɔrɪs	(toris)	13	'mɔtɪdh	(mɔtʃiʤi)
04	'glɛsis	(glɛzis)	14	bi:dh	(bɔʤiʤi)
05	'niziz	(nizis)	15	sə̃*g	(sʔgiʤi)
06	lə̃nz	(lə̃s)	16	'klʔ*gəth	(glingiʤi)
07	krɛz	(kras)	17	'laʤəs	(luʤis)
08	'xifs	(ʔifis)	18	bə̃*gthə	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛltid	(mɛwʧiʤi)
10	'gɛʧə	(gaʃis)	20	'nɛzis	(nazis)

Nr:22/Advanced Name: Pedro

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wəgs	(wagis)	11	is'pɔət	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'xɛkit	(rikiʧi)
03	tɔrs	(toris)	13	'mɔtidə	(mɔtʃiʤi)
04	'glɛsis	(glɛzis)	14	'bɔdidə	(bɔʤiʤi)
05	'ni:zis	(nizis)	15	sə̃*g	(sʔgiʤi)
06	lɛ:ms	(lə̃s)	16	glʔ*gedə	(glingiʤi)
07	'krɑws	(kras)	17	'lɛʤis	(luʤis)
08	'xi:vis	(ʔifis)	18	bə̃*g	(bingiʤi)
09	'tɛsis	(tazis)	19	'mewtədə	(mɛwʧiʤi)
10	'kɛʤis	(gaʃis)	20	'nɛ:zis	(nazis)

Nr:23/Advanced Name: Juliana

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wʌgs	(wagis)	11	is'powkət	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'rikət	(rikiʧi)
03	tɔrs	(toris)	13	'mɔtɪt	(mɔtʃiʤi)
04	'glɛsis	(glɛzis)	14	bɔt	(bɔʤiʤi)
05	'ni:zis	(nizis)	15	sə̃*g	(sʔgiʤi)
06	lə̃nz	(lə̃s)	16	'glʔ*gid	(glingiʤi)
07	krɛs	(kras)	17	'luʤis	(luʤis)
08	'xi:fis	(ʔifis)	18	bʔ*kət	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛltəd	(mɛwʧiʤi)
10	'gɛʧis	(gaʃis)	20	'nɛ:zis	(nazis)

Nr:24/Advanced Name: Janaina

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wʌgs	(wagis)	11	'spowid	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'ɹikədh	(rikiʃi)
03	tɔɹs	(toris)	13	'mɔt	(mɔtʃiʤi)
04	'glɛsis	(glɛzis)	14	mɔtid	(bɔʤiʤi)
05	'ni:z	(nizis)	15	'sɪ̈*gid	(sɪ̈giʤi)
06	lə̈ns	(lɛ̃s)	16	glɪ̈*gid	(glingiʤi)
07	kɹæs	(kras)	17	'lədʒis	(luʤis)
08	'xivs	(ʔifis)	18	bɪ̈*gət	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛlth	(mɛwtʃiʤi)
10	gəʤis	(gaʃis)	20	'nɛ:z	(nazis)

Nr:25/Advanced Name: Francisco

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wʌgs	(wagis)	11	is'powəth	(ispowʤi)
02	'kɛʤis	(kɛzis)	12	ɹikət	(rikiʃi)
03	'tɔɹɹs	(toris)	13	'mɔtɹdə	(mɔtʃiʤi)
04	'glasis	(glɛzis)	14	'bɔtidə	(bɔʤiʤi)
05	'nizis	(nizis)	15	sə̈*gith	(sɪ̈giʤi)
06	'ɹə̈nts	(lɛ̃s)	16	glɪ̈*gid	(glingiʤi)
07	'kɹɛbs	(kras)	17	'lədʒ	(luʤis)
08	'xifis	(ʔifis)	18	bə̈*g	(bingiʤi)
09	'tɛsɪs	(tazis)	19	'mɛltidə	(mɛwtʃiʤi)
10	'gɛtʃis	(gaʃis)	20	nɛ:z	(nazis)

Nr:26/Advanced Name: Cristiano

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wʌgs	(wagis)	11	spowt	(ispowʤi)
02	'kɛʤis	(kɛzis)	12	'ɹɛkith	(rikiʃi)
03	tɔɹs	(toris)	13	'mɔtɪdə	(mɔtʃiʤi)
04	'glɛsis	(glɛzis)	14	'bɔdidh	(bɔʤiʤi)
05	'nizis	(nizis)	15	sə̈*giʤi	(sɪ̈giʤi)
06	lɛ*zis	(lɛ̃s)	16	glə̈*kəth	(glingiʤi)
07	'kɹibs	(kras)	17	'lədʒɪs	(luʤis)
08	'xivs	(ʔifis)	18	bɪ̈*gəth	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛltith	(mɛwtʃiʤi)
10	'gɛʤis	(gaʃis)	20	'nɛsis	(nazis)

Nr:27/Advanced Name: Luciana

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wʌgs	(wagis)	11	'spowədʰ	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'rɛkədʰ	(rikiʧi)
03	tɔrs	(toris)	13	'mawtəd	(mɔtʃiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔdɪd	(bɔʤiʤi)
05	'ni:zis	(nizis)	15	sə̃*g	(sʔgiʤi)
06	lə̃nz	(lə̃s)	16	glʔ*gid	(glingiʤi)
07	krɑ:s	(kras)	17	'lwʤis	(luʤis)
08	'xivs	(?ifis)	18	bə̃*g	(bingiʤi)
09	'tɛzis	(tazis)	19	'mɛltit	(mɛwtʃiʤi)
10	'gɛtʃis	(gaʃis)	20	'nɛzis	(nazis)

Nr:28/Advanced Name: Vivian

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wɔgz	(wagis)	11	is'powdʰ	(ispowʤi)
02	'kɛʒis	(kɛzis)	12	'rɛkithʰ	(rikiʧi)
03	tɔr	(toris)	13	'mɔtɪd	(mɔtʃiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔdɪd	(bɔʤiʤi)
05	'nizis	(nizis)	15	sə̃*g	(sʔgiʤi)
06	'le*zis	(lə̃s)	16	glə̃*gɪd	(glingiʤi)
07	krəws	(kras)	17	'luʤis	(luʤis)
08	hifs	(?ifis)	18	bə̃*g	(bingiʤi)
09	'tɛsis	(tazis)	19	mɛlt	(mɛwtʃiʤi)
10	'gɛtʃis	(gaʃis)	20	'nɛzis	(nazis)

Nr:29/Advanced Name: Marcia

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wəgs	(wagis)	11	is'powedʰ	(ispowʤi)
02	'kɛʤis	(kɛzis)	12	'rɛkid	(rikiʧi)
03	tɔrs	(toris)	13	'mɔtɪd	(mɔtʃiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔdɪd	(bɔʤiʤi)
05	'nizis	(nizis)	15	sə̃*g	(sʔgiʤi)
06	'lenis	(lə̃s)	16	glʔ*gid	(glingiʤi)
07	krɛs	(kras)	17	'luʤis	(luʤis)
08	'xifis	(?ifis)	18	bʔ*gid	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛltɪd	(mɛwtʃiʤi)
10	'gɛtʃis	(gaʃis)	20	'nɛzid	(nazis)

Nr: 30/Advanced Name: Paulo

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wɐgs	(wagis)	11	is'powed	(ispowʤi)
02	'gɐʧis	(kɐzis)	12	'rɐkɪd	(rikiʧi)
03	'tawɐrs	(toris)	13	'mɔtɪd	(mɔʧiʤʒi)
04	'glɐsis	(glɐzis)	14	'bɔtid	(bɔʤiʤi)
05	nizɪs	(nizis)	15	sɐ̃*g	(sʔgiʤi)
06	lɐ*gs	(lɐ̃s)	16	glɐ̃*gid	(glingiʤi)
07	'krawɐs	(kras)	17	lʁʤ	(luʤis)
08	'xifɪs	(ʔifis)	18	bʔ*gʔ*g	(bingiʤi)
09	'tɐsis	(tazis)	19	mɐltid	(mɐwʧiʤi)
10	gaʧis	(gaʃis)	20	nɐzʔ*g	(nazis)

Nr: 31/Advanced Name: Antonio

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'weg	(wagis)	11	is'pɔwit	(ispowʤi)
02	kɐʃ	(kɐzis)	12	rɐkith	(rikiʧi)
03	tɔrs	(toris)	13	'mɔtiʤi	(mɔʧiʤʒi)
04	'glɐsis	(glɐzis)	14	bɔdith	(bɔʤiʤi)
05	'nisis	(nizis)	15	sɐ̃*g	(sʔgiʤi)
06	lɐ̃ns	(lɐ̃s)	16	glɐ̃*g	(glingiʤi)
07	krɐs	(kras)	17	leʤis	(luʤis)
08	haɪvs	(ʔifis)	18	bɐ̃*g	(bingiʤi)
09	'tɐsis	(tazis)	19	mɐltid	(mɐwʧiʤi)
10	gɐʧis	(gaʃis)	20	nas	(nazis)

Nr: 32/Advanced Name: Ricardo

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wugɪs	(wagis)	11	is'pojld	(ispowʤi)
02	'kɐʤɪs	(kɐzis)	12	'rɪkɐ̃d	(rikiʧi)
03	tɔrɪs	(toris)	13	'mɔtɪd	(mɔʧiʤʒi)
04	'glɐsis	(glɐzis)	14	'bɔdith	(bɔʤiʤi)
05	'nizɪs	(nizis)	15	sɐ̃*g	(sʔgiʤi)
06	'lɐ̃nis	(lɐ̃s)	16	glʔ*gid	(glingiʤi)
07	krɐs	(kras)	17	'luʤis	(luʤis)
08	xifis	(ʔifis)	18	bɐ̃nt	(bingiʤi)
09	'tɐsis	(tazis)	19	mɐltid	(mɐwʧiʤi)
10	gɐʧis	(gaʃis)	20	nɐz	(nazis)

Nr: 33/Advanced Name: Ivânia

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wəgis	(wagis)	11	is'pow	(ispowʤi)
02	'kaʒɪs	(kɛzis)	12	'rɛkʧn	(rikiʧi)
03	tɔrs	(toris)	13	mɔt	(mɔtʃiʤʒi)
04	'glɛsis	(glɛzis)	14	bɛn	(bɔʤiʤi)
05	'nizis	(nizis)	15	sʧ*gʧ*g	(sʧgiʤi)
06	lɛms	(lɑ̃s)	16	glʧ*g	(glingiʤi)
07	krɛs	(kras)	17	'lʌʤʧn	(luʤis)
08	xivs	(?ifis)	18	'bɛ̃*gʧ*g	(bingiʤi)
09	'tɛsis	(tazis)	19	'mɛltid	(mɛwʧiʤi)
10	'gatʃis	(gaʃis)	20	'nʌzʧ*g	(nazis)

Nr: 34/Advanced Name: Viviane

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wəgs	(wagis)	11	is'powth	(ispowʤi)
02	'kɛʒ	(kɛzis)	12	rowk	(rikiʧi)
03	tɔrs	(toris)	13	iz'mowth	(mɔtʃiʤʒi)
04	'glɛsəs	(glɛzis)	14	'bɔd	(bɔʤiʤi)
05	nis	(nizis)	15	sʧ*g	(sʧgiʤi)
06	lɛd	(lɑ̃s)	16	lɛ̃*g	(glingiʤi)
07	krɑ	(kras)	17	'luʤʧn	(luʤis)
08	'xivs	(?ifis)	18	bɛ̃*g	(bingiʤi)
09	tɛs	(tazis)	19	'mɛltid	(mɛwʧiʤi)
10	'gɛtʃ	(gaʃis)	20	'nazʧ*g	(nazis)

Nr: 35/Advanced Name: Leatrice

Item	Response	Hypoth.	Item	Response	Hypoth.
01	'wugəs	(wagis)	11	'spowed	(ispowʤi)
02	'kɛʤis	(kɛzis)	12	'riked	(rikiʧi)
03	tɔrs	(toris)	13	'mɔtɪd	(mɔtʃiʤʒi)
04	'glɛsis	(glɛzis)	14	bɔridh	(bɔʤiʤi)
05	'nizəs	(nizis)	15	'sɛ̃*gi	(sʧgiʤi)
06	lɛ̃*z	(lɑ̃s)	16	'glʧ*ged	(glingiʤi)
07	krɑs	(kras)	17	'luʤəs	(luʤis)
08	'xifəs	(?ifis)	18	bʧ*ged	(bingiʤi)
09	'tɛsɪs	(tazis)	19	'mɛltid	(mɛwʧiʤi)
10	'gɛtʃɪs	(gaʃis)	20	'nɛzɪs	(nazis)

Nr: 36/Advance Name: Marcos

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wugəs	(wagis)	11	'spowd	(ispowʤi)
02	'kɛʒɪs	(kɛzis)	12	'rɛkəd	(rikiʧi)
03	tɔrs	(toris)	13	mowntəd	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	'bɔdid	(bɔʤiʤi)
05	'nisəs	(nizis)	15	sə̃*g	(sɪ̃giʤi)
06	lɛns	(lə̃s)	16	'glɪ̃*gəd	(glingiʤi)
07	kras	(kras)	17	'lɛʤis	(luʤis)
08	xivz	(?ifis)	18	'bə̃*gi	(bingiʤi)
09	'tɛsis	(tazis)	19	'məlt	(mɛwʧiʤi)
10	gɛtʃis	(gaʃis)	20	naz	(nazis)

Nr: 37/Advanced Name: Nora

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wɔgs	(wagis)	11	is'poɪ̃*	(ispowʤi)
02	'katʃəs	(kɛzis)	12	'rɛkiʤi	(rikiʧi)
03	'tɔris	(toris)	13	'mɔtidh	(mɔʧiʤʒi)
04	'gla:səs	(glɛzis)	14	'bɔdith	(bɔʤiʤi)
05	'nises	(nizis)	15	sə̃*g	(sɪ̃giʤi)
06	lɛns	(lə̃s)	16	glə̃*gəʤi	(glingiʤi)
07	krɛbs	(kras)	17	lə̃dɪ̃*g	(luʤis)
08	xifs	(?ifis)	18	no response	(bingiʤi)
09	'tɛsis	(tazis)	19	'məwtid	(mɛwʧiʤi)
10	gatʃəs	(gaʃis)	20	'nə̃sɪ̃*g	(nazis)

Nr: 38/Advanced Name: Julia

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wugs	(wagis)	11	is'pɔwt	(ispowʤi)
02	'kɛʤis	(kɛzis)	12	rikth	(rikiʧi)
03	tɔrs	(toris)	13	'mɔtid	(mɔʧiʤʒi)
04	'glɛsis	(glɛzis)	14	bɔdith	(bɔʤiʤi)
05	'nizis	(nizis)	15	sə̃*g	(sɪ̃giʤi)
06	lə̃*s	(lə̃s)	16	glə̃*g	(glingiʤi)
07	kras	(kras)	17	'luʤis	(luʤis)
08	xɪvis	(?ifis)	18	bə̃*g	(bingiʤi)
09	'tɛsis	(tazis)	19	məlti	(mɛwʧiʤi)
10	gatʃəs	(gaʃis)	20	'nɛ:zis	(nazis)

Nr: 39/Advanced Name: Eugênio

Item	Response	Hypoth.	Item	Response	Hypoth.
01	ˈwugɤs	(wagis)	11	ˈspownit	(ispowʤi)
02	ˈkɛʒɪs	(kɛzis)	12	ˈrɛkɪd	(rikiʧi)
03	towrɪs	(toris)	13	ˈmɔtɪd	(mɔʧiʤʒi)
04	ˈglɛsis	(glɛzis)	14	ˈbɔdɪt	(bɔʤiʤi)
05	nizɪs	(nizis)	15	sɪ̃ˣgit	(sɪ̃giʤi)
06	ˈlɛnɪs	(lɐ̃s)	16	glɪ̃ˣgeth	(glingiʤi)
07	krɐs	(kras)	17	ˈluʤis	(luʤis)
08	ˈxifɤs	(ʔifis)	18	bɪ̃ˣgɪt	(bingiʤi)
09	ˈtɛsɪs	(tazis)	19	no response	(mɛwʧiʤi)
10	gɤts	(gaʃis)	20	nɛs	(nazis)

Nr: 40/Advanced Name: Eduardo

Item	Response	Hypoth.	Item	Response	Hypoth.
01	wɤgs	(wagis)	11	spowd	(ispowʤi)
02	ˈkɛʒɪs	(kɛzis)	12	rɛkit	(rikiʧi)
03	tors	(toris)	13	mʌtid	(mɔʧiʤʒi)
04	ˈglɛzis	(glɛzis)	14	bɔdid	(bɔʤiʤi)
05	ˈnizis	(nizis)	15	sɐ̃ˣg	(sɪ̃giʤi)
06	lɐ̃ns	(lɐ̃s)	16	klɪ̃ˣg	(glingiʤi)
07	kraws	(kras)	17	lɐʤis	(luʤis)
08	xifs	(ʔifis)	18	bɪ̃ˣgidid	(bingiʤi)
09	ˈtɛsis	(tazis)	19	ˈmɛltid	(mɛwʧiʤi)
10	gɛʧis	(gaʃis)	20	ˈnɛzis	(nazis)

Appendix II Comparison between groups

ITEM 1 WUG [wʌg] plural [wʌgz], hypothesized response [wagTVs]

Intermediate		Advanced	
Subject	Response	Subject	Response
1	wɔgs	21	ˈwɔgʌs
2	wɤgs	22	ˈwɛgs
3	wəgs	23	ˈwʌgs
4	wagəs	24	ˈwʌgs
5	wəgs	25	ˈwʌgs
6	wɔgs	26	ˈwʌgs
7	wɔg	27	ˈwʌgs
8	ˈwɔgɤs	28	wɔgz
9	ˈwəgs	29	wəgs
10	wəgɪs	30	wəgs
11	wɛgs	31	weg
12	ˈwogəs	32	ˈwugɪs
13	ˈwəgʌs	33	wəgis
14	ˈwɔgs	34	ˈwəgs
15	wəgs	35	ˈwugəs
16	wɔgs	36	wugəs
17	wugs	37	wɔgs
18	wugs	38	wugs
19	ˈwogis	39	ˈwugɤs
20	ˈwɤgis	40	wɤgs

INTERMEDIATE: Allomorph	[s]	19 Ss.	ADVANCED:	[s]	20 Ss.
	[z]	--		[z]	1 S.
Homorganics in stem		20 Ss.			12 Ss.
Thematic vowel		7 Ss.			5 Ss.

ITEM 2 KASH [Kæʒ] plural [Kæʒ], hypothesized response ['Kɛzis]

Intermediate		Advanced	
Subject	Response	Subject	Response
1	'kawʒis	21	'kɛʤis
2	'kaʤis	22	'kɛʒis
3	kɛʤ	23	'kɛʒis
4	'kɛʒis	24	'kɛʒis
5	'keʧɪs	25	'kaʤis
6	'kɛʒis	26	'kɛʤis
7	'kaʧəs	27	'kɛʒis
8	'kaʒis	28	'kɛʒis
9	'kɛʤis	29	'kɛʤis
10	'kaʒis	30	'geʧis
11	'kɛʒis	31	'keʃ
12	'kɛʒis	32	'kɛʤis
13	'kɛʒis	33	'kaʒɪs
14	'kɛʒis	34	'kɛʒ
15	'kɛʒis	35	'kɛʤis
16	kaʒ	36	'kɛʒis
17	'kɛʒis	37	'gaʧis
18	'kaʒis	38	'kɛʤis
19	'kɛʒis	39	'kɛʒis
20	'kazɪz	40	'kɛʒis

INTERMEDIATE: Allomorph	[s]	18 Ss.	ADVANCED	[s]	2 Ss.
	[z]	--		[z]	1 Ss.
Homorganics in stem		16 Ss.			13 Ss.
Thematic vowels		18 Ss.			18 Ss.

Item 3 - TOR [tɔr] plural [tɔrz], hypothesized response [tɔrɪs]

Intermediate		Advanced	
Subject	Response	Subject	Response
1	tɔrs	21	*tɔrɪs
2	rədɛrs	22	tɔrs
3	tɔrs	23	tɔrs
4	tɔrs	24	tɔrs
5	tɔrns	25	*tɔrns
6	*tawərs	26	tɔrs
7	tɔərs	27	tɔrs
8	tɔɹs	28	tɔr
9	kars	29	tɔrs
10	*tawars	30	tawɛrs
11	*tɔrɪs	31	tɔrs
12	tɔrs	32	tɔrɪs
13	tɔrs	33	tɔrs
14	tɔrs	34	tɔrs
15	tɔrs	35	tɔrs
16	*tawər	36	tɔrs
17	tɔrs	37	tɔrɪs
18	tɔrs	38	tɔrs
19	twɔrs	39	tɔwrɪs
20	*tɔrds	40	tɔrs

INTERMEDIATE: Allomorph	[s]	19 Ss.	ADVANCED	[s]	19 Ss.
	[z]	--		[z]	---
Homorganics in stem		4 Ss.			7 Ss.
Thematic vowels		1 Ss.			4 Ss.

Item 4 - GLASS [glæs] plural [glæsɪz], hypothesized resp. [glɛzis]

Intermediate		Advanced	
Subject	Response	Subject	Response
1	'glɛsis	21	'glɛsis
2	'glɛsis	22	'glɛsis
3	'glɛsis	23	'glɛsis
4	'glɛsis	24	'glɛsis
5	'glɛsɪs	25	'glɛsis
6	'glɛsɪs	26	'glɛsis
7	'glɛsis	27	'glɛsis
8	'glɛsis	28	'glɛsis
9	'glɛsis	29	'glɛsis
10	'glɛsis	30	'glɛsis
11	'glɛsɪs	31	'glɛsis
12	'glɛsis	32	'glɛsis
13	'glɛsis	33	'glɛsis
14	'glɛsɪs	34	'glɛsæs
15	'glɛsis	35	'glɛsis
16	'glɛsis	36	'glɛsis
17	'glɛsis	37	'gla:ses
18	'glɛsis	38	'glɛsis
19	'glɛsis	39	'glɛsis
20	'glɛsɪs	40	'glɛsis

INTERMEDIATE: Allomorph	[s]	20 Ss.	ADVANCED	[s]	20 Ss.
	[z]	--		[z]	---
Homorganics in stem		20 Ss.			20 Ss.
Thematic vowels		15 Ss.			20 Ss.

Item 5 - NIZ [nɪz] plural [nɪzɪz], hypothesized response [nizis]

Subject	Response	Subject	Response
1	ˈnizɪs	21	ˈniziz
2	ˈnizis	22	ˈni:zis
3	nis	23	ˈni:zis
4	ˈnizis	24	ˈni:z
5	ˈnizis	25	ˈnizis
6	ˈniziz	26	ˈnizis
7	ˈnizis	27	ˈni:zɪs
8	ˈnizis	28	ˈnizis
9	ˈnizis	29	ˈnizis
10	ˈni:zɪs	30	ˈnizɪs
11	ˈnizɪs	31	ˈnisis
12	ˈizis	32	ˈnɪzɪz
13	ˈnizis	33	ˈnizis
14	ˈnizis	34	nis
15	ˈnizis	35	ˈnizəs
16	ˈnizis	36	ˈnises
17	ˈniziz	37	ˈnises
18	ˈniz	38	ˈnizis
19	ˈnizis	39	ˈnizɪs
20	ˈniz:	40	ˈnizɪs

INTERMEDIATE: Allomorph	[s]	15 Ss.	ADVANCED	[s]	16 Ss.
	[z]	2		[z]	---
Homorganics in stem		-- Ss.			2 Ss.
Thematic vowels		14 Ss.			13 Ss.

Item 6 - LUN [lʌn] plural [lʌnz], hypothesized response [lə̃*s]

Subject	Response	Subject	Response
1	lɛnz	21	lə̃nz
2	lə̃ns	22	lə̃:ms
3	lɛmz	23	lə̃nz
4	lə̃nis	24	lə̃nz
5	lɛnz	25	rə̃nts
6	'lɛnes	26	lə̃*zis
7	lə̃ndets	27	lə̃nz
8	'lə̃nis	28	'le*zis
9	lə̃*z	29	'lənis
10	lə̃nz	30	lɛ*gs
11	lə̃nis	31	lə̃ns
12	lə̃nis	32	'lə̃nis
13	lə̃nis	33	lɛms
14	lə̃nds	34	lɛd
15	lə̃nts	35	lə̃*z
16	lə̃*z	36	lɛns
17	mə̃niz	37	lɛns
18	'lə̃nds	38	lə̃*s
19	lə̃nz	39	'lɛnɪs
20	lə̃	40	lə̃ns

INTERMEDIATE: Allomorph	[s]	11 Ss.	ADVANCED	[s]	15 Ss.
	[z]	8 Ss.		[z]	4 Ss.
Homorganics in stem		20 Ss.			20 Ss.
Thematic vowels		6 Ss.			5 Ss.

Item 7 - KRA [kɹa] plural [kɹaz], hypothesized response [kɹas]

Subject	Response	Subject	Response
1	kɹas	21	kɹɛz
2	kɹɛs	22	*kɹaws
3	kɹɔs	23	kɹɛs
4	*kɹɛsis	24	kɹæs
5	kɹɛs	25	kɹɛbs
6	kɹɛts	26	kɹibs
7	kɹas	27	kɹa:s
8	kɹɔs	28	kɹəws
9	kɹɛm	29	kɹɛs
10	kɹais	30	kɹawəs
11	*kɹauzi	31	kɹɛs
12	kɹɛ	32	kɹɛs
13	kɹɛvɪs	33	kɹɛs
14	kɹɔs	34	kɹa
15	kɹɛbs	35	kɹas
16	kɹaws	36	kɹas
17	kɹaz	37	kɹɛbs
18	kɹas	38	kɹas
19	kɹas	39	kɹas
20	kɹa	40	kɹaws

INTERMEDIATE: Allomorph	[s]	15 Ss.	ADVANCED	[s]	18 Ss.
	[z]	1 Ss.		[z]	1 Ss.
Homorganics in stem		13 Ss.			15 Ss.
Thematic vowels		2 Ss.			- Ss.

Item 8 - HEAF [hiyf] plural [hiyvs], hypothesized res. [ʔi{f, v} tv s

Subject	Response	Subject	Response
1	xivs	21	xifs
2	rivs	22	'xi:vis
3	hifs	23	'xi:fis
4	'hifis	24	xivs
5	'xivis	25	'xifis
6	'xifis	26	xivs
7	'hifis	27	xivs
8	'hifis	28	hifs
9	'xiv	29	'xifis
10	'xivɪs	30	'xifɪs
11	'xifis	31	haɪvs
12	'hifis	32	'xifis
13	'hwifs	33	xivs
14	'rifs	34	xivs
15	'hifis	35	'xifəs
16	'hivɪs	36	xivz
17	'hifes	37	xifs
18	xifs	38	xɪvis
19	'xifies	39	'xifəs
20	xifs	40	xifs

INTERMEDIATE:	Regular	14 Ss.	ADVANCED	11 Ss.
	Irregular	4 Ss.		7 Ss.
Homorganics in stem	(cons)	11 Ss.		18 Ss.
	(vowel)	20 Ss.		20 Ss.
Thematic vowel		12 Ss.		9 Ss.

Item 9 -TASS [tæs] plural [tæsɪz], hypothesized resp. ['tɛsis]

Subject	Response	Subject	Response
1	'tɛsis	21	'tɛsis
2	'tɛsis	22	'tɛsis
3	'tɛsis	23	'tɛsis
4	'tɛsis	24	'tɛsis
5	'tɛsɪs	25	'tɛsɪs
6	tɛs	26	'tɛsis
7	'tɛsis	27	'tɛzis
8	'tɛsis	28	'tɛsis
9	'tasis	29	'tɛsis
10	'tɛsɪs	30	'tɛsis
11	'tɛsɪs	31	'tɛsis
12	'tɛsis	32	'tɛsis
13	'tɛsis	33	'tɛsis
14	'tɛsis	34	'tɛs
15	'tɛsis	35	'tɛsɪs
16	'tɛsis	36	'tɛsis
17	'tɛsis	37	'tɛsis
18	'tɛsis	38	'tɛsis
19	'tɛzis	39	'tɛsɪs
20	'tɛsi	40	'tɛsis

INTERMEDIATE: Allomorph	[s]	18 Ss.	ADVANCED	[s]	19 Ss.
	[z]	-- Ss.		[z]	- Ss.
Homorganics in stem		20 Ss.			20 Ss.
Thematic vowels		15 Ss.			17 Ss.

Item 10 - GUTCH [gʌʧ] plural [gʌʧɪs], hypothesized resp. [gaʃis]

Subject	Response	Subject	Response
1	gɛʧis	21	'gɛʧə
2	'getid	22	'kɛʧis
3	gɛst	23	'gɛʧis
4	'kɛʧɪs	24	'gɛʤis
5	'gɛtɪs	25	'gɛʧis
6	'gaʧis	26	'gɛʤis
7	'kɛzith	27	'gɛʧis
8	'gaʧis	28	'gɛʧis
9	'gɛʧis	29	'gɛʧis
10	'gɛʧɪs	30	'gɛʧis
11	'gɛʤis	31	'gɛʧis
12	'gɛʧis	32	'gɛʧis
13	'gɛʧ	33	'gaʧis
14	'gɛʧɪs	34	'gɛʧ
15	'gɛʧis	35	'gɛʧis
16	'gaʧɪs	36	'gɛʧis
17	gɛʧ	37	'gaʧis
18	'gɛʃis	38	'gaʧɛs
19	'gaʧɪs	39	gɤts
20	'gɛʧis	40	'gɛʧis

INTERMEDIATE: Allomorph	[s]	10 Ss.	ADVANCED	[s]	16 Ss.
	[z]	-- Ss.		[z]	- Ss.
Homorganics in stem	(vowel)	20 Ss.			20 Ss.
	(cons.)	5 Ss.			4 Ss.
Thematic vowels		15 Ss.			17 Ss.

Item 11 - SPOW [spɔw] past [spɔwd], hypothesized response [is'pɔwɫd]

Subject	Response	Subject	Response
1	is'pɔwit	21	is'pɔwəth
2	is'pɔɪ̃n	22	is'pɔət
3	'spawɤd	23	is'powkət
4	'spowt	24	'spowid
5	'spoud	25	is'powəth
6	ɪs'pawɪt	26	spowt
7	is'pow	27	is'powədh
8	is'pɔwɪd	28	is'powd
9	ispowth	29	is'powedh
10	'spɔlɘd	30	is'powed
11	is'poit	31	is'pɔwit
12	ispowət	32	is'pojld
13	spoɪ̃n	33	is'pow
14	ɪs'powɪd	34	is'powth
15	ɪs'pɒ̃ɒ̃*	35	'spowed
16	is'pow	36	'spowd
17	ispowɪt	37	is'poɪ̃
18	is'powetə	38	is'pɔwth
19	is'pɔudə	39	'spownit
20	is'powed	40	spowd

INTERMEDIATE: Allomorph	18 Ss.	ADVANCED	19 Ss.
Epenthesis initial position	15 Ss.		14 Ss.
Homorganics in stem (vowel)	13 Ss.		14 Ss.

Item 12 - RICK [ɾɪk] past [ɾɪkt], hypothesized response [ʔikiʧi]

Subject	Response	Subject	Response
1	ɾikɛt	21	ɾɛkth
2	ˈɾikɛt	22	ˈxɛkit
3	ɾĨ*kit	23	ɾikət
4	ˈɾekɪd	24	ɾikədh
5	ɾɛkts	25	ɾikət
6	ɸɪk	26	ˈɾɛkith
7	ˈɸɛkəd	27	ɾɛkədh
8	ˈɾiketə	28	ɾɛkith
9	ˈɾikiʧi	29	ˈɾɛkid
10	ɾikĨn	30	ˈɾɛkid
11	ˈɾikid	31	ɾɛkith
12	ɸikid	32	ˈɾɪkəd
13	ɾĨ kĨn	33	ˈɾekĨn
14	ˈɾĨ*kət	34	ɾowk
15	ˈɾiked	35	ˈɾiked
16	ˈɾikɪ	36	ˈɾɛkəd
17	ˈɾɛkətə	37	ˈɾɛkiʤi
18	ˈɾikedə	38	ɾikth
19	ˈɾiki	39	ˈɾɛkɪd
20	ˈɾɛkid	40	ɾɛkɪt

* stands for [ŋ] phonoarticulatory anticipation

INTERMEDIA E	Allomorph	17 Ss.	ADVANCED	20 Ss.
	Epenthesis final position	4 Ss.		1 Ss.
	Homorganics in stem (vowel)	18 Ss.		17 Ss.
	(consonant)	5 Ss.		1 Ss.

Item 13 - MOT [mɔt] past [mɔtɪd], hypothesized response [mɔʧiʤi]

Subject	Response	Subject	Response
1	mɛted	21	'mɔtɪdh
2	'mɛtid	22	'mɔtidə
3	'mɛtid	23	'mɔtɪd
4	'mɛsɪd	24	'mɔt
5	mɛd	25	'mɔtidə
6	'mawtit	26	'mɔtidə
7	'matəd	27	'mawtəd
8	'mɔtidə	28	'mɔtɪd
9	'moti d	29	'mɔtɪd
10	'mɔʧɪn	30	'motɪd
11	'mɔtid	31	mɔtiʤi
12	'mɔtɪdɪ	32	'mɔtɪd
13	'mowtɪn	33	'mɔt
14	'mɔtidi	34	iz'mowth
15	'mɔtɪd	35	'mɔtɪd
16	'mɔʃɪ	36	mownted
17	'mɔtɪt	37	'mɔtidə
18	'mɔtɪdə	38	'mɔtid
19	'mɔti	39	'mɔtɪd
20	mɔted	40	'mʌtid

* stands for [ŋ] phonoarticulatory anticipation

INTERMEDIATE: Allomorph	17 Ss.	ADVANCED	18 Ss.
Epenthesis final position	6 Ss.		5 Ss.
Homorganics in stem (vowel)	8 Ss.		5 Ss.
Correct allomorph	5 Ss.		15 Ss.

Item 14 - BOD [bɔd] past [bɔdɪd], hypothesized response [bɔʤiʤi]

Subject	Response	Subject	Response
1	'bɔdɪt	21	'bi:dʰ
2	'bədit	22	'bɔdɪdə
3	'bɔdit	23	bɔt
4	'bɔdɪd	24	mɔtid
5	'bɔdit	25	'bɔtidə
6	bɛdʰ	26	'bɔdɪdʰ
7	'bɔtid	27	'bɔdɪd
8	'bawdiɫ	28	'bɔdɪd
9	bɔd	29	'bɔdɪd
10	'bɔdĩn	30	'bɔtid
11	'bɔdəd	31	'bɔdithʰ
12	'bɔdɪt	32	'bɔdithʰ
13	'bɔdɪn	33	bɛn
14	'bɔtət	34	bɔd
15	'bɔdɪd	35	bɔɪdʰ
16	'bɔtə	36	'bɔdid
17	'bɔdɪdə	37	'bɔdithʰ
18	'bɔtidə	38	'bɔdithʰ
19	'bɔʤi	39	'bɔdɪt
20	'bɔtid	40	'bɔdid

INTERMEDIATE: Allomorph	17 Ss.	ADVANCED	17 Ss.
Epenthesis final position	2 Ss.		2 Ss.
Homorganics in stem (vowel)	3 Ss.		2 Ss.
Correct allomorph	3 Ss.		5 Ss.

Item 15 - SING [sɪŋ] past [sæŋ] ,hypothesized response [sɪ̈*gi ʤi]

Subject	Response	Subject	Response
1	sə̈*g	21	sə̈*g
2	sɛ̈*g	22	sɛ̈*g
3	sɔ̈*g	23	sɔ̈*g
4	sɪ̈*g	24	sɪ̈*gid
5	sɪ̈*g	25	sɛ̈*gith
6	sɔ̈*g	26	sɛ̈*gi ʤi
7	sɔ̈*g	27	sɛ̈*g
8	sɤ̈~g	28	sɛ̈*g
9	sɔ̈*g	29	sə̈*g
10	sɔ̈*g	30	sɛ̈*g
11	sɔ̈*g	31	no response
12	sɛ̈g	32	sɔ̈*g
13	sɪ̈*gɪ̈n	33	sɪ̈*gɪ̈*g
14	sɪ̈*kə	34	sɪ̈*g
15	sɪ̈*g	35	sɛ̈*gi
16	sɪ̈*g	36	sɔ̈*g
17	sə̈*g	37	sɔ̈*g
18	sɪ̈*gedə	38	sɛ̈*g
19	sɔ̈*g	39	sɪ̈*git
20	sɪ̈*gid	40	sɛ̈*g

INTERMEDIATE: Irregular	5 Ss.	ADVANCED	18 Ss.
Overgeneralization	2 Ss.		4 Ss.
Noun	7 Ss.		1 Ss.
Homorganics in stem (vowel)	20 Ss.		20 Ss.

Item 16 - GLING [glɪŋ] past [glæŋ], hypothesized response [glɪ̈gi ̈ɡi]

Subject	Response	Subject	Response
1	glɪ̈*gɪt	21	ˈklɪ̈*gəth
2	ˈglɪ̈ndid	22	glɪ̈*gedə
3	glɪ̈*gitʃi	23	glɪ̈*gid
4	glə̈ndəd	24	glɪ̈*gid
5	glɪ̈*g	25	glɪ̈*gid
6	glə̈jg	26	glɑ̈*kəth
7	glɪ̈*gidh	27	glɪ̈*gid
8	glɪ̈*gəd	28	glə̈*gɪd
9	glɪ̈*gədh	29	glɪ̈*gid
10	glɪ̈*gɪ̈n	30	glə̈*gid
11	glɪ̈*gəd	31	glə̈*g
12	glɪ̈gidi	32	glɪ̈*gid
13	glɪ̈*gɪ̈	33	glɪ̈*g
14	glɪ̈*ged	34	lə̈*g
15	glɪ̈*ged	35	ˈglɪ̈*ged
16	ˈglinedə	36	ˈglɪ̈*ged
17	glɪ̈*ged	37	glɑ̈*gedə
18	glɪ̈gedə	38	glə̈*g
19	ˈglə̈*gi	39	glɪ̈*geth
20	glərɪ̈*g	40	klɪ̈*g

INTERMEDIATE: Irregular	6 Ss.	ADVANCED	5 Ss.
Overgeneralization	14 Ss.		15 Ss.
Epenthesis final position	4 Ss.		2 Ss.
Homorganics in stem (vowel)	20 Ss.		20 Ss.

Item 17 - LOODGE [luwʤ] 3rd.p.sing. [luwʤɪs], hypot.resp [luʤis]

Subject	Response	Subject	Response
1	ˈluʤɪt	21	ˈlaʤəs
2	ˈluʤid	22	ˈləʤis
3	ˈludet	23	ˈluʤis
4	ˈluʤɪ	24	ˈləʤis
5	ˈludɪt	25	ləʤ
6	lɔʤid	26	ˈləʤɪs
7	ˈludəthˑ	27	ˈlwʤis
8	ˈluʤid	28	ˈluʤis
9	ˈluʤi	29	ˈluʤis
10	ˈluʤĩn	30	lɤʤ
11	ˈluʤəd	31	ˈlaʤis
12	ˈludidɪ	32	ˈluʤis
13	ˈluded	33	ˈlʌʤĩn
14	ˈluʤət	34	ˈluʤĩ*
15	ˈluʤəd	35	ˈluʤəs
16	ˈləʤĩn	36	ˈləʤis
17	lɤds	37	lãdĩ*g
18	ˈluʤi	38	luʤis
19	lɔʤĩn	39	ˈluʤis
20	ˈlaʤĩn	40	ˈləʤis

* stands for [ŋ] phonoarticulatory anticipation.

INTERMEDIATE: 3rd. allomorph	1	Ss.	ADVANCED	15 Ss.
past	11	Ss.		--
Homorganics in stem (vowel)	20	Ss.		20 Ss.
(consonant)	6	Ss.		1 Ss.

Item 18 - BING [bɪŋ] past [bæŋ], hypothesized response [bɪ̃*gi̯gi]

Subject	Response	Subject	Response
1	bɪ̃*gɪt	21	bɛ̃*gtʰə
2	bɛ̃j̯gid	22	bɛ̃*g
3	bɪ̃*git	23	bɪ̃*kət
4	bɛ̃*g	24	bɪ̃*gət
5	bɛ̃j̯g	25	bɛ̃*g
6	mɛ̃j̯g	26	bɪ̃*gəthʰ
7	bɪ̃*gedʰ	27	bɛ̃*g
8	bɪ̃*gɪ̃n	28	bɛ̃*g
9	bʌ~*g	29	bɪ̃*gid
10	bɪ̃*gɪ̃n	30	bɪ̃*gɪ̃*g
11	bɪ̃*gid	31	bɛ̃*g
12	*bigidə	32	bɛ̃nt
13	bɛ̃ngɪ̃	33	*bɛ̃*gɪ̃*g
14	bɪ̃*gedə	34	bɛ̃*g
15	bɪ̃*ged	35	bɪ̃*ged
16	bɛ̃*gə	36	*bɛ̃*gi
17	bɪ̃gəd	37	no response
18	bɪ̃*gedə	38	bɛ̃*g
19	bɛ̃*g	39	bɪ̃*gɪt
20	bɛ̃*gid	40	*bɪ̃*gididid

INTERMEDIATE: Irregular	9 Ss.	ADVANCED	12 Ss.
Overgeneralization	11 Ss.		8 Ss.
Epenthesis final position	4 Ss.		2 Ss.
Homorganics in stem (vowel)	20 Ss.		19 Ss.

Item 19 - MELT [mɛlt] past [mɛltɪd], hypothesized response [mɛwʧiʤi]

Subject	Response	Subject	Response
1	all gone	21	'meltid
2	'mɛwtəd	22	'mewtədə
3	it's gone	23	'mɛltəd
4	'mɛtis	24	'mɛlth
5	'mɛwtidi	25	'mɛltidə
6	no response	26	'mɛltɪth
7	mɛlt	27	'mɛltit
8	'meuts	28	mɛlt
9	'meutid	29	'mɛltɪd
10	iz'mew	30	mɛltid
11	'mɛltɪd	31	mɛltid
12	mɛlz	32	meltid
13	mɛlt	33	'meltid
14	no response	34	'mɛltid
15	'meuti	35	'mɛltid
16	'mɛwtedɪ	36	melt
17	'mɛltidə	37	'mewtid
18	'mɛltedə	38	melt
19	no response	39	no response
20	'mɛltit	40	'meltid

INTERMEDIATE: Allomorph	8 Ss.	ADVANCED	15 Ss.
Epenthesis final position	5 Ss.		2 Ss.
Homorganics in stem (cons.)	7 Ss.		2 Ss.
Correct allomorph	1 Ss.		1 Ss.

Item 20 - **NAZ** [næz] 3rd.p.sing.[næzɪz], hypothesized resp.[nazis]

Subject	Response	Subject	Response
1	næzɪt	21	ˈnɛzis
2	ˈnɛzid	22	ˈnɛːzis
3	ˈmɛzit	23	ˈnɛːzis
4	ˈnɛzid	24	ˈnɛːz
5	ˈnɛzid	25	nɛːz
6	ˈnauzid	26	ˈnɛsis
7	ˈnɛzid	27	ˈnɛzis
8	ˈnɛzĩn	28	ˈnɛzis
9	ˈnɛzidʲi	29	ˈnɛzid
10	ˈnɛzĩn	30	ˈnɛzĩ*g
11	ˈnɛzɪd	31	nas
12	ˈnɛzɪt	32	nɛz
13	ˈnɛzĩn	33	nʌzĩ*g
14	ˈnɛzɪd	34	ˈnazĩ*g
15	ˈnɛzid	35	ˈnɛzis
16	nɛs	36	naz
17	ˈnɛzis	37	nãsĩ*g
18	nɛz	38	nɛzis
19	ˈnɛzid	39	nɛs
20	ˈnɛzit	40	ˈnɛzis

INTERMEDIATE: 3rd. allomorph	1	Ss.	ADVANCED	9 Ss.
past	14	Ss.		1 Ss.
Homorganics in stem (vowel)	20	Ss.		20 Ss.

Appendix III Questionnaire

(The information in this sheet is for statistical purposes)

NAME: AGE:

PROFESSION:

SCHOOLING: (Cross out the appropriate option)

PRIMARY - SECONDARY - UNIVERSITY

Where did you study?

About your English.

1-Did you study English before?

2-Where did you study?

3-How long have you studied English?

4-Did you ever live abroad? Where? How long?

5-Do you know any other language? If so, include it in the chart below.

	Speaking	Writing	Reading Comp.	Listening
English				

Do you consider yourself VERY GOOD, GOOD, or REGULAR in the skills above mentioned? Grade yourself in the chart.

6- Why are you studying English?

7- Please mention main interests.

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