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RESIDUAL SEGMENTAL ERRORS IN ENGLISH

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ABSTRACT

The present study is concerned with the segmental errors in English that persist in the speech of the undergraduate student of Letters - Portuguese and English. These errors involve the consonantal phonemes /ŋ,č,ǰ,θ,ð,š,ž,s,z/, the vocalic phonemes /I,i:,æ,ɛ,U,u:/, the plural and the past allomorphs and the allophones [p^H,t^H,k^H], which were chosen to be the object of analysis. Although all segmental errors persist in the subjects' speech, the frequency of occurrence of each one varies according to the phoneme and to the academic semester (2nd, 4th, 6th and 8th).

Only the most frequent substitution processes of each English segment are analyzed at both product and process levels. As to the process level, the errors may be classified as either interlingual, intralingual, developmental, ambiguous or unmarked.

Besides the analysis of production, a perception-discriminatory analysis is carried out to verify which of the sounds under investigation cause problems in recognition and which are the most common perceptual variations for each segment.

RESUMO

O presente estudo trata dos erros segmentais em inglês que persistem na fala do aluno de graduação em Letras - Português - Inglês. Estes erros envolvem os fonemas consonantais /ŋ,ʧ,ʤ,θ,ð,ʃ,ʒ,s,z/, os fonemas vocálicos /ɪ,i:,æ,ɛ,ʊ,u:/, os alomorfes do plural e do passado, e os alofones [p^H,t^H,k^H], os quais foram escolhidos para objeto de análise. Embora todos os erros segmentais persistam na fala dos sujeitos desta pesquisa, a freqüência de ocorrência de cada um varia de acordo com o fonema e com o semestre letivo (2o., 4o., 6o. e 8o.).

Somente os mais freqüentes processos de substituição de cada segmento são analisados, tanto ao nível de produto como ao nível de processo. Quanto ao nível de processo, os erros podem ser classificados como interlinguais, intralinguais, de transição, ambiguos ou não-marcados.

Além da análise de produção, uma análise de discriminação perceptual foi feita para verificar quais dos sons sob investigação causam problemas de reconhecimento e quais são as variações perceptuais mais comuns para cada segmento.

CONVENTIONS

V = vowel

C = consonant

C_2 = two consonants

= pause

= word boundary

$ = syllable boundary

/'/ primary stress

/.../ = phoneme

[...] = allophone

* In quotations, the notation used by each linguist was maintained.

SYMBOLS USED FOR ENGLISH

CONSONANTS

/p/ = pin
/b/ = bin
/t/ = tie
/d/ = die
/k/ = coat
/g/ = goat
/f/ = fan
/v/ = van
/s/ = sip
/z/ = zip
/š/ = shoe
/ž/ = vision
/θ/ = ether
/ð/ = either
/č/ = cheap
/ǰ/ = jeep
/m/ = mile
/n/ = Nile
/ŋ/ = ring
/l/ = life
/r/ = rife
/j/ = yellow, day
/w/ = woman, blouse
/h/ = hat

VOWELS

/i:/ = sheep
/I/ = ship
/ɛ/ = pen
/æ/ = pan
/ə/ = above, bird
/a/ = hot (AE)
/ɒ/ = hot (BE)
/ɔ/ = talk
/U/ = full
/u:/ = fool

SYMBOLS USED FOR PORTUGUESE

CONSONANTS

/p/ = pala

/b/ = bala

/t/ = tão

/d/ = dão

/k/ = cume

/g/ = gume

/f/ = faca

/v/ = vaca

/s/ = selo

/z/ = zêlo

/š/ = chá

/ž/ = já

/m/ = mato

/n/ = nato

/ñ/ = unha

/l/ = lama

/ʎ/ = lhama

/r/ = era

/R/ = erra

/j/ = iate, bairro

/w/ = quase, laudo

VOWELS

/i/ = vi

/e/ = pera

/ɛ/ = pé

/a/ = pá

/ɔ/ = pó

/o/ = por

/u/ = pula

CONTENTS

TABLES

APPENDICES

INTRODUCTION

My interest in conducting a study in the area of Segmental Phonology, especially in pronunciation accuracy, derives from the requirement that students of Letters - Portuguese and English - should achieve a satisfactory degree of accuracy because as future English teachers, they will be taken as models to be followed by their students. This does not necessarily mean that the teacher of English should demand the same degree of accuracy from his learners at schools.

My expectations of the undergraduate students' performance in pronunciation go along with what Wilkins (1974:23) has written: "He (the learner) needs to acquire a pronunciation that is accurate enough for the significant sounds to be distinctive from one another."

There are certain sounds or combination of sounds which cause no difficulty in production or recognition to the Brazilian learner of English. On the other hand, there are sounds which are difficult to be acquired because the learner is not familiar with their place and manner of articulation. My experience as an English teacher has shown that the mispronunciations of some phonemes tend to persist in the learners' phonological output, and if not dealt with seriously and systematically, they may become fossilized and cause problems in intelligibility.

It should be noted that the correct articulation of phonemes in isolation is not enough to achieve an accurate pronunciation in the foreign language. The sounds of any language combine in specific phonological environments to form a particular word with a particular meaning. So, a phoneme may be affected by the phonetic nature of neighbouring sounds, by its position in the word, and by the cluster it is part of. Segmental errors are understood as the wrong replacement of a phoneme or allophone, intrusive and elided sound(s) in a word.

Relevant studies have called attention to a contrastive analysis of the Portuguese and English phonological systems, such as those conducted by Pike (1968), Mascherpe (1970), Azevedo (1981), Staub (s,d.), Major (1987), among others, in order to describe the phonological difficulties of Brazilian students of English. The concern of these studies is also to show the influence of Portuguese on the learning of English as a foreign language. However, not all students' errors, as demonstrated in the present study through an error analysis, result from the interference of the native language.

Researches into phonological error analysis are of great assistance to the teacher who aims at preparing remedial materials, particularly for the students whose pronunciation errors persist in their speech.

The objective of this study is, therefore, to analyze residual errors, that is, those which remain constant throughout the Letters Course in the learners' phonological

output, and based on them to undertake an error analysis to find their source.

This study is limited to the analysis of the residual errors which involve the pronunciation of the consonantal phonemes /ŋ,ʧ,ʤ,θ,ð,ʃ,ʒ,s,z/, that of the vocalic phonemes /ɪ,iː,æ,ɛ,ʊ,uː/, that of the past and plural allomorphs and that of the aspirated voiceless stops. Errors involving other phonemes were also collected from the corpus but they were not analyzed, because this would broaden the scope of the present study.

The dissertation consists of 4 chapters and a general conclusion. Chapter 1 presents the concept of error and error instability in the learner's speech. This is followed by a critical review of the main approaches to second/foreign language learning and their attempts to explain learners' errors.

Chapter 2 deals with the contrastive analysis of the English and Portuguese sound systems in view of the Contrastive Analysis Hypothesis, which explains in part the learners' mispronunciations.

Chapter 3 begins with the sources of the errors found in the data. Then error gravity is discussed and a scale of frequency of occurrence is set up to illustrate the number of substitutions which involves each sound investigated. Besides, some texts containing substitution processes were chosen from the interview recordings to test

intelligibility. The analysis of these texts is also provided.

Chapter 4 describes the methodology used to collect and analyze the data. Three analyses are provided. The first one is concerned with the results of the questionnaire which inform about the learners' English bacl:ground, their opinion and suggestions about the Letters Course, etc. The following analyses involve both the perception -discriminatory tasks and the production tasks performed by the subjects. The data analysis deals with (a) the most frequent substitutions made for the English sounds under investigation, (b) the most frequent phonological contexts in which such substitutions occur and, (c) tentative explanations for the learners' phonological choice, based on the theories discussed in Chapter 1.

The conclusion gives a summary of the main points concerning the learners' substitution processes and their sources. Besides, the residual errros are statistically analyzed to see which ones persist at a decreasing or increasing rate or if they remain at the same rate throughout the semesters. Relevant answers provided by the subjects in the questionnaire are used to suggest remedial activities. Some pedagogical implications are also included and suggestions for future research.

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CHAPTER 1

THEORETICAL BACKGROUND

This chapter consists of a critical review of literature about second/foreign language learning, which will be illustrated with examples taken from the analysis of the data.

1.1. CONCEPT OF ERROR

Corder (1967) defines two types of deviation in the learner's L2 speech, which are mistakes and errors. Mistakes are caused by slips of the tongue owing to memory lapses, physical states, such as tiredness and psychological conditions. They are considered unsystematic and do not reflect the learner's imcomplete knowledge of the target language (TL). On the other hand, true errors or errors of competence are markers of the learner's 'transitional competence'. They occur systematically. As Corder (ibid:1) observes, "the learners' errors are indicative both of the state of the learner's knowledge and of the ways in which a second language is learned."

This binary classification has not proved to be satisfactory for the analysis of the corpus collected for this research. There are cases in which the learner

mispronounces a word more frequently than s/he pronounces it correctly. Following Corder's definition, such mispronunciations cannot be characterized either as errors or as mistakes, because the occurrence of the deviations is not systematic nor can the deviant pronunciations be considered slips of the tongue, because of their high frequency of occurrence.

The concept of error which has proved to be more satisfactory and which is followed in this study is that defined by Dulay et al (1982:139) as "any deviation from a selected norm of language performance, no matter what the characteristics or causes of the deviation might be." Based on this general definition, I have classified errors as follows:

1. Systematic errors: deviations whose frequency of occurrence is regular and consistent. They are in accordance with Corder's definition of 'true errors'.
2. Non-systematic errors: deviations whose frequency of occurrence is irregular and inconsistent, though quite extensive.
3. Insignificant errors: deviations caused by lack of attention, shortness of memory, fatigue or any other extra-linguistic factor. Their frequency is much lower than the frequency of non-systematic errors.

Only the first two types are considered in the analysis of the corpus, since the high occurrence of an error may indicate learning difficulty.

1.2. SYSTEMATICITY VERSUS NON-SYSTEMATICITY

Systematicity and non-systematicity are terms used here to refer to the consistent and the inconsistent use of a particular segmental error.

The data reveal that many English words are pronounced inconsistently. There are learners, for instance, who sometimes pronounce the English word 'think' with the correct initial phoneme /θ/ and sometimes with /s/; 'different' with [I] and [i]; 'Portuguese' with [p^{H}] and [p^{o}]; etc. These inconsistencies occur within the same word in 4 ways:

1. A particular phoneme has more correct than incorrect pronunciations, although the latter has a significant frequency in the data. For example:

   E8 'person' [ə] 4 B6 'because' [z] 5

   *[ɛ] 3 *[s] 4

2. A particular phoneme has more incorrect than correct pronunciations. For example:

   B6 'but' *[a] 5 F6 'think' *[i] 7

   [ə] 4 [I] 3

There are cases in which the learner mispronounces the phoneme regularly and once s/he pronounces it correctly. For example:

C6 'woman' *[u] 3 F4 'father' *[d] 3

[U] 1 [ð] 1

Other examples, however, show that the learner mispronounces the phoneme once in a regular frequency of correct pronunciations. For example:

A6 'woman' [w] 2 P8 'things' [θ] 2

*ø 1 *[t] 1

If the frequency of incorrect pronunciations is equal to or lower than two, such mispronunciations will be considered insignificant and, therefore, disregarded.

3. A particular phoneme is always replaced by incorrect phonemes. For example:

A4 'good' *[ə] 4 F6 'with' *[f] 6

*[u] 3 *[v] 1

4. A particular phoneme has equal frequency for correct and faulty pronunciations. For example:

A8 'was' *[s] 3 D4 'something' *[t] 3

[z] 3 [θ] 3

Inconsistencies also occur with words which have the same phonological context. For example, B6 knows how to pronounce the English phoneme /r/ correctly in word-initial position, as she did in the word 'relation' and others. However, in the word 'remember', she replaces [r] by [x] consistently throughout the interview. Another example is E2, who replaces systematically [θ] by [s] in the word 'something', while in other words of similar context, the syllable initial [θ] is replaced by [t] (e.g. 'things' and 'think').

The data reveal, therefore, that the sound substitution may be systematic in a particular word but non-systematic in relation to other words of similar phonological context.

The lack of stability in the learner's L2 speech may be explained either by careless pronunciation or by incomplete mastery of the English phonemes and their phonological contexts. It seems that the second hypothesis accounts for the cases of high occurrence of deviations.

Most of the learners' phonetic variability involves the use of the correct segment, which means that the learner knows how to pronounce the English phoneme correctly, but s/he is probably not aware of this. Ingram (1986:232) points out that the English children when acquiring their first language also show phonetic variability in their pronunciation. This is a common characteristic not only of the English children's speech but also of the speech of the subjects of this research.

1.3. MAIN APPROACHES TO SECOND/FOREIGN LANGUAGE LEARNING

1.3.1. CONTRASTIVE ANALYSIS (CA)

As the name suggests, this approach is based on the contrastive study of the systems of the target language (TL) and of the learner's native language (NL) in order to predict and describe the areas of difficulty that s/he has when learning the TL.

According to Lado (1957), the promotor of CA, structural differences between the NL and the TL result in difficulty to the learner. The similarities which inevitably emerge cause no problem. Based, therefore, on differences and on similarities between two language systems, the CA approach explains difficulty and ease in learning a second/foreign language.

Another assumption of CA is NL transfer. When a TL structure does not exist in the learners' NL, they resort to an equivalent form in their NL to replace the target one. As Lado (ibid:11) puts it: "... when learning a foreign language, we tend to transfer our entire NL system in the process. We tend to transfer to that language our phonemes and their variants, our stress and rhythm patterns, our transitions, our intonation patterns and their interaction with other phonemes." This also occurs when the learners hear foreign phonemes. "The speaker of one language listening to another does not actually hear the foreign language sound units - phonemes. He hears his own. Phonemic differences in the foreign language will be consistently missed by the learner if there is no similar phonemic difference in his NL." Lado (ibid:13) also states that "when there is no phoneme in the NL that could be transferred to the foreign language and actually function as the phoneme in question, the student will not be able to produce that phoneme readily in learning the foreign language."

James (1972) points out that transfer theory in CA is elaborated and formulated within a Stimulus-Response (Behaviourist) theory of psychology. Therefore, for the proponents of the CA theory, all the learner's errors result from the interference from the habits of the first language. Besides, making errors represented failure to respond correctly to a particular stimulus. Roger Bell (1981:177) refers to this view saying that "to allow errors to appear at all was dangerous, since an error could itself become a stimulus which could reinforce itself and make the 'bad habit' more deeply ingrained."

Many studies in second/foreign language learning have shown that the learner's NL exerts great influence on his/her performance. This influence is shown by Oller and Ziahosseiny (1970) through 3 versions of CA. They are the strong, the weak and the moderate versions.

The strong version

This is the 'classical CA' defended by Lado (1957) and his followers, according to which NL transfer accounts for all errors. Besides, they result from differences between the learner's NL and the TL.

This version assumes that the knowledge of the NL inhibits learning of the TL.

The weak version

Oller and Ziahosseiny (ibid:185) refer to Newmark (1966) who "holds that when a student doesn't know how to say something in the target language he "pads" from his native

language. This is not really native language "interference", rather it is simply "not knowing" something in the target language. This viewpoint seems to suggest that what will be most difficult for the learner is what he does not already know." Newmark's hypothesis "does not deny the fact that errors in the target language often reflect patterns of the native language, however, it does deny that any real interference takes place." (ibid)

In the first version of CA, transfer is seen as an unconscious process, while in the second it reflects a conscious process. Based on these two versions, NL transfer occurs when there are:

- non-equivalent structures between the NL and the TL. Here, "transfer is conceptualized as the invariably automatic activation of habitualized linguistic behaviour." (Faerch and Kasper, 1986:49)
- learner's limitations in L2 knowledge. Here, "transfer has been characterized as a problem-solving procedure, or "strategy", utilizing L1 knowledge in order to solve a learning or communication problem in L2." (ibid)

The moderate version

For Oller and Ziahosseiny (1970:186), the moderate CA predicts the interference of similar patterns either from the learner's NL or from the TL. This version explains interlingual and intralingual errors.

The similarities of structures may, therefore, generate false generalizations or 'stimulus generalization', a term used by those authors (ibid:185).

It is necessary to point out that the 3 versions of CA proposed by Oller and Ziahosseiny are essentially assumptions about learning. They are hypotheses about how knowledge of one language affects the learning of another. The terms 'strong', 'weak' and 'moderate' refer to the degree of interference of the learner's NL.

The influence of the NL in the L2 learning can be positive or negative. It is positive when the learner transfers equivalent structures from his/her NL resulting in correct productions. The negative influence occurs when the learner transfers either non-equivalent structures or equivalent ones which reflect false analogies.

1.3.1.1. CONTRIBUTION OF CA

The 'classical CA' has contributed to provide theoretical and practical orientations for the second/foreign language teacher. The theoretical side of CA concerns the description of two language systems and the practical side is related to the preparation of pedagogical materials capable to deal with patterns that cause difficulty to the learners.

Spolsky (1979:252) assumes that "CA was most useful in providing a framework for the development of useful pedagogical grammars. Its practical orientation enabled

applied linguists to overcome the metatheoretical view preceding Chomsky (1957) that required every language to be described in its own terms, without reference to other languages or to putative universals."

Lado (1957:3), on the other hand, points out that knowledge of the native and of the target systems allows the teacher to evaluate materials before adopting them for use as well as to diagnose the difficulties the students have in learning each pattern.

Based on both practical and theoretical aspects, CA intends to improve second/foreign language teaching.

1.3.1.2. MAJOR LIMITATIONS OF CA

Criticisms are usually centered around the following points:

(1) the efficacy of CA in the prediction of problems has been doubtful, since not all differences between two language systems result in errors.

According to the analysis of the present data, there are learners who have no difficulty with the pronunciation of the voiceless (VL) interdental. One would expect the contrary, since /θ/ does not belong to the Portuguese sound system.

Other cases indicate that language transfer does not always explain errors or that it is not always a form of interference. For example, English phonemes which have

equivalents in Portuguese are sometimes replaced by other English phonemes which are inexistent in the learner's NL.

E.g. 'partial' [a] → [æ]

'guess' [ɛ] → [æ]

In Portuguese, the phonemes /a/ and /ɛ/ occur in contexts similar to the English words above, such as in 'parte' and 'guerra'. However, some learners replace these phonemes by the English phoneme /æ/, which does not belong to the Portuguese phonological system. This substitution process results, therefore, in an error caused by interfering factors other than those from the learners' native language.

Richards (1971:172) points out that "studies of second language acquisition have tended to imply that contrastive analysis may be most predicted at the level of phonology ...." Dulay and Burt (1972:105) also agree with this assumption saying that "most of the valid CA evidence seems to be phonological." The present study shows that a portion of the learners' substitutions do reflect NL interference, confirming in part the CA hypothesis. However, another portion of errors cannot be explained by L1 interfering factors. No count was done to verify the overall number of occurrences of interlingual errors in relation to other types of errors in the data, because many sound substitutions have suggested different classifications (cf. Chapter 3).

In general, all English phonemes analyzed cause problems to the learner. Among these phonemes there are those which have no equivalents in Portuguese: /θ,ð,ŋ,ɪ,æ,ʊ/. According to the CA theory, the learner will certainly have much more difficulty in pronouncing and recognizing them than any other English phoneme. On the other hand, there are equivalent Portuguese and English phonemes whose allophones differ from one language to the other. For instance, the VL stops in English /p,t,k/ have aspirated allophones at the beginning of an accented syllable, which is not a characteristic of the Portuguese VL stops. Therefore, these English allophones will also result in learning difficulty.

In addition, a phoneme common to the two languages may cause difficulty when it occupies different position(s) in English words. This is the case of the Portuguese phoneme /z/ which is not found in word-final position.

The phonemes /č/ and /ǰ/ do not belong to the Portuguese sound system; however, they occur as allophones in many Brazilian Portuguese dialects. Even though they appear in Portuguese as allophones, CA refers to them as problems to the learner, since [č] and [ǰ] occur in contexts different from those in English.

Based, therefore, on the CA theory, the sounds mentioned above would cause problems to the learners. However, the data have shown that not all learners have difficulty with those sounds. This shows that the learners do not follow the

same learning route, and thus, do not produce the same errors.

For Corder (1967:23), "the simple fact of presenting a certain linguistic form to a learner in the classroom does not necessarily qualify it for the status of input, for the reason that input is 'what goes in' not what is available for going in,... it is the learner who controls this input, or more properly his intake." Based on Corder's statement, each learner has his/her own input, which suggests the occurrence of different errors in each learner's L2 speech.

(2) CA fails to take into account the psychological aspect of L2 learning, that is, what takes place in the learners themselves.

(3) CA ignores factors such as the learner's own learning strategies, overgeneralizations of the TL rules, interference from TL materials previously learned, etc.

(4) CA establishes no relationship between linguistic and non-linguistic factors. Afolayan (1971) points out that the difficulties resulted from the comparison of two languages are treated with equal gravity. There is no attempt to rank the problems. For him, "the ranking of the second language learners' problems necessarily involves the consideration of non-linguistic factors, which lie outside classical CA." (p.224)

1.3.2. ERROR ANALYSIS

In the late 1950s, behaviourism was supplanted by cognitive psychology which resulted in a change of the linguistic approach to errors: error analysis.

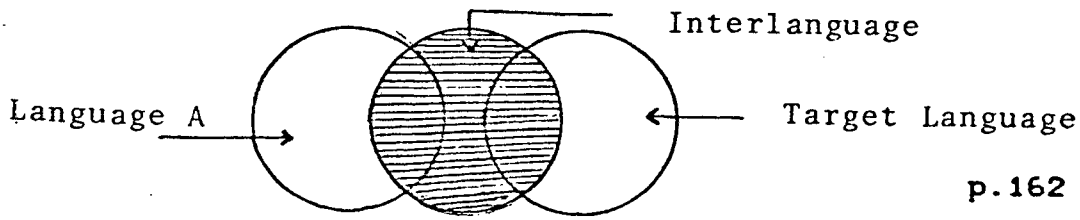
The stigma of errors and their threat to the L2 learning process became an old-fashioned view for the error analysts. For them, the learner's errors play an important role in the learning process and developing competence. The error is, therefore, considered an indispensible device for the learners to test their hypotheses. As Hahn (1987:8) puts it, this new view allows them to work with "hypothesis formation, experimentation and feedback."

Dulay et al (1982:141) point out that "the EA movement can be characterized as an attempt to account for learner errors that could not be explained or predicted by CA or behaviourist theory."

For James (1984), the steps of an EA are: first the errors are collected and, then, identified. After this, the investigator describes and categorizes them. The following step consists of the diagnosis of the errors, that is, the suggestions for their cause or source. Categorizing errors means to place them on a scale of gravity. This scale has the pedagogic purpose of assessment or remediation, i.e, it informs the teacher about which errors should be called to his/her first attention.

The primary role of EA lies in its diagnostic function. The error analysts try to provide a psycholinguistic view of the learning process on the basis of the learners' errors. Corder (1971), for example, analyzes the learner's 'idiosyncratic dialect', which is caracterized by a personal, unstable and developing grammar. The set of rules found in the learner's 'idiosyncratic dialect' are not members of the set of rules of any social dialect (TL). They are peculiar to the language of that speaker. Based on this assumption, Corder assumes that the idiosyncratic sentences of a second language learner cannot be considered deviant or erroneous, but grammatical in terms of his/her idiosyncratic dialect. They are erroneous only when there is some failure in performance, that is, the learner produces deviant sentences despite the knowledge of the correct form.

Selinker (1972) refers to the learner's 'idiosyncratic dialect' as interlanguage (IL), a term introduced by him in 1969. As Corder (1971:161) puts it: IL is "a dialect whose rules share characteristics of two social dialects or languages, whether these languages themselves share rules or not", represented graphically by him as follows:



p.162

For Selinker (1972), the second language learner has latent structures which may become 'fossilized' through 5

processes: (a) language transfer, (b) transfer of training, (c) strategies of second language learning, (d) strategies of second language communication, and (e) overgeneralization of TL linguistic material. Fossilizable structures are indeed errors for Selinker.

Corder (1971:161) and Nemser (1971:56) consider the learner's language as 'regular' and 'systematic', manifesting the 'order and cohesiveness of a system'. However, the present study shows that the learner's language is not so regular as it is conceived of. Many learners have a non-systematic linguistic behaviour with regard to the substitution processes of the same sound. These processes are frequently unstable and unpredictable.

Richards (1971), on the other hand, discusses two types of error which are present in the second language learner's speech. They are intralingual errors and developmental errors. He states that "intralingual errors are those which reflect the general characteristics of rule learning, such as faulty generalization, imcomplete application of rules, and failure to learn conditions under which rules apply. Developmental errors [,on the other hand,] illustrate the learner attempting to build up hypotheses about the English language from his limited experience of it in the classroom or textbook." (p.174)

For Richards (ibid), intralingual errors and developmental errors may result from:

1. overgeneralization

The learner tries to simplify the TL applying the knowledge of a TL structure to an unknown one (see Chapter 3 for further details).

2. Ignorance of rule restrictions

Instances of overgeneralization may be accounted for by the learner's ignorance of rule restrictions. However, as Richards observes, there are cases in which the learner does not 'transfer' knowledge of the TL. S/he only follows habitual learning of rules.

3. Incomplete application of rules

It consists of the learner's failure to apply a particular rule. Richards points out that despite extensive teaching of a target structure, it may not become part of the learner's competence. This is explained by the fact that "motivation to achieve communication may exceed motivation to produce grammatically correct sentences." (p.177)

4. False concepts hypothesized

They are derived from faulty comprehension of distinctions in the TL. This occurs, for example, with some teaching materials which provide the learners with inapproapriate notions of usage. As a result, the learners incorporate false concepts which lead them to deviant forms.

1.3.2.1. MAJOR LIMITATIONS OF EA

EA has contributed much to give insights into the understanding of second/foreign language acquisition. However, some literature shows the following shortcomings:

(1) Confusion of explanatory and descriptive aspects. For Dulay et al (1982), there is a lack of distinction between the terms description (the product of language acquisition) and explanation (the acquisition process that occurs in the learner's mind, i.e., the determination of the origin(s) of the product);

(2) Lack of precision in the judgement of the causes of the learner's errors. For Lott (1983), this shortcoming is due to the complexity of the errors and to the limited knowledge of the psychological and the neurological processes involved in language learning. Dulay et al (1982:144), on the other hand, state that "... explain-ing error types is not simply a matter of assigning a single source to each error that occurs. Language learning is an interaction of internal [e.g. NL "transfer", "simplification", generation of "false hypotheses", etc] and external factors [e.g. training procedures, communication situations, sociocultural factors, etc] and explanation of errors must reflect that interaction."

(3) Difficulty in categorizing precisely particular errors. For example, the word 'called' in the word list of our corpus was pronounced *[kɛwd]. As far as segmental

errors are concerned, the doubt lies in the interpretation of the segment /l/, that is, was it replaced by [w] or zero? Or what type of sound substitution occurred? There are many other examples with doubtful interpretation in the data.

(4) Lack of sufficient specificity in the definition of error categories. Dulay et al (ibid) affirm that the boundaries of intralingual and developmental errors are not well clarified by Richards: "An examination of learners' developing speech reveals that most developmental errors are intralingual." (p.145) Besides, many researchers have defined the intralingual error category in different ways, which results in different findings for the same data.

1.4. SOME MAIN HYPOTHESES ON SECOND/FOREIGN LANGUAGE LEARNING

A number of hypotheses, dealt with below, have emerged since the EA approach. They attempt to clarify the process of second/foreign language learning.

1.4.1. INTERLANGUAGE HYPOTHESIS (ILH)

This hypothesis has been proposed by Selinker (1972), who states that the learner has a separate linguistic system based on attempted productions of a TL norm. The notion of a separate linguistic system has been developed independently by Jakobovits (1969) and Nemser (1971).

According to the ILH, the second/foreign language learner internalizes a system of rules which may be independent of both the NL and the TL systems. This claim follows Corder's (1971) notion of 'idiosyncratic dialect'.

The assumption of an independent system by the ILH does not necessarily imply that certain L2 forms cannot reflect NL or TL patterns. However, there are rules which are not motivated by either the TL or the NL. They are, therefore, called 'independent rules' (Eckman:1981a) or 'unmarked rules' (Altenberg and Vago:1983). Eckman (ibid), for example, postulates two independent rules with respect to the phonological level. The first one, Terminal Devoicing (TD), is found in the grammar of a number of first languages such as German, Russian, and Polish. The second II rule is called Schwa Paragoge which has apparently no part in the grammar of any language.

These rules are formulated in (1) and (2) below: (Eckman, ibid:197/206)

(1) [-sonorant] → [-voice] ___ #

(2) $\varnothing \rightarrow \text{ə} \,/\, \begin{bmatrix} - \text{ sonorant} \\ + \text{ voice} \end{bmatrix} \_\_\_$

The rules above are explained on the basis of "(1) a comparison of the NL and the TL involved, and (2) principles of second language learning." (p.211) For example, English differs from Spanish in that it has a superficial voice contrast in all word positions, while Spanish has a superficial voice contrast only initially and medially.

Based on Eckman's data, the IL forms of the Colombian Spanish learners exhibit Vl segments word finally where the corresponding TL forms have voiced (Vd) ones (e.g. 'smooth' /smuf/, 'pig' /pɪk/, 'red' /rɛt/, etc). He assumes, therefore, that these ILs are motivated by TD, which is considered an independent rule since neither English (although it has word-finally voice contrast) nor Spanish exhibits it in their systems.

There are IL forms which contradict the TD rule. However, considering the unstable nature of an IL, the counterexamples to this rule are expected to occur.

As to the rule of Schwa Paragoge, Eckman observes that Mandarin speakers of English sometimes produce a schwa following the word-final Vd obstruent, such as in 'tag' /tægə/, 'rob' /rabə/, etc. The grammar of Mandarin does not allow either voice contrast in final position or rule of schwa paragoge.

For Eckman, "the existence of IL forms like /tæg/, without word-final schwas, is accounted for by assuming that Schwa Paragoge, like TD, is an optional or variable rule." (p.206)

Although Schwa Paragoge is not apparently motivated by the grammar of first languages, it should not be considered an "unnatural" rule, because its presence in the grammar of an IL confirms the assumption that ILs are independent linguistic systems in the same way that natural languages are. (Adjemian 1976:298)

Based on the view that the learner's IL is an independent system, Eckman (1981a/b) proposes the 'Autonomous System Analysis' (term used by Altenberg and Vago (1983) to refer to Eckman's approach). As Altenberg and Vago (ibid:427) observe, this approach "analyzes the phonology of the second language speaker as a system unto itself and then attempts to account for the characteristics of that system" without assuming another underlying language.

The Autonomous System Analysis Approach differs from the EA Approach in that the latter relates the IL to both the TL and the NL, while the former does not. Altenberg and Vago (ibid:442/443) point out that "the EA Approach can investigate the constraints on transfer from the NL to the TL. It can indicate that speakers are, for example, consistently substituting [t] for TL [θ]. If [θ] never appears in second language speech, then an autonomous system analysis simply reveals the absence of [θ] but fails to indicate that [θ] appears in the TL. That is, the Autonomous System Analysis does not directly connect the interlanguage with the TL, nor does it indicate the ways in which speakers modify the TL."

An important question which derives from both the ILH and the Autonomous System Analysis is the extent to which ILs can be considered 'an independent system' or 'a natural language' or 'a process of creative construction'. This

issue will not be discussed here but it deserves consideration.

1.4.2. L2=L1 HYPOTHESIS

Corder (1967:22) proposes that "some ... of the strategies adopted by the learner of a second language are substantially the same as those by which a first language is acquired. Such a proposal does not imply that the course or sequence of learning is the same in both cases." According to him, the application of this hypothesis is not new and is essentially that proposed by H.E. Palmer (1922).

It is important to point out that the process of learning a second/foreign language is different from the process of primary acquisition. The main differences lie in the following points: (Corder:1967)

1. Motivation. The acquisition of the first language is something crucial and necessary for any individual in order to communicate. The learning of the second/foreign language, however, involves some other force which motivates him/her.
2. "... the learning of the mother tongue is part of the whole maturational process of a child, whilst learning a second language normally begins only after the maturational process is largely complete." (p.20)
3. "... the learning of the mother tongue is inevitable, since you are exposed to the language acquisition process, whereas there is no such inevitability about the

learning of a second language." (p.20)

Despite the differences between learning and acquisition, researches have shown supporting evidences for L2=L1 hypothesis. Dulay and Burt (1972), for example, confirm this hypothesis from the viewpoint of syntactic error analysis' ('goof analysis'). They offer alternative explanations for those goofs that seem to support the CA hypothesis. For example, the L2=L1 hypothesis predicts that children acquiring their first language will omit functors as in the phrase 'Jose want Miss Jones'. This tendency also occurs in L2 production.

Every hypothesis should contain both product and process levels. However, the L2=L1 hypothesis seems to refer explicitly only to the product level, leaving the process level out. This shortcoming brings up two crucial questions: (a) if a type of error in the L2 production of an adult learner, for example, is the same as that made by a speaker acquiring L1, can one suggest, then, that both speakers necessarily follow similar strategies to produce the same error? (b) If such strategies are not similar, how can they be explained? However important these questions may be, they are not within the scope of our study.

1.4.3. MARKEDNESS DIFFERENTIAL HYPOTHESIS (MDH)

Eckman (1977) proposes the Markedness Differential Hypothesis on the basis of both the strong version of the CAH and the notion of typological markedness. The main

assumption of the CAH is maintained, namely that the comparison of the native and target languages is valid to predict the areas of difficulty in second/foreign language learning. Besides, the notion of 'relative degree of difficulty' (i.e. typological markedness) is incorporated to establish the directionality of the difficulty.

According to Eckman (ibid:320), markedness is defined as:

> "A phenomenon A in some language is more marked than B if the presence of A in a language implies the presence of B; but the presence of B does not imply the presence of A".

Descriptive studies on language universals and typologies have contributed to markedness relations. For example, Eckman (ibid:322) points out that with respect to the positions in which a voice contrast is maintained, languages can be typologized as:

TYPE	DESCRIPTION	EXAMPLES
A	Those which maintain a superficial voice contrast in initial, medial and final positions.	English Arabic Swedish
B	Those which maintain a superficial voice contrast in initial and medial positions, but fail to maintain this contrast in final position.	German Polish, Greek Japanese Catalan
C	Those which maintain a superficial voice contrast in initial position but fail to maintain this contrast in medial and final position.	Corsican Sardinian
D	Those which maintain no voice contrast in initial, medial, or final positions.	Korean

From this typology, the following universal voice contrast hierarchy emerges:

According to Eckman (ibid), this hierarchy involves the following markedness relations: "the presence of a contrast finally implies a contrast medially, which, in turn, implies a contrast initially. However, the presence of a voice contrast medially does not imply such a contrast finally, and the presence of a contrast initially does not imply a contrast medially and finally." Therefore, a voice contrast in word-final position is more marked than in word-medial position which is more marked than a voice contrast word-initially.

This notion shows the relative degree of difficulty in voice contrast and it establishes the directionality of the difficulty. In other words, it is claimed that voice contrast word-finally is acquired later than voice contrasts medially and initially.

The MDH is stated as: (Eckman, 1977:321)

"The areas of difficulty that a language learner will have can be predicted on the basis of a systematic comparison of the grammars of the native language, the target language and the markedness relations stated in universal grammar, such that,

(a) Those areas of the target language which differ from the native language and are more marked than the native language will be difficult.

(b) The relative degree of difficulty of the areas of the target language which are more marked than the native language will correspond to the relative degree of markedness;

(c) Those areas of the target language which are different from the native language, but are not more marked than the native language will not be difficult."

1.4.3.1. DIFFERENCES BETWEEN THE CAH AND THE MDH

Eckman (1985:292) discusses 3 important differences between these two hypotheses:

(1) "... the MDH not only establishes the areas of difficulty between the NL and TL, but it also predicts the relative degree of difficulty between these areas." The CAH, on the other hand, is concerned with the first statement only.

(2) The MDH considers that certain differences between the NL and the TL do not cause difficulty to the learner. Under the CAH, however, all differences result in learning difficulty. For example, French has an initial /ʒ/-/ʃ/ contrast, but English does not. The MDH predicts that this contrast in French will not cause difficulty for English speakers, because English maintains such a contrast in word-medial position which is more marked than word-initially. This assumption is confirmed by Gradman (1971) who "points out that learning to contrast /ʒ/ in initial position is not difficult for English speakers learning French." (in Eckman, 1977:318)

(3) On the basis of relative degree of difficulty, the MDH may distinguish between beginning and advanced levels of proficiency in language learning as well as account for longitudinal acquisition on the part of the learner.

1.4.3.2. SCALE OF MARKEDNESS

This scale provides a hierarchy of elements that go from the most to the least difficult element in a universal implicational relation. It differs from the scale of error gravity in respect of the criteria used. The MDH is based on criteria of markedness while the scale of error gravity is based on any of the 4 classes of criteria suggested by James (1984): linguistic, communication-based, attitudinal and pedagogic.

In the scale of markedness the most difficult element is that which is more marked, while in the scale of error gravity the most difficult element involves either (a) the highest frequency of error (linguistic criterion), (b) the impairment of intelligibility (communication-based criterion), (c) native's negative reaction to the accented speech of a non-native speaker (attitudinal criterion), and (d) the learner's ignorance of a structure which is important to the understanding and/or acquisition of another structure (pedagogic criterion).

1.4.3.3. VALIDITY OF THE MDH

Major (1987) carried out a study on the acquisition of English /ɛ/ and /æ/ by native speakers of Brazilian Portuguese. The results of this work reveal that transfer and markedness adequately explain the great frequency of Portuguese /ɛ/ in the English utterances of beginning learners.

Major (ibid:66) points out that the English /ɛ/ is less difficult than /æ/ for 2 reasons: "(a) positive transfer and markedness - Portuguese speakers already have /ɛ/, and (b) /æ/ is universally more marked than /ɛ/."

As to the speech of the more advanced learners, Major's study shows that /æ/ occurs more frequently than /ɛ/. In this case, transfer and markedness cannot explain the behaviour of those learners, which falsifies the MDH.

According to the present analysis of the data, the learners, no matter in which semester of the course they are, tend to replace [æ] by [ɛ] and vice-versa. The number of these substitutions varies according to each semester. Compare the substitution results below:

	[ɛ] → [æ]	[æ] → [ɛ]
2nd semester	12	10
4th semester	37	13
6th semester	17	10
8th semester	13	20
	79	59

The total number of each substitution process above shows that the replacement of [ɛ] by [æ] is more frequent than the converse one.

Contrary to Major's findings, the replacement of [æ] by [ɛ] is more frequent in the 8th semester (advanced students) while the converse one is more frequent in the 4th semester (pre-intermediate students). Eckman's MDH can explain the replacement of [æ] by [ɛ] but it fails to explain cases in which a more marked element replaces a less marked one (see also [i:] → [I] p.166).

It is interesting to note that in the perception -discriminatory task, the advanced learners tend to hear [æ] in words with [ɛ], while the beginners recognize [ɛ] in words with [æ] (see p.130).

1.4.3.4. PEDAGOGICAL IMPLICATIONS OF THE MDH

The MDH has two major implications for second language pedagogy:

(1) The order in which TL structures are acquired in an untutored situation follows the degree of markedness. Therefore, those structures which are relatively less marked (i.e. less complex) are acquired before those which are more marked (i.e. more complex).

(2) The direction of 'generalization of learning' goes from more marked structures to less marked ones. "The claim is that once the most marked member of the set of structures is learned, the learner will be able to generalize to the less marked structures automatically. In other words, if the learner acquires the structure which is most marked, all relatively less marked structures will be learned immediately." (Eckman, 1985: 296)

Based on the implications above, the L2 material may be presented in two different ways according to the teacher's pedagogical philosophy:

(1) The less difficult material should be presented before the material of greater difficulty or

(2) The most difficult material should be presented before the material of least difficult. This method of presentation attempts to make use of the learner's ability to generalize learning from a more marked structure to a less marked one (i.e. intervention strategy), and not the reverse.

Based on the present data, the replacement of [ɛ] by [æ] shows that the learning of the more marked element /æ/ contributes negatively to the learning of /ɛ/, which is a less marked element. Actually, /æ/ inhibits the presence of /ɛ/ in some learners' ILs. This is due to the overgeneralization towards the English /æ/. In this case, the direction of 'generalization of learning' fails to go from more marked to a less marked structure.

To conclude, one approach alone cannot explain adequately all IL forms, since each approach has its own limitations. Therefore, it is more plausible to say that all hypotheses reported here contribute together to explain the learners' errors as well as to provide new insights into second/foreign language learning.

CHAPTER 2

CONTRASTIVE ANALYSIS OF ENGLISH AND PORTUGUESE SEGMENTAL PHONOLOGY

For the purpose of the present study, the phoneme is defined as a meaningful distictive unit. This definition conforms to that provided by the structuralists, who draw a distinction between phonemics and phonetics. Phonemics attempts to discover which of the differences among the sounds of a given language are meaningful and to determine the allophones of each phoneme. Allophones are determined by the influence of adjacent sounds, of syllable accent, of position in the word, and of word boundaries (in sandhi). Phonetics, on the other hand, attempts to describe all the distinguishable sounds that occur in the languages of the world

The decription of the English and the Portuguese phonemes is mainly concerned with setting out the following points:

1. The English phonemes which do not occur in Portuguese;
2. The English phonemes which occur in Portuguese as allophones;
3. Equivalent English and Portuguese phonemes which have different allophones and;

4. Equivalent English and Portuguese phonemes which have different phonotactic possibilities.

The allophones of each phoneme are presented in phonological rules which may be either obligatory or optional depending on whether the variants are in complementary distribution or in free variation. The variants are optional in two different cases: (1) when they belong to a speech style (stylistic variation) and (2) when they belong to a particular dialect (dialectal variation). The rules which have no indication are obligatory.

The following diacritics will be used to indicate phonetic features:

[H] strongly aspirated	[<] released
[h] weakly aspirated	[>] unreleased
[°] not aspirated	[̩] syllabic
	[̥] devoiced

2.1. CONSONANTAL PHONEMES

Table 2.1 Classification of the English consonantal phonemes. Adapted from Jones (1972:xvii)

	Bilabial		Labiodental		Interdental		Alveolar		Palatoalveolar		Palatal		Velar		Glottal	
	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd
Stops	p	b					t	d					k	g		
Fricatives	ʍ		f	v	θ	ð	s	z	ʃ	ʒ					h	
Affricates									ʧ	ʤ						
Nasals		m						n						ŋ		
Lateral								l								
Semivowels		w										j				
Retroflex								r								

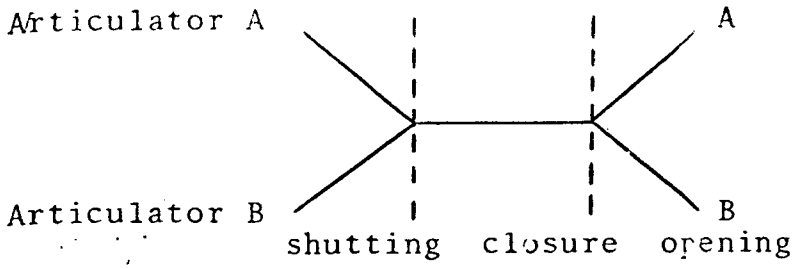
Table 2.2 Classification of the Portuguese consonantal phonemes. Adapted from Cagliari (1980:22).

	Bilabial		Labio-dental		Dental		Alveolar		Palato-alveolar		Palatal		Velar	
	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd
Stops	p	b			t	d							k	g
Fricatives			f	v			s	z	ʃ	ʒ				
Nasals		m				n						ɲ		
Laterals						l						ʎ		
Semivowels		w										j		
Tap								ɾ						
Trill								R						

2.1.1. STOPS

Stops are produced by complete closure of the articulators causing a barrier to the pulmonic egressive airstream. English and Portuguese have the same stop sounds: [p,b,t,d,k,g]. However, their phonotactic distribution differs from one language to the other. The English stops are found word-initially, medially and finally, while the Portuguese stops only occur initially and medially.

According to Abercrombie (1967:140), there are three phases in the production of a stop: shutting, closure and opening.



CLOSURE → PLOSION

"The two converging lines and the two separating lines represent the articulators coming together (phase 1) and opening again (phase 3) respectively, and the single straight line which is between represents phase 2, with the articulators in contact making a stricture of complete closure." (ibid:141) Each phase is, of course, very brief in duration.

As regards English, phase 3 is optional (see 2.1.1.2., rule (3c)). In Portuguese, on the other hand, the presence of phase 3 is almost obligatory, since Portuguese consonants are generally supported by a vowel. In words such as 'advogado' and 'psicologia', there is a tendency to pronounce the phonemes /d/ and /p/ with the epenthetic vowel [i].

Another difference between Portuguese and English stops lies in their allophonic variants, as shown below:

2.1.1.1. MAIN ALLOPHONES OF THE PORTUGUESE STOPS

(1) /p/ → [p]	/	$ ___	E.g. piso, aprimorar
		___ $	E.g. apto
(2) /b/ → [b]	/	$ ___	E.g. bala, abrir
		___ $	E.g. obsoleto

(3) /t/ → a) [t] / $ ___ E.g. tambor, estrada

Dialectal b) [č] / ___ [i] E.g. tinha, dentista, tomate

___ [u] E.g. muito, dezoito

(4) /d/ → a) [d] / $ ___ E.g. dormir, podre

___ $ E.g. admirar

Dialectal b) [ǰ] / ___ [i] E.g. dinheiro, pudico, ódio

___ [u] E.g. doido

When the stops /t/ and /d/ are followed by the high front vowel [i], they tend to become [č] and [ǰ] respectively in dialects such as carioca, mineiro and baiano. These variants are also heard in contexts where /t/ and /d/ are followed by the high back vowel [u], which is a characteristic of some dialects in the northeast of Brazil and of the speech of many people from the interior of the island of Florianópolis.

The affrication process with the vowel [i] occurs in both stressed and unstressed positions, while the affrication with the vowel [u] seems to occur only in unstressed position.

(5) /k/ → a) [c] / $ ___ [front vowel] E.g. quilo, aquecer

b) [k] / $ ___ [back vowel] E.g. copo, cume

___ $ E.g. taxi [ks], acne, pacto

$ ___ C E.g. cromo, crime

(6) /g/ → a) [ɟ] / $ ___ [front vowel] E.g. guerra, águia

b) [g] / $ ___ [back vowel] E.g. gola, agulha

$ ___ C E.g. gripe, glacê

The variants [c] and [ɟ] are classified as palatals. [k] and [g], on the other hand, are velar variants.

2.1.1.2. MAIN ALLOPHONES OF THE ENGLISH STOPS

(1) /p,t,k/ → [p^H, t^H, k^H] / $ ___ V́ E.g. pet, ten, cat
repair, attack, accord

(2) /p,t,k/ → [p°, t°, k°] / [s] ___ E.g. speak, stop, scar
___ [r,w,y,l]
E.g. approach, atlantic, quite

The difference between the allophones in (1) and those in (2) is explained by the presence and absence of aspiration. In Portuguese, the Vl stops are always unaspirated.

(3) /p,t,k/ → a) [p^h, t^h, k^h] / ___ #
Stylistic b) [p°, t°, k°] E.g. clip, late, sick
c) [$p^>$, $t^>$, $k^>$]

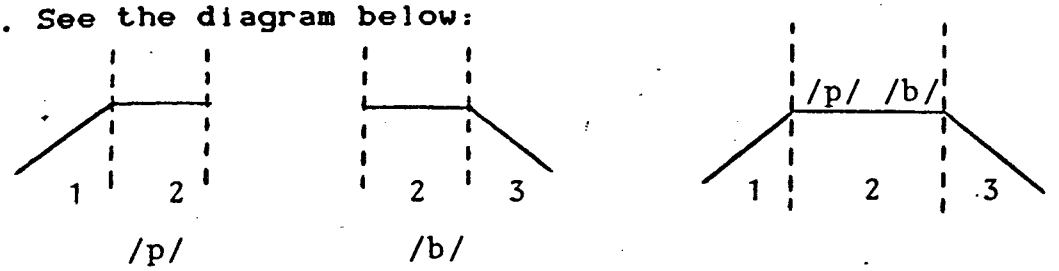
All English stops in word-final position may be either released (+ phase 3) or unreleased (- phase 3). This depends on the speech style of each individual. In a careful and emphatic speech, the [t^h] is used. In casual speech, on the other hand, [$t^>$] is quite common. The unaspirated [t°] is used in normal speech.

(4) /p,t,k,b,d,g/ → [$p^>$, $t^>$, $k^>$, $b^>$, $d^>$, $g^>$] / ___ (#) [+ homorganic stop]

E.g. egg cup, bookcase, round top

Abercrombie (1967:147) points out that when two homorganic stops are adjacent within the word or at word

boundaries, the first stop of the sequence loses phase 3 in its articulation and the second element loses phase 1. For example, in 'scrap book' [p] lacks an audible phase 3, [b] lacks an audible phase 1. Phase 1 of the second stop, [b], takes place during phase 2 of the first stop [p], so that when phase 3 of [p] comes there can be no burst of escaping air. See the diagram below:



At the articulatory level the 3 stages of a stop are maintained. The third phase corresponds to the bilabial plosion [b].

In Portuguese, the sequence of two stops whether homorganic or not is generally broken by the epenthetic vowel [i], such as in 'compacto' [kĭ'pakitu], 'optar' [epi'tar] and 'submarino' [subima'rinu]. However, there are speakers who produce the first stop without plosion, as in 'obter' [eb$^{\circ}$'t$^{<}$er].

(5) /t,d/ → [ɾ] / V́ ___ V E.g. wri<u>t</u>er, ri<u>d</u>er
Stylistic / V ___ # V E.g. righ<u>t</u> away, rea<u>d</u> about

The variant [ɾ] is generally used in American English in informal educated speech. In Portuguese, the tap is a phoneme, which represents the orthographic symbol <u>r</u>, as in 'caro' and 'barato'.

(6) /t/ → [ʔ] / V́ ___ [n̩] (<ən) E.g. bea<u>t</u>en, sub<u>t</u>le
Dialectal [l̩]

According to Wise (1957:128), the glottal stop is used in the Cockney dialect and in the speech of New Yorkers, as a substitute for [t] and [k] such as in 'little' [ˈlɪʔl̩] and 'bacon' [ˈbejʔn̩]. The substitution for [t] is, however, much more frequent.

(7) /t,d/ → [č̆,ǰ] / ___ (#) [j]
Stylistic / E.g. what you, immature, told you

In English, [č̆] and [ǰ] are classified as both phonemes (see p.50) and free variants of /t/ and /d/. As variants, they occur before the palatal [j]. In Portuguese, on the other hand, [č̆] and [ǰ] are variants which may appear before the vowels [i] and [u].

(8) /b,d,g/ → [b°,d°,g°] / in all positions
E.g. cabbage, dear, bag

The English Vd stops are always unaspirated.

(9) /b,d,g/ → [b̥,d̥,g̥] / ___ C VL
E.g. tubful, sudsy, drugstore
___ # E.g. club, dad, bug

In the first context the Vl sound is antecipated and devoices the Vd stop sound. As to the second context, Bronstein (1960:78) remarks that word-final /b,d,g/ are weakly ploded and partially devoiced. When they are fully devoiced, they are considered foreignisms.

2.1.2. FRICATIVES

Fricative consonants produce audible friction when the airstream forces through the partially obstructed vocal tract.

The fricatives [f,v,s,z,š,ž] are found in both the Portuguese and the English phonological systems. The English [f,v,s,z,š] occur in all word positions, while in Portuguese, they are found only initially and medially, except for [s] which is pronounced finally, as in the word 'cartas' (in Dialect 1, p.47). As variants, the Portuguese [š] and [ž] may occur in word-medial and final positions depending on the dialect (see p.47).

English establishes phonemic oposition between [s] and [z] either initially, medially or finally. This contrast is also found in Portuguese but only initially (not so frequent) and medially, because the phoneme /z/ does not occur in word-final position.

E.g.	ENGLISH	sink	racer	rice
		zinc	razor	rise
	PORTUGUESE	seca (v.)	em cima	-
		Zeca	enzima	-

The English /ž/ does not occur in word-initial position, except for the word 'genre' ['žɑnrə] which is a French loan word. As Wise (1957:137) observes, "/ž/ is not originally an English sound, having come into English partly by adoption from Norman French and partly by assimilation within the older cluster [zj]."

In Portuguese, /ž/ does not occur in word-final position. However, there are speakers who elide the final vowel in rapid speech, as in the following pronunciations [fa'lãž] (falange), [mõž] (monge), etc. The same occurs with the Portuguese /š/, as for example in 'feixe' [fejš]. This elision process seems to involve only the final high front vowel [i], because in words, such as 'caixa' and 'queijo', the vowels [a] and [o] do not drop.

The English fricatives /h,θ,ð,ʍ/ have no equivalent in Portuguese. The Vl glottal /h/ only occurs in Portuguese as an allophone of /r/ (see p.59). In English, /h/ occurs in words such as 'hand', 'who', and 'comprehension'. It is not found in word-final position. Bronstein (1967:94) remarks that "when the /h/ sound is in intervocalic position ..., as in 'behest' or 'perhaps', the /h/ is frequently voiced. The IPA symbol for the voiced allophone is [ɦ]."

The Vl and Vd interdentals [θ] and [ð] occur in all word positions. Sometimes, native speakers of English replace them by [t] and [d] respectively, which characterizes the speaker of uncultivated English. This substitution process or the actual deletion of the th sound may occur in the words 'fifths' ([fɪfts] or [fɪfs]), 'sixths' ([sɪkts] or [sɪks]), and 'months' ([mənts] or [mənS]) in careless speech.

The spelling th stands for [t] only in certain proper names, such as 'Thames' [tɛmz], 'Thomas' ['tɑməz] and

'Anthony' ['æntənɪ]. Besides, it is normally silent in 'asthma' ['æsmə] and 'isthmus' ['ɪsməs].

The VI labiovelar fricative [ʍ], also indicated as [hw], occurs in words such as 'which', 'where' and 'wheel' (wh-spellings). [ʍ] and [w] may vary freely in this context, except for 'who', 'whom', 'whose', 'whole', 'whore', 'whoop', and their derivatives which are pronounced with [h]. According to Bronstein (1967:95), "/hw/ is actually the older and still predominant form in most of the country [USA]. /w/ seems to be gaining in popularity, particularly in urban areas and among younger people... . The /hw/ is usual in Scotland, Ireland, and the north of England, while the /w/ is the more usual pronunciation in southern England."

2.1.2.1. MAIN ALLOPHONES OF THE PORTUGUESE FRICATIVES

(1) /f/ → [f] / $ ___ E.g. faca, sofrimento
___ $ E.g. afta

(2) /v/ → [v] / $ ___ E.g. vida, livro

(3) DIALECT 1

/s/ → a) [s] / $ ___ E.g. saci, fixar [ks]
___ $ CVL E.g. vespa, casca
___ # E.g. nós, vez, cartas

b) [z] / Vd ___ # Vd E.g. mas eu, mais gordo

DIALECT 2

/s/ → a) [s] / $ ___ E.g. same examples in 3a above

b) [s̬] / ___ $ CVL E.g. escola, casca
___ # E.g. dez, três

c) [ž] / ___ # CVd E.g. mais gordo

d) [z] / ___ # V E.g. mais eu

(4) /z/ → a) [z] / Vd ___ Vd E.g. mesmo, vesgo

Dialectal b) [ž] / Vd ___ Vd E.g. mesmo, desde

Dialect 1 occurs in some parts in São Paulo and Paraná, while Dialect 2 is heard in the Carioca and Catarinense speech. The variant [ž] of the phoneme /z/ also occurs in regions of Dialect 2.

(5) /s̬/ → [s̬] / $ ___ E.g. chá, achar

(6) /ž/ → [ž] / $ ___ E.g. gelo, regimento

2.1.2.2. MAIN ALLOPHONES OF THE ENGLISH FRICATIVES

(1) /f/ → [f] / $ (C) ___ E.g. feel, sphere
___ $ E.g. laughing, half

(2) /v/ → [v] / $ ___ E.g. veal, reveal
___ $ E.g. arriving, have

(3) /s/ → a) [s] / $ ___ E.g. slow, city, castle
___ (C) $ E.g. cast, rice
[-voice] ___ # E.g. pants, stops

b) [z] / [+voice] ___ # E.g. bands, John's

When the morpheme -s is added to a word for the formation of noun plural, third person singular form of the present tense, genitive 's or s' and contraction -'s, its pronunciation varies according to the preceding sound:

after a Vd sound it is voiced ([z]), and after a Vl sound it is voiceless ([s]). This rule results from the progressive voicing assimilation rule in English. It is not applied when the preceding sound is [s,z,š,ž,č,ǰ]. In this case, the sequence [Iz] is invariably pronounced after these sounds, corresponding to the extended spelling form -es (e.g. buses, buzzes, brushes, etc). The progressive voicing assimilation rule is also applied to the pronunciation of the past morpheme -(e)d in English. Its pronunciation follows a pattern similar to that of the morpheme -s above.

(4) /z/ → a) [z] / $ ___ E.g. zoo, lizard
___ $ E.g. rise, freezing

Stylistic b) [ž] / ___ # [j] E.g. because you, as you

Mascherpe points out that when the phoneme /s/ is part of the English word, without being a morpheme, there is no phonological rule which can predict the use of [s] or [z] in words such as 'rice/rise', 'loose/lose', etc. Therefore, the learners have to familiarize themselves with each word individually, i.e., those pronounced with [s] (e.g. rice, loose) and those pronounced with [z] (e.g. rise, lose).

In Portuguese, the variants [s] and [z] in word or syllable final position are conditioned by the following sound (i.e. regressive voicing assimilation rule). [s] is used when the following sound is Vl or when a pause follows it; [z], on the other hand, is used before a Vd sound.

English [z] may become [ž] owing to the assimilation process with the following palatal [j].

(5) /ʃ/ → [ʃ] / $ ___ E.g. shoe, special, machine
___ $ E.g. wash, washing

(6) /ʒ/ → [ʒ] / $ ___ E.g. usually, television
___ $ E.g. beige, rouging

2.1.3. AFFRICATES

They are produced by "a complete closure at some point in the mouth, behind which the air pressure builds up; the separation of the organs is slow compared with that of a plosive, so that friction is a characteristic of the second element of the sound." (Gimson:1980:94) An affricate results, therefore, from the combination of a stop and a fricative. For example:

/t/ + /ʃ/ = /ʧ/

/d/ + /ʒ/ = /ʤ/

There are 2 affricates in English, the /ʧ/ and the /ʤ/, which are found in all word positions, as in 'chew/jew', 'catches/cadges' and 'larch/large'. They may also be allophones of /t/ and /d/, as seen in section 2.1.1.2. rule (7).

In Portuguese, [ʧ] and [ʤ] are only allophones (see 2.1.1.1. (3b) and (4b)). The sound [ʧ] may also occur in loan words into Portuguese, as in 'tchau' [ʧaw], 'tcheco' [ʧɛku] and 'patchuli' [paʧúli].

2.1.9.1. MAIN ALLOPHONES OF THE ENGLISH AFFRICATES

(1) /č/ → [č] / $ ___ E.g. chance, kitchen
/ ___ $ E.g. search, reaching

(2) /ǰ/ → [ǰ] / $ ___ E.g. juice, magic
/ ___ $ E.g. college, management

2.1.4. NASALS

Nasal sounds are articulated like stops, i.e., they are produced by a stricture of complete closure. However, during their formation and emission the velum is lowered to permit the passage of the airstream through the nasopharynx and the nasal cavity.

The English nasals are [m,n,ŋ] and they occur in all word positions, except for [ŋ] which is found only medially and finally. In Portuguese, the nasal consonants are [m,n, ñ], which occur initially and medially. In word-final position or in syllable boundaries, the Portuguese nasals nasalize the preceding vowel, as in 'sim [sĩ], 'tinta' ['tĩta], and 'ninho' ['nĩñu].

2.1.4.1. MAIN ALLOPMONES OF THE PORTUGUESE NASALS

(1) /m/ → [m] / $ ___ E.g. mesa, momento, pigmeu
(2) /n/ → [n] / $ ___ E.g. não, piano, ignorar
(3) /ñ/ → [ñ] / $ ___ E.g. nhambu, senhora

According to Cagliari (1981:84), the palatal nasal [ñ] and the velar nasal [ŋ] may occur in both syllable boundaries and in word-final position as allophones of /m/

and /n/. The occurrence of these variants is conditioned either by the preceding vowel or by a following stop within the word. When they are conditioned by the preceding vowel, the realization of the nasals /m/ or /n/ is as follows (Cagliari, 1983:4):

a) a palatal nasal -- following a front vowel

E.g. vim [vĩ̃ɲ], vem [vẽ̃ɲ]

b) a velar nasal -- following a non-front vowel

E.g. rum [xũ̃ŋ], bom [bõ̃ŋ]

The vowel [ã] allows either the palatal nasal, the velar nasal or none of the two. E.g. 'irmã' [iɾ'mãŋ] or [iɾ'mã], 'mãe' [mãɲ] or [mãj].

The nasals /m/ and /n/ may also be conditioned by the following stop, resulting in a homorganic nasal:

E.g. GLOSS	NASAL CONDITIONED BY THE PRECEDING VOWEL	NASAL CONDITIONED BY THE FOLLOWING STOP
'finca'	[ˈfĩ̃ɲkə]	[ˈfĩŋkə]
'fundo'	[ˈfũ̃ŋdu]	[ˈfũ̃ndu]
'tombo'	[ˈtõ̃ŋbu]	[ˈtõ̃mbu]

In English, /ŋ/ is a phoneme. In Portuguese, it may occur as an allophone of either /m/ or /n/ in the contexts referred to above.

2.1.4.2. MAIN ALLOPHONES OF THE ENGLISH NASALS

(1) /m/ → a) [m] / $ ___ E.g. memory, intermediate
___ $ E.g. comfortable, wisdom

b) [m̩] / [+obstruent] ___ # E.g. prism, chasm

(2) /n/ → a) [n] / $ ___ E.g. nose, knee, morning
___ $ E.g. pancake, man

b) [n̩] / [+obstruent] ___ # E.g. leaden, button

The syllabic nasals [m̩] and [n̩] occur in unstressed positions. Words, such as 'prism' and 'leaden' are transcribed as ['prɪzm̩] and ['lɛdn̩], showing no vowel between [z] and [m] nor between [d] and [n]. According to Bronstein (1967:106), "such syllabic nasals are part of the standard speech pattern."

(3) /ŋ/ → [ŋ̩] / ___ $ E.g. kingdom, singer, song

Bronstein (ibid:110) states that the existence of the syllabic [ŋ̩] in educated American English speech cannot be denied (e.g. 'bacon' ['bejkŋ̩], 'bag and baggage' [bæg ŋ̩ 'bægɪʤ]). However, its usage is not frequent.

[n] and [ŋ] may vary freely as alternative pronunciations of the orthographic n + c,g,q in words, such as 'income' ([n] or [ŋ] in AE and BE), and 'engrave' ([n] in AE, [ŋ] in BE).

2.1.5. LATERALS

Laterals are produced by a stricture of complete closure in the center of the vocal tract, so that there is lateral passage of the airstream, round one or both sides of the obstruction. English and Portuguese laterals are usually voiced.

In English the lateral /l/ is found in initial, medial and final word positions. This phoneme also occurs in

portuguese, but only initially and medially. In word-final position /l/ generally becomes [u] . For the majority of the native Brazilian Portuguese speakers, there is no difference in pronunciation between 'mau' and 'mal' [maw], 'auto' and 'alto' ['awtu], and so on.

Portuguese has also the palatal lateral [ʎ] which represents the orthographic lh in words such as 'lhama', 'milho', and 'mulher'. This phoneme does not occur in word-final position.

2.1.5.1. MAIN ALLOPHONES OF THE PORTUGUESE LATERALS

(1) /l/ → a) [l] / $ (C) ___ E.g. lado, falar, claro

b) [u] / ___ $ C E.g. faltar, algo

___ # (V) E.g. varal, mal agouro

Stylistic c) [ʎ] / ___ [j] E.g. Cecília, óleo

The variant [l] is used in prevocalic position. The variant [u], on the other hand, is followed either by a consonant or by silence in word-final position. When the phoneme /l/ follows a vowel at word boundaries, as in 'mal agouro', it generally becomes [u].

In (1c), /l/ assimilates the semivowel [j] to form the palatal lateral [ʎ].

(2) /ʎ/ → a) [ʎ] / $ ___ E.g. lhano, filho

Stylistic b) [lj] / $ ___ [u] E.g. filho ['fiʎu], molho ['moʎu]

Some native speakers of Brazilian Portuguese apply rule (1c) and (2b) interchangeably.

2.1.5.2. MAIN ALLOPHONES OF THE ENGLISH LATERAL

In English there are 2 types of l known as "clear" l [l] and "dark" l [ɫ]. For both types the tip of the tongue is pressed against the alveolar ridge. However, they differ in the shape of the main body of the tongue: for the "clear" l, the front of the tongue is raised towards the hard palate; for the "dark" l, the back of the tongue is raised towards the soft palate.

These two types of l do not establish phonemic contrast. Their use varies according to the neighbouring sounds.

(1) /l/ → a) [l] / $ (C) ___ [V, − post.] E.g. live, flag

b) [ɫ] / $ (C) ___ [V, + post.] E.g. lose, love

___ # E.g. feel, call (normal)

c) [w] / ___ # E.g. feel, call (informal)

d) [l̩] / [obstruent] or [nasal] ___ #

E.g. whistle, channel, missile

"Dark" l is often syllabic in context (1d). However, a faint [ə] before the [l] is also possible. In this case, the lateral is no longer syllabic, it is only "dark".

In Portuguese, "clear" l corresponds to allophone [l] (see 2.1.5.1. - (1a)). "Dark" l, on the other hand, occurs in some dialects in the south of Brazil, in words such as 'mil' [miɫ] or 'sul' [suɫ].

2.1.6. SEMIVOWELS (SV)

"A semi-vowel is a rapid vocalic glide on to a syllabic sound of greater steady duration". (Gimson, 1980:211)

English and Portuguese have 2 semivowels, [j] and [w], which glide from positions of approximately [i] and [u] respectively to the following vowel. [w] and [j] are in some ways rather like vowels. In phonetic terms, they both are Vd continuants and frictionless sounds.

Gimson (ibid.) remarks that "despite the fact that semi-vowels are, in phonetic terms, generally vocalic, they are treated within the consonant class, mainly because their function is consonantal..., they have a marginal rather than a central situation in the syllable."

The occurrence of [j] and [w] in both prevocalic (onglide) and postvocalic (offglide) positions may explain the use of the following transcriptions: [wat], [haw], [jat] and [fajt] for the English words 'what', 'how', 'yacht' and 'fight', and ['kwartu], [mew], ['jodu], [paj] for the Portuguese words 'quarto', 'meu', 'iôdo' and 'pai'.

2.1.6.1. ALLOPHONES OF THE ENGLISH AND THE PORTUGUESE SV

(1) /w/ → [w] / in onglide position E.g. quite, what

in offglide position E.g. boat [ow], house [aw]

(2) /j/ → [j] / in onglide position E.g. use [ju], yes

/ in offglide position E.g. lie [aj], boy [ɔj]

In Portuguese, rule (1) is illustrated by the words 'tranquilo' [trɐ̃'kwilu] (in onglide) and 'ouvido' [o'vidu] (in offglide). Rule (2), on the other hand, may occur in words such as 'Yolanda' [jo'lɐ̃dɐ], 'Júlia' ['ʒuljɐ] (in onglide), and 'noite' ['nojʧi] (in offglide).

2.1.7. RETROFLEX

In English the retroflex is represented by the phoneme /r/ as in the words 'rich', 'very' and 'car'. The tip of the tongue is moved backwards to articulate with the hard palate. This sound is also found in Portuguese, but as an allophone of the phoneme /R/ (see section 2.1.7.2. (2c)).

2.1.7.1. MAIN ALLOPHONES OF THE ENGLISH /r/

(1) /r/ → a) [r] / $ ___ E.g. road, carrot

___ $ E.g. airplane, air

Dialectal b) ø / ___ C $ E.g. board [bɔ:d]

___ # E.g. door [dɔ:]

The English /r/ may be deleted either in postvocalic position if a pause follows or in the middle of a word before a consonant. The loss of this phoneme is manifested by a lengthening of the previous vowel. Sometimes the weak vowel [ə] is pronounced as an offglide to the stressed vowel of the syllable, creating a diphthong. For example, 'far'

[fɑ:] or [fɑə] and 'farm' [fɑ:m] or [fɑəm]. The /r/ is sounded when it is followed by a vowel without a pause.

E.g. hear a song [hɪərə'sɔŋ]

hearing ['hɪərɪŋ]

BUT: hear [hɪə]

Rule (1b) is used in standard speech in the 'r-less' areas of the US and in British English.

c) [ɹ] / $ [t,d] ___ E.g. try, dry, dream

The Vd post-alveolar fricative [ɹ] occurs after [d] and [t]. It is somewhat devoiced after the Vl [t], as in the word 'try' [tɹ̥aɪ]. (Gimson, 1980:205)

Dialectal d) [ɾ] / V ___ V E.g. very, far away, worry

The variant [ɾ] is regularly used intervocalically in British English, either within a word or at the end of a word followed by a vowel.

Portuguese has 2 phonemes which stand for the orthographic r and rr. They are /r/ and /R/, which are in opposition only in intervocalic word-medial position. For example: 'carro' /'kaRu/ and 'caro' /'karu/. The phoneme /R/ may represent the written symbols r and rr (e.g. 'bairro' and 'rádio'), while the phoneme /r/ only represents the orthographic r (e.g. 'parada').

2.1.7.2. MAIN ALLOPHONES OF THE PORTUGUESE /r/ AND /R/

(1) /r/ → [ɾ] /
- $ [stop] or [f,v] ___ E.g. crise, livro
- ___ $ E.g. terno, mar (dialectal)
- V ___ V E.g. ouro, era, careca

[ʃ] does not occur in word-initial position.

(2) /R/ → a) [x] / $ ___ E.g. roda, corrida, subrogar
/ ___ $ E.g. mar, garfo (dialectal)

The Vd counterpart of the velar fricative [x] is [ɣ], which may occur in the words 'carroça', 'barriga', etc. In the Carioca dialect and in dialects of the northeast of Brazil, the occurrence of both sounds is common.

b) [ʃ] / ___ # V E.g. mar azul (in sandhi)

Dialectal c) [r] / ___ $ E.g. carta, mar

The Vd retroflex [r], which is frequently known as the 'caipira-r' occurs in many parts in SP and Paraná. It is similar in quality to the English retroflex [r] in postvocalic position.

Dialectal d) [h] or [ɦ] / $ ___ E.g. roda

The Vl glotal fricative [h] and its Vd counterpart, [ɦ] may occur in the Mineiro and Carioca dialects.

2.2. VOCALIC PHONEMES

Table 2.3 The English simple vowels. Adapted from Lewis (1972:introductory part), Fig. 2.

	Front	Central	Back
High	i I		u U
Mid	ɛ	ə	
Low	æ	a	ɔ
	unrounded		rounded

Table 2.4 The Portuguese simple vowels. Adapted from Azevedo (1981:10).

	Front	Central	Back
High	i		u
Mid	e ɛ		o ɔ
Low		a	
	unrounded		rounded

The vowels in Figures 2.3 and 2.4 are classified according to (a) part of the tongue involved in the articulation (front, central, back); (b) height of the tongue towards the palate (high, mid, low); and (c) shape of the lips (rounded or unrounded). All the vowels are voiced continuant sounds.

Since the present concern is to provide a basic phonemic analysis, it is unnecessary to present a diagram with the exact position of the vowels. How these vowels are distributed in words and their allophonic variants will be discussed later.

According to the classification of the Portuguese vowels in Fig 2.4, /e/ and /o/ are the only vowels which are not found in Fig 2.3. On the other hand, the English vowels /ɪ,ʊ,æ,ə/ do not occur in Fig 2.4.

The main difference between the English and the Portuguese vowels concerns length. English vowels vary in length depending on the phonological context. They are longer when they appear before Vd consonants or no consonant

at all than when they are followed by a VI consonant. The portuguese vowels, on the other hand, have no variation in length.

Generally linguists and phoneticians indicate length by marks. Bronstein (1960:143), for example, shows relative lengths as short (unmarked), half long [•], or long [:] (e.g. 'sit' [sɪt], 'seat' [si•t] and 'seed' [si:d]). The mark [:] will be used in the present study to indicate the vowels which are long and half long when referred to in isolation. As to the transcriptions, they will have no indication of length, as only American broad notation will be used.

2.2.1. THE FRONT VOWELS

2.2.1.1. HIGH FRONT VOWELS

There are two high front vowels in English: /i:/ and /I/. The vowel /i:/ differs from /I/ in both length and tension. The tongue muscles may be either tense or lax (i.e. relaxed) as we produce each vowel. /I/ is a short and lax vowel, while /i:/ is a tense and long one.

Both /i:/ and /I/ appear in initial, medial and final word positions. In Portuguese, /i/ is the only high front vowel and it occurs in all word positions.

The English /i:/ and the Portuguese /i/ may be pronounced in either stressed or unstressed syllables, as in 'chief', 'react'; 'figo', 'juri'.

2.2.1.1.a. MAIN ALLOPHONES OF THE ENGLISH /i:/ AND /I/

(1) /i:/ → [i:] / in all positions E.g. eat, bean, see

The variant [i:] in stressed position may vary freely with the vowel [I] in a small number of words. Some dictionaries, such as A Concise Pronouncing Dictionary of British and American English (Lewis: 1972), use both variants for the standard pronunciation of 'creek' ([krik] or [krɪk]), 'real' ([ˈri̯l] or [ˈrɪəl]), 'hero' ([ˈhirəʊ] or [ˈhɪərəʊ]), and others.

(2) /I/ → a) [I] / in all positions E.g. itch, pig, city

b) [i:] / ___ y # E.g. city, hurry

Gimson (1982:13) points out that the occurrence of the tense vowel /i:/ in context (2b) is very common especially among young RP speakers, although the pronunciation with /I/ is still the dominant form. In standard American English, /I/ and /i:/ also vary freely in the context above. When a syllable is added to the final orthographic y, as in 'hurrying' and 'baggier', the unstressed /i:/ or /I/ is retained. Therefore, these words may be pronounced either [ˈhʌrɪɪŋ] or [ˈhʌrɪ̯ɪŋ], [ˈbægɪər] or [ˈbægɪ̯ər]. The /I/, if used, may be raised to make the adjacent vowel more distinct. (Bronstein, 1960:148)

The terminations [-Iz] and [-iz] in words such as 'taxes' [ˈtæksɪz] and 'taxis' [ˈtæksiz] must be maintained since they establish a meaningful distinction.

c) [ə] / in weak syllables

E.g. chocolate, believe

Some dictionaries show that both [I] and [ə] may vary freely in weak positions. For Lewis (1972), the suffixes -et and -ace, for example, may be pronounced with either vowel in words such as 'scarlet', 'budget', 'necklace' and 'palace'. There are dictionaries, however, which give preference to either [I] or [ə]. For example, Hornby (1983) transcribes the word 'scarlet' with the unstressed [ə], while the other three words are transcribed with [I].

The opposition between [I] and [ə] is maintained when a meaningful distinction is involved. This happens with the terminations [-əd] and [-Id] or [-əz] and [-Iz] in words such as 'officers' [-əz]/ 'offices' [-Iz]; 'chattered' [-əd]/ 'chatted' [-Id]; etc. (Gimson:1982:13)

2.2.1.1.b. MAIN ALLOPHONES OF THE PORTUGUESE /i/

(1) /i/ → a) [i] / in all positions
E.g. irmão, acima, aqui

b) [ĩ] / ___ [nasal] E.g. tinha, sim, pintor

One of the most controversial issues about the nasal vowels in Portuguese is related to their classification as either phonemes or allophones of their equivalent oral vowels. Since this discussion is not relevant to the present study, I have decided, for practical reasons, to consider all Portuguese nasal vowels [ã,ĩ,ẽ,õ,ũ] as allophones of their oral equivalents /a,i,e,o,u/.

2.2.1.2. MID-FRONT VOWELS

The only mid-front vowel in English is /ɛ/, which occurs only in word-initial and medial positions. In Portuguese, there are two mid-front vowels: /e/ and /ɛ/, which are classified as higher-mid and lower-mid respectively. They occur in all word positions.

According to Azevedo (1981:61), the Portuguese /e/ is higher than the English /ɛ/, which is in turn higher than the Portuguese /ɛ/.

The Portuguese and the English vowel /ɛ/ occur only in stressed syllables. The Portuguese /e/, on the other hand, may be found in both stressed and unstressed positions, as in 'mesa' ['meza] and 'feliz' [fe'lis].

2.2.1.2.a. MAIN ALLOPHONES OF THE ENGLISH /ɛ/

(1) /ɛ/ → [ɛ] in initial and medial positions

E.g. egg, pleasure, pet

Stylistic [I] / ___ [alveolar] E.g. get, cents

According to Bronstein (1960:154), the variant [I] appears in all sections of the United States, although in less educated speech.

2.2.1.2.b. MAIN ALLOPHONES OF THE PORTUGUESE /ɛ/ AND /e/

(1) /ɛ/ → a) [ɛ] / in all positions

E.g. ela, peste, sapé

Dialectal b) [ɛj] / ___ [s,z] # E.g. dez, dez anos (in sandhi)

(2) /e/ → a) [e] / in all positions E.g. ele, pera

b) [ẽ] / ___ [nasal] E.g. ensino, lenço

Dialectal c) [i] / in pretonic position
E.g. estória, pepino
in post-tonic position
E.g. vezes, pares
___ # E.g. pote, verde

Generally the vowel /e/ becomes [i] in pretonic and post-tonic positions as well as in final unstressed position. This seems to be a productive rule, which is applied almost generally in Brazil, the exceptions being some dialects in the south.

Dialectal d) [ej] / ___ [s,z] #
E.g. três, fez bem (in sàndhi)

The vowels [e] and [ɛ] may be slightly diphthongized, resulting in the variants [ej] and [ɛj], which occur in a number of dialects such as 'carioca' and 'mineiro'. In some parts of the Rio Grande do Sul state, words such as 'três' and 'dez' are generally pronounced [ˈtɾes] and [ˈdɛs].

2.2.1.3. LOW FRONT VOWELS

The vowel /æ/ is a short and lax low-front vowel in English, which appears only in initial and medial word positions. It occurs in both stressed and unstressed positions, as in the words 'agony' [ˈægənɪ] and 'antique' [ænˈtik].

2.2.1.3.a. MAIN ALLOPHONES OF THE ENGLISH /æ/

(1) /æ/ → a) [æ] / # ___ E.g. action, anthology
in medial position E.g. crack, package

b) [a:] / ___ [f,θ,s] E.g. half, path, ask
___ [nasal] C E.g. sample, aunt

According to Bronstein (1960:160), the variant [a:] varies freely with [æ] in the New England area of the United States. In the remainder of the country, the variant [æ] is the common form. In British English, on the other hand, the long vowel /a:/ is not considered an allophonic variant of /æ/. It is a separate and distinctive sound, i.e., a phoneme.

2.2.2. THE CENTRAL VOWELS

2.2.2.1. LOW CENTRAL VOWELS

As shown in Figures 2.3 and 2.4, the vowel /a/ is classified as a low central vowel in both Portuguese and English. As to its distribution, the Portuguese and the English /a/ occur in all word positions. The English /a:/ occurs in stressed syllables, while the Portuguese /a/ is found in both stressed and unstressed ones.

2.2.2.1.a. MAIN ALLOPHONES OF THE ENGLISH /a:/

(1) /a:/ → a) [a] / in initial and medial positions
E.g. option, box, stop

b) [a:] / ___ [r] E.g. arm, barn (dialectal)
/ ___ CVd E.g. father, calm
/ ___ # E.g. Ma, Pa

Bronstein (1960:162) points out that in AE, the vowel /a/ is short in the context (1a) and long in the context (2b). In British English, on the other hand, the group of words in (1a) is pronounced with the RP /ɒ/.

RP speakers and speakers in the 'r-less' areas of the US (i.e. Eastern New England, New York City and the South of the US) regularly pronounce with [a:] the spelling -ar when it is not followed by a vowel. For example: 'far' [fɑ:], but 'far away' ['fɑrəwej]. Most American English speakers, however, pronounce such a spelling with the vowel [a:] + [r]. Compare both American and British pronunciations of the following words:

	RP	US
'car'	[kɑ:]	[kɑr]
'farm'	[fɑ:m]	[fɑrm]

Dialectal in AE c) [ɒ] / in option, not, stop, watch

Bronstein (1960:165) says that " /ɒ/ is found in individual words throughout the US, but with no clear consistency according to regional or standard levels. Its common and consistent use is found in the short o and wa words in the speech of many in New York City and Eastern New England."

2.2.2.1.b. MAIN ALLOPHONES OF THE PORTUGUESE /a/

(1) /a/ → a) [a] / in stressed positions
E.g. aro, tal, prato
in non-final unstressed position
E.g. casado, atuar

b) [ɐ] / in final unstressed position
E.g. casada, alta

c) [ã] / ___ [nasal] E.g. antigo, cama

d) [aj] / ___ [s,z] # E.g. rapaz, paz e amor
(in sandhi)

2.2.2.2. MID-CENTRAL VOWEL

In English, the mid-central vowel /ə/ is known as 'schwa', an unstressed phoneme. Some linguists establish a distinction between it and the stressed central vowel /ʌ/, as in 'above' /əˈbʌv/. In AE, /ə/ scarcely differs from /ʌ/ in quality. Therefore, for practical purposes, the vowels [ə] and [ʌ] will be recognized as unstressed and stressed varieties of the same phoneme, both represented by /ə/.

2.2.2.2.a. MAIN ALLOPHONES OF /ə/

(1) /ə/ → a) [ə] / in unstressed positions
E.g. annoy, subside, do (weak form)

b) [ʌ] / in stressed positions
E.g. usher, come

Dialectal c) [ɜ:] or [ɜr] / V́ r E.g. bird, burn

The variant [ɜr] is commonly used in AE. In BE, however,

[3:] or [3ə] may vary freely in this context.

Dialectal d) [ə] or [ər] / V r E.g. father, batter, grocers

The difference between the variants of rule (1c) and those of rule (1d) lies in their position in the word. [3:] or [3r] occurs in stressed syllables, while [ə] or [ər] occurs in unstressed positions. Besides, the variant [3:] differs from [ə] in that it is tense and long and the latter is lax and short. (Bronstein, 1960:176/179)

Gimson (1980:124) points out that in British English "the quality of /3:/ often coincides with that of unaccented /ə/, both being central vowels. It is possible to treat /ə/ as an unaccented allophone of /3:/, since it may be claimed that no true opposition between the vowels exists."

Although I have classified both [ʌ] and [3:] as allophones of /ə/, it should be noted that there are linguists who consider those variants separate phonemic entities, since they establish phonemic contrasts in BE. For example:

hut, hurt [hʌt], [h3:t]

such, search [sʌʧ], [s3:ʧ]

2.2.3. THE BACK VOWELS

2.2.3.1. THE LOW BACK VOWEL /ɔ:/

The English vowel /ɔ:/ is low, while the Portuguese /ɔ/ is classified as a lower-mid vowel. The latter will be dealt

with in the next section. In English, the vowel /ɔ:/ occurs in all word positions and only in stressed syllables.

Gimson (1982:24) observes that RP [a:,ɔ:,ɜ:,ə] are replaced in US by [a,ɔ,ə] + [r] when r occurs in the spelling. For example:

	RP	US
'corn'	[kɔ:n]	[kɔrn]
'bird'	[bɜ:d]	[bərd]
'sister'	[ˈsɪstə]	[ˈsɪstər]

2.2.3.1.a. MAIN ALLOPHONES OF THE ENGLISH /ɔ:/

(1) /ɔ:/ → a) [ɔ:] / in all positions
E.g. off, daughter, saw

Dialectal in AE b) [ɒ] / in odd, gone, wash

Bronstein (1960:166) remarks that " /ɒ/ is not confined to the Eastern New England area [of the US]. Its use elsewhere may be more sporadic and less consistent, but its existence, at least as a variant of /a/ or /ɔ/, in the speech of many educated speakers cannot be denied." The vowel /ɒ/ is not, therefore, a phoneme entity in AE, which uses only /a/ and /ɔ:/ in words where /ɒ/ occurs. In BE, on the other hand, the vowel /ɒ/ is a distinct phoneme, which is normally described as a short and lax vowel, and like /ɔ:/, it is pronounced with rounded lips. For example:

	RP	US
'hot'	/ɒ/	/ɑ/
'doctor'	/ɒ/	/ɑ/
'dog'	/ɒ/	/ɔ:/
'soft'	/ɒ/	/ɔ:/

2.2.3.2. MID-BACK VOWELS

The Portuguese vowels /ɔ/ and /o/ are classified as mid-back vowels. They appear in initial, medial and final word positions.

The difference between the Portuguese /ɔ/ and the English vowel /ɔ:/ lies mainly in length, as shown by the mark [:]. According to Azevedo (1981:64), the Portuguese /ɔ/ is formed with the tongue higher in the oral cavity than is required for the English /ɔ:/.

The vowel /o/ may be found in both stressed and unstressed positions, as in 'osso' ['ɔsʊ], while the Portuguese vowel /ɔ/ is found only in stressed position.

2.2.3.2.a. MAIN ALLOPHONES OF THE PORTUGUESE /ɔ/ AND /o/

(1) /ɔ/ → a) [ɔ] / in all positions E.g. obra, costa, avó

Dialectal b) [ɔj] / ___ [s,z] # E.g. nós, voz do povo (in sandhi)

(2) /o/ → a) [o] / in all positions E.g. oração, encosto, avô

b) [õ] / ___ [nasal] E.g. ombro, conto, tom

Dialectal c) [u] / in pretonic position
E.g. tomate, chover
in post-tonic position
E.g. ídolo, pérola
___ # E.g. ídolo, menino

In Portuguese, the vowels /e/ and /o/ become /i/ and /u/ in the phonological context (2c), i.e., in pretonic and post-tonic positions and in word-final unstressed position.

Dialectal d) [oj] / ___ [s,z] # E.g. arroz, arroz doce (in sandhi)

2.2.3.3. HIGH BACK VOWELS

English has two high-back vowels: /u:/ and /U/. Portuguese has only one: /u/, which is short, lacking any trace of diphthongalization.

The English /u:/ and the Portuguese /u/ occur initially, medially and finally. The former is found only in stressed positions, while the latter appears in both stressed and unstressed positions, as in 'único' ['ɯniku] and 'unir' [ɯ'nir].

The vowel /U/, on the other hand, differs from /u:/ in that the former is short and lax, while the latter is long and tense. /U/ occurs only in word-medial position and in the unaccented form of '(in)to' [-tU]. [U] is generally used in stressed positions, as in 'took' and 'cushion'.

2.2.3.3.a. MAIN ALLOPHONES OF THE ENGLISH /u:/ and /U/

(1) /u:/ → a) [u:] / in all positions
E.g. oof, tune, loose

The variant [u:] may vary freely with [ju:] in words spelled with u (when not pronounced /ə/ or /U/), ui, ue, ew, and others in both American and British English. For example: 'tune', 'suit', 'due', and 'new'. Gimson (1982:27) observes that "in US, after stressed /t,d,n,θ,s,z,l,st/ (i.e. those consonants having a dental or an alveolar contact), /u:/ rather than /ju:/ is usual", as for example in the words:

	RP	US
'assume'	[əˈsjum]	[əˈsum]
'due'	[dju]	[du]
'stew'	[stju]	[stu]

b) [U] / in roof, groom, room

The free variation between /U/ and /u:/ in the words above is common in both American and British English, although the preferred form is that with vowel /u:/ (Gimson, 1980:119). As Bronstein (1960:171) puts it "there is not enough information to generalize about the regional preferences for individual words, nor the sporadic variations that exist for some of those words."

(2) /U/ → a) [U] / in medial position E.g. foot, wolf
Stylistic b) [ə] / in unaccented forms E.g. should, could

2.2.3.3.b. MAIN ALLOPHONES OF THE PORTUGUESE /u/

(1) /u/ → a) [u] / in all positions
E.g. úlcera, aturar, tatu

b) [ũ] / ___ [nasal]
E.g. unha, fungar, bumbo

Dialectal c) [uj] / ___ [s,z] # E.g. cruz, cruz e souza (in sandhi)

The diphthongs and the triphthongs in both the Portuguese and the English sound systems will not be discussed in the present study, because the analysis of the data concerns only consonants and vowels.

According to the CA hypothesis, the English phonemes which should present greater difficulty to the Portuguese speaking learners would be those that do not occur in Portuguese, those that have different phonotactic possibilities, and those that have different allophones. However, only error analysis can test these hypotheses, which will be done in the following chapters.

CHAPTER 3

ERROR: SOURCES, GRAVITY AND INTELLIGIBILITY

3.1. SOURCES OF ERROR

The following classifications refer to the sources of error, which explain most of the learners' segmental errors in the data. The source of each error depends largely on the strategy the learners have used in their phonological output.

3.1.1. INTERLINGUAL ERRORS: are those which result from the interference of the learner's mother tongue.

When the learner pronounces an English word, s/he considers either the whole word or the combination and agglutination of separate sound symbols. In the first case, the English word suggests a Portuguese item which shares either phonological, orthographic or semantic features with it. For Lott (1983:258), this type of association is called 'overextension of analogy'.

In the word 'register', for instance, the learner tends to replace [ʒ] by [ž] and to shift the stress, which results in the pronunciation *ʀɪˈžɪstər, which is phonologically and semantically closer to the Portuguese item 'registro'.

For Selinker (1972:41), this analogy is a process which results in 'cognate pronunciation'. He adds that the wrong

substitution of a phoneme in such a circumstance does not necessarily mean that the learner cannot produce the correct phoneme in other English words.

It is necessary to establish two levels of discussion when referring to the learners' errors. They are the product and the process levels. According to Dulay and Burt (1972:236), the product level is the surface feature of each substitution process. For example, the analogy between native and target items generally involves the replacement of TL phonemes by the learners' native ones (TL ← NL). Some learners, however, use TL phonemes or allophones to replace the correct phoneme (TL ← TL). The level of process accounts for the product, that is, it gives the underlying causes or sources of each substitution process.

To illustrate both processes, I will analyze the faulty pronunciations of the word 'anthology': *ænt̚ɔlaʤɪ and *ænt^{H}ɔlaʤɪ. At the product level [θ] is replaced by either [t$^{\circ}$] or [t^{H}]. The unaspirated /t/ belongs to the Portuguese sound system, whereas the aspirated one is an allophone of the Vl stop /t/ in English. At the process level, however, the learner resorts in both cases to his/her native word 'antologia', since it suggests the phoneme /t/. In this case, no matter what the product level is, the learner applies NL transfer, which results in an interlingual error.

The data provide evidence for the two types of interference from the NL: the phonetic (sound) and the phonological transfer (i.e. NL phonological rules

transferred to the TL). Two examples of phonological transfer are found in the data. They are the Portuguese voicing assimilation rule (cf. p.145) and the affrication process (cf. p.160).

When the learner is reading, the orthographic system works as a visual stimulus which encourages the reader to associate letter(s) with sound. The sound may represent either the orthographic symbol(s) in the learner's native language, reflecting L1 transfer (examples in 1 below) or a faulty generalization of a pattern in the TL system (examples in 2 below).

(1) Sequence ai → [aj] in 'faith'

Sequence au → [aw] in 'taught'

The association above may be related to the Portuguese sequences ai and au which represent the sounds [aj] and [aw] in words such as 'faixa' and 'taurino'.

(2) Letter o → [a] in 'lost', 'cloth'

Letter a → [æ] or [ɛ] in 'wallet', 'partial'

In American English the spellings o and a in stressed syllables are sometimes pronounced [a] and [æ or ɛ] respectively. Based on this possible spelling-sound relation in the target language, the learner applies the same 'strategy' to other English words, which results in a faulty generalization.

Besides these two hypotheses of association, there is another which concerns ambiguous cases, that is, those which suggest interference from both L1 and L2 spelling systems.

(3) Letter a → [a] in 'wallet', 'always'

Letter i → [I] or [i] in 'violated', 'wives'

The letter a in stressed position is generally pronounced [a] in Portuguese. The learner may have drawn this analogy when s/he pronounced the English words 'wallet' and 'always'. On the other hand, some learners may have followed the British pronunciation of words such as 'bath' and 'class', which are pronounced with [a].

It seems evident, therefore, that the spelling-oriented errors may have their origin within the learners' NL and/or the TL.

Learners in interview situations also tend to have their pronunciation based on the spelling system. Although they do not have the graphic stimulus at hand, they have already built the visual representation of the English words in their memory.

3.1.2. INTRALINGUAL ERRORS

Jack Richards introduced this term in 1970 to refer to those errors whose origin is found within the structure of the TL itself. According to him, these errors may be caused by faulty generalization. This happens when "the learner creates a deviant structure on the basis of his experience of other structures in the target language." (Richards, 1971:174)

A good example is the English word 'ether' which is found in the data with the following mispronunciations:

*'iðər , *'idər , *'ɛðər . The learner seems to associate the word 'ether' with 'either' which resembles the former in its orthography. The orthographic or visual similarity between these two words may have influenced the learner to pronounce the English phoneme /ð/ in place of /θ/. In other words, 'either', a known word in the learners' vocabulary, imposes its phonological characteristics on 'ether', an unknown or unused word by the learner. Even though the Portuguese [d] is used to replace the English [θ] in *'idər, the substitution, at the process level, results in an intralingual error, because there is an association of items within the target language.

The faulty generalization illustrated in the words 'ether' and 'either' does not imply necessarily that the learner is ignorant about the distinction between the phonemes /θ/ and /ð/. S/he may simply not know the use of [θ] in that particular context.

3.1.3. DEVELOPMENTAL ERRORS

Dulay et al (1982:165) define developmental errors as those which are "similar to the errors made by children learning the target language as their first language."

According to Ingram (1986), the phonological substitutions vary from child to child. However, there are some substitution processes that are more frequent in an English child's speech. Some of them will be illustrated below to establish a relation with the substitutions found

in the learners' speech. Only the product level is taken into account, because of the absence of research on mental mechanisms underlying the production of phonological substitutions in children. Dulay et al (1982:165) remark that "since children acquiring a first language have not experienced learning a previous language, the errors they make cannot possibly be due to any interference from another language. When such errors are made by second language learners, it would be reasonable to hypothesize that mental mechanisms underlying general language development come into play, not the rules and structures of the learner's native language."

3.1.3.1. STOPPING SUBSTITUTION: [f,v,s,z,ʃ,ʒ,θ,ð,h] becomes [t,d,p,b,k,g] (Ingram,1986:225)

Ingram points out that although this process is one of the more established patterns in children's speech and that fricatives are the most commonly affected group of sounds, English children do not necessarily change all their fricatives into stops. Besides, it is not possible to predict which fricatives and stops individual children select in their substitutions.

As regards the learners' speech, the English fricatives [θ] and [ð] are generally replaced by the stops [t] and [d] respectively. This substitution may be either the result of the stopping process and, thus, reflects a developmental error or a problem of NL interference, since [θ] and [ð] do not belong to the Portuguese sound system. Cases like that,

which reflect the learners' native language structure, and at the same time the speech of children acquiring their first language are called ambiguous errors by Dulay et al (1982:172).

Owing to the limited knowledge of the psychological and the neurological processes involved in language learning, one cannot say precisely which has originated the substitutions of [θ] by [t] and [ð] by [d]. Furthermore, Mc Donough (1981) remarks that it should not be supposed that all learners take the same route to the same error. (in Lott, 1983:257).

3.1.3.2. FRONTING SUBSTITUTION: [k,g,ŋ] and [š,ž,č,ǰ] become [t,d,n,z,s,l] (Ingram, 1986:225)

The data reveal that the most frequent substitutions for the following palato alveolars are:

[č] by [t] as in 'actually', 'gesture'

[ǰ] by [d] as in 'soldier', 'education', 'wages'

[š] by [s] as in 'vicious', 'fissure', 'anxious' [ks]

The substitutions above do not prove that the learner applied the fronting process. It seems more reasonable to hypothesize that the NL spelling system has influenced the learner in the mispronunciation of these words.

The letters c, ss and x in the English words 'vicious', 'fissure' and 'anxious', for instance, are pronounced [s] in the Portuguese items 'vício', 'fissura' and 'taxi' [ks]. The other letters which are involved in the substitution processes above also suggest sounds found in the learners'

native language. Therefore, the mispronunciation of these words reflects an interlingual error rather than a developmental one.

On the other hand, the word 'wages' may be an example of a developmental error, because the substitution of [ǰ] by [d] in this phonological context does not seem to result from the influence of either the L1 or the L2 spelling systems.

3.1.3.3. GLIDING SUBSTITUTION: [l,r] becomes [w,j] (ibid:225)

There are some words in the data which illustrate the replacement of [r] by [w]. They are 'story', 'tries', and 'rhythm'.

One of the problems in classifying a developmental error is the lack of research in this area. Besides, Dulay et al (1982:165) emphasize that when an error is not reported in the literature, it does not necessarily mean that it is not produced by L1 learners. Owing to these limitations, we cannot expand the analysis of these substitution processes.

There are certain errors which could be classified as developmental, since they reflect processes found in the acquisition of first language. For example, cases of insertion, elision and metathesis are common phenomena which occur particularly in the reading of native Brazilian children in the process of learning to read and write. These errors generally result from the child's limited capacity to organize visually and spatially the orthographic structure

of his/her native language. CENP (Coordenadoria de Ensino e Normas Pedagógicas) (1979:86) observes that it is necessary that the children be able to organize correctly the graphic sequence when they are reading or writing, because they tend to make elisions, inversions of sounds, which result in pronunciations such as 'secada' in place of 'escada', 'rádipo' in place of 'rápido'.

Processes of elision and insertion of segments, migration of phonemes and word substitution characterize not only the reading of native children learning to read NL texts but also the reading of TL texts by the subjects of this research. For that reason, I will consider segmental errors resulting from such processes examples of developmental errors.

Their occurrence in the learner's IL may be due to:

- learners' careless pronunciation. Their fast reading may lead them to graphic confusion, especially for the learner who does not yet have complete mastery or training in the TL spelling;
- lack of phonological awareness in the target language;
- complexity of clusters. In order to reduce the difficulty in the target language, the learner omits or inserts deliberately or accidentally one segment to facilitate the articulation. For example:

'world' * wərd (elision of the segment [l])

'width' *'widɪθ (insertion of the segment [I])

3.1.3.4. ELISION OF SEGMENTS

Table 3.1 Number of elisions found in each contextual style

	text	word list	interv.	Total per semester
2nd semester	33	15	12	60
4th semester	32	44	13	89
6th semester	52	20	27	99
8th semester	29	21	27	77
Total of substitution	325			

Table 3.1 shows that the high occurrence of elision tends to concentrate in the text reading. When the learners were reading the text, their concern seemed to be with the sentence as a whole, that is, with their fluent pronunciation. This consequently seems to prevent them from paying close attention to the constituent sounds of the words.

Elision occurs in all positions in the word. In final position there are 150 occurrences (42,5%), decreasing to 141 occurrences (40%) in medial position and to 62 occurrences (17,5%) in initial position.

The cases of elision involve:

1. SYLLABLES: e.g. 'mummy', 'Peggy', 'informed'
2. SUFFIXES: e.g. 'certainly', 'into', 'taken'
3. SEQUENCES: e.g 'probably', 'even', 'criticism' [əm]
4. PHONEMES: based on the data, the elision of consonantal phonemes is much more frequent than of vocalic ones and of

any other case of elision mentioned above. It covers 74,2% of all the learners' elisions.

For example: 'work', 'woman' [w] → ∅

'even', 'southern' [n] → ∅

'accept', 'explanation' [k] → ∅

It is interesting to mention that some consonantal elisions result in:

a) homophones, as in 'whose' (elision of [h]) = 'ooze', 'when' (elision of [w]) = 'hen', 'mind' (elision of [d]) = 'mine' and;

b) meaningless words, as for example in 'thoughtful' *'θrufu, *'towfu, *'ʃɔwfu, 'southern' *'sewtər, *'sɔθɪr, *'θəwtər, *'θawtər. Besides elision, various sound changes result in the formation of meaningless words.

3.1.3.5. INSERTION OF SEGMENTS

Table 3.2 Number of insertions found in each contextual style.

	text	word list	interv.	Total per semester
2nd semester	44	74	27	145
4th semester	22	35	5	62
6th semester	27	56	31	114
8th semester	31	46	37	114
Total of substitution		435		

According to the table above, the insertion occurs more frequently in the word list. It is probable that the

learner's close attention to words in isolation makes him/her consider all the graphic symbols.

Most cases of insertion occur in final position with 48% of occurrences. In medial and initial positions the percentage is 45,4% and 6,6% respectively. Vocalic insertions represent 75,8% in relation to consonants and sequences of sounds.

According to the data, there are 2 types of intrusive sounds: those suggested by the orthography and those which are not suggested by it. The first type represents 56,7% in relation to the second one. This high percentage shows once more the influence of orthography in the learners' pronunciation.

Examples: 'thought' *[g], 'calm' *[u], 'partial' *[i], 'office *[i]

This type of insertion involves many cases which might be classified as an interlingual error rather than a developmental one. In 'calm', for example, the mute /l/ is pronounced [u], just as in the Portuguese word 'calma'. In the English word 'office', the learners tend to follow the Portuguese VCV pattern and pronounce the orthographic symbol e.

It should be noted that among the cases of insertion, elision and others, which are here classified as developmental errors, there are interlingual errors. They might be called ambiguous errors; however, there is no research which could be compared with the present data to

verify if the same deviation in the learners' speech/ reading also occurs in native children acquiring English as their first language.

As an example of interlingual error in cases of elision, the data provide the words 'exhaust' and 'explanation' which were pronounced *ɪˈzɔst (elision of [g]) and *ɪsˈplə- (elision of [k]). The process of elision in these words may have its origin in the Portuguese words 'exausto' and 'explicação', which are pronounced without [g] and [k] respectively.

The second type of intrusive sound may result from:

a) careless speech (e.g. 'rubbish' *ˈprəbɪš , 'thoughtful' *ˈθrut-, 'attack' *əˈtakt);

b) the learners' preference for full forms rather than contracted ones (e.g. 'I'm' *ajˈæm , 'there's' *ðɛˈrɪz);

c) the necessity to follow patterns which reflect the learners' NL (e.g. 'width' *ˈwidɪθ , 'authentic' *-tɪkɪ, 'sixth' *ˈsɪksθɪ). In this case, the insertions are classified as interlingual errors.

The process of insertion of the first and the second type involves cases of epenthesis (i.e. addition of a phoneme at the beginning of a word or between sounds) and paragoge (i.e. addition of a phoneme at the end of a word). In the word 'width', for example, the epenthetic vowel /I/ is used probably to reduce the complexity of the consonantal cluster [dθ]. Some Portuguese clusters are also pronounced with an epenthetic vowel, as in 'cacto' [ˈkakitu]. In this

case, the vowel [i] is used rather than [I]. Paragoge, on the other hand, is heard in words such as 'valid' *-lɪdi, 'rubbish' *-brɪši, etc. Few English words were pronounced with schwa paragoge, as in 'danced' *-stə, and 'violated' *-tɪdə. In Portuguese, consonants are normally supported by a vowel in word-final position. However, the vowel [ə] is never used.

3.1.3.6. MIGRATION OF PHONEMES

Sometimes segments are moved from one syllable to another, as for example in 'suddenly' *ˈsəndəlɪ, 'successful' *səˈsɛksfəl, 'published' *ˈplubrɪšɛt, etc. The data also provide some cases of metathesis as in 'pressures' *ˈpɛr-, 'width' *ˈwɪθdɪ, etc.

Although the migration of phonemes is a phenomenon which takes place in all the productive tasks, it is more frequent in the reading activities (text and word list) with 85% of the occurrences.

3.1.3.7. WORD SUBSTITUTION

This phenomenon is more common in the text reading. The learner substitutes words either from the same or different grammatical class. For example:

Pronoun → pronoun: 'their' (line 30) becomes 'they'

Adjective → verb: 'angry' (line 26) becomes 'agree'

Most of the cases of word substitution reveal that the learner keeps part or all the segments of the original word

and adds other sounds, as in 'as' (lines 2 and 32) → 'has', 'my' (line 32) → 'many', 'the' (line 5) → 'there;' or elides sounds, as in 'was' (line 5) → 'as', 'an' (line 21) → 'a'; or replaces sounds, as in 'human' (line 32) → 'woman', 'went' (line 25) → 'send', 'bag' (line 22) → 'back'.

Sometimes one process interacts with another as in 'thought' (line 3) → 'through' ([r] insertion, [t] elision and replacement of [ɔ] by [u]) and 'what had' (line 32) → 'that'. In the second case, it is difficult to say what process is involved.

To the listener, the substitution of words may be taken as:

- a syntactic error which causes no problem of intelligibility.

E.g. 'an' (line 21) → 'a'
'how' (line 27) → 'what'
'won't' (line 11) → 'don't'

- a different interpretation from the one intended.

E.g. 'human' (line 32) → 'woman' ("But I've lost just a little more faith in *woman nature")
'we've' (line 24) → 'you've' ("*you've looked around, of course, but no one saw which way you left the shop")

- difficulty in understanding.

E.g. 'angry' (line 26) → 'agree'
'thought' (line 3) → 'through'
'who' (line 13) → 'you'

Some cases of omission, insertion and other phenomena described here might be considered lapses, since they have occurred only once in the learners' speech. However, considering the limited corpus, they were not eliminated from the data analysis, because they may be diagnostic of systematic errors. Furthermore, they may hamper intelligibility depending on the context or on the interlocutor.

3.1.4. UNMARKED ERRORS

This term is suggested in this work to refer to those errors which reflect 'natural' phonological processes found in other languages other than the learner's NL or the TL. As Altenberg and Vago (1983:434) put it, "... the second language speakers can apply rules not only from their native languages, but also from their "innate" conception of linguistic structure as regards pronunciation. We hypothesize that such rules are drawn from a universal set."

An example of unmarked error is illustrated in Chapter 4 (p.159) in which some learners have probably applied the rule of Terminal Devoicing when they replaced [d] by [t] in word-final position.

3.2. ERROR GRAVITY

It is difficult to judge which segmental errors are more serious, because this depends on the linguistic context in which they occur. Krahnke and Christison (1983:636) say that "Johansson (1978) has produced the most comprehensive study on error gravity, in which he points out that it is not possible to assign weights or values to specific errors because factors such as receiver (or listener) characteristics (age, experience, education, and so on), the context of the communication, and the social roles or status of the speakers all play a role in the success or failure of particular communicative acts."

The substitution of [i:] by [I], for example, may cause a breakdown in intelligibility in certain contexts, but in others this is not true. The following two snippets of conversation taken from the interview activity were submitted to two English native speakers (one British and one American) so that they could evaluate the comprehensibility of each text.

a) INTERVIEWER: Tell me what you do on weekends.

F6: ən ˈwikendz? wɛn ... hæv ... səm ajm ˈgowiŋ tə ɟɪ bɪɾ bət ... wɛn rɛn aj stej ət howm.

or I´m going to my boyfriend´s home... or going to the movie ... listen to music. I love music.

b) INTERVIEWER: Do you like to live here?

A2: Yes, I do

INTERVIEWER: Why?

A2: aj θɪŋk ɪts ə najs ˈsiti smɔw wən, wɪɣ ˈbɪčɪs and I have my jobs and friends, my family.

The stretch which appears here in broad transcription was originally left blank for each respondent to concentrate on.

In (a) the replacement of [i:] by [I] in the word 'beach' and [ej] by [ɛ] in the word 'rain' have caused no difficulty in intelligibility. Although the sentence also has grammatical problems, the two listeners were able to understand what F6 wanted to say.

In (b), on the other hand, the replacement of [i:] by [I] in the word 'beach' has caused two reactions: while the British girl could not understand the intended meaning at all, the American one needed to listen twice. The first time she heard 'benches' and finally 'beaches' with some doubt about it.

In order to measure error gravity, a scale of frequency of occurrence was set up in decreasing order to illustrate the number of substitutions which involve each sound investigated.

Consonantal Sounds	Number of Substitutions
[ɣ]	1.947
[θ]	441
-(e)s → [-ɪz]	422
-(e)s → [-z]	384

[t^H]	281
-(e)d → [-d]	242
[ŋ]	242
[z]	224
[p^H]	216
[s]	211
[č]	156
-(e)d → [-t]	135
[ǰ]	128
[š]	105
[k^H]	80
[ž]	43

Vocalic Sounds	Number of Substitutions
[I]	1.776
[U]	339
[æ]	251
[i:]	216
[ɛ]	201
[u:]	129

According to the scale above, the highest frequency of errors occurs with the consonantal phoneme /ʒ/ and with the vocalic phoneme /I/. This may be explained by the great number of English words in the data which contain such sounds. Gimson (1980:149) points out that "according to an investigation by D.B. Fry of the frequency of vowels in coloquial RP, /ə/ and /I/ clearly emerge as the vowels having the highest count." The high number of substitutions

for the consonantal phoneme /ð/ in turn reflects the occurrrence of common words such as 'the', 'that' 'there' in the learners' speech.

It is very probable that the higher the frequency of a particular phoneme in the learner's speech, the greater the possibility to make it into a segmental error, especially when the learner does not master the phoneme well enough. Furthermore, the top position of the Vd interdental /ð/ and of the vocalic phoneme /I/ in the scale above do not necessarily indicate that the acquisition of these sounds is more difficult than that of any other sound listed.

3.3. INTELLIGIBILITY

Segmental errors may cause various reactions in the interlocutor with respect both to the formal code and to the content of the message.

As to the code, there are interlocutors who are not tolerant towards the learners' errors. The interlocutor may become irritated with certain inconsistencies, because s/he is forced to make different adjustments to understand the speaker.

Although little is known about the effect of irritation on communication and about what errors are the most irritating, Faerch et al (1980:395) point out that "one should not expect to establish a hierarchy of errors with respect to irritation: all errors are equally irritating,

provided they are in fact errors, i.e., violations of a target language norm."

When the segmental error is systematic, the interlocutor may have a favourable or an unfavourable attitude. The systematicity of an error may not hamper the comprehensibility of the learner's IL, since s/he makes extensive use of the same segmental error and the interlocutor gets used to it. On the other hand, James (1984:30) points out that "the very predictability and frequency of such errors [systematic errors] begin to grate on the nerves of the native speaker gradually eroding his patience."

It is important to say that the wrong substitution of a sound does not always result in lack of intelligibility. The linguistic context and the situation itself may help the interlocutor understand the gist of what is said.

In order to evaluate the comprehensibility of the learners' IL, an evaluation test was carried out on a questionnaire. The respondents consisted of two English native speakers who were asked to complete 3 tasks:

1. to evaluate the content of 17 texts collected from the interview according to the alternatives provided in the questionnaire (see appendix VII).
2. to give their understanding of part of the text on which they are asked to concentrate more. In this part, there are some segmental errors which may or may not hamper intelligibility.

3. to provide the number of times they had to hear each learner's text for full understanding.

The two respondents attend Portuguese classes for foreign students, which are offered by the 'Extra Curricular' courses at the Federal University of Santa Catarina. Caroline is from London and she had been in Brazil for 2 months when she answered the evaluation test. Luan, on the other hand, is from California and she answered the test after being 4 months in Brazil. They are around 25 years old. Their knowledge of Portuguese before coming to Brazil was minimal.

The analysis of the native respondent data reveals that the level of comprehensibility depends on the contextual support given to an error. The position of the error in a word, the syntactic function of the word in a sentence, the repetitive structures used in the learners' text are some factors which help the interlocutor decode the message. Sometimes the lack of sufficient contextual support may generate:

1. an impaired message which may be of two types:

1.1. The interlocutor understands something different from what the speaker intends. For example:

a) INTERVIEWER: What kind of problems?

E6: ˈprɔbləmz əˈbawt sɔwts... sɔts... əˈbawt... maj ˈfəðər sɛs dæt ajm ˈdifərent frɔ̃ ˈðərz... ajm nɔt əˈbedɪənt

E6 pronounces *sɔts to refer to the word 'thoughts'. The mispronunciation of this word made Caroline think that E6 has problems about sex. The word 'obedient', however, was recognized after listening to it four times. Luan, on the other hand, could not understand either of the 2 words, which led her to consider the text vague. In other words, she is in doubt about what the speaker wants to say because of the difficulty in understanding the pronunciation of these two key words.

b) INTERVIEWER: What's the story about?

C8: Uhmm it's terrible... to tell. Is about a ... wajld lɔ its ə 'veri 'ænšənt ɪn 'ingland 'nevəl bət its nɔt 'mɔdərn. Yeah! There was... it's about a family, ok? And the father goes to a city one day, I don't know... I don't know what city and when he comes back, he brings with him a little boy and he creates this boy as a son and ðiz bɔj fɔw ĩ lɔv wif ... ðɪ 'dɔtər.

For Luan, this text is intelligible although her interpretation does not coincide with the one intended by the speaker. She has understood that the story is about a 'wild law'. However, C8 is referring to a 'wild love'.

Caroline had difficulty in understanding all of C8's message. For her, the context does not help much to decode the IL text. After listening to it three times, she could understand that 'the boy found love with...' instead of the intended meaning 'the boy fell in love with....' Caroline misunderstood this part of the text and found the remainder

unintelligible because of pronunciation problems and of other types of problems, such as background noise on the tape.

c) INTERVIEWER: What do you do?

B6: aj du 'dis kərs, I teach English for childrens about 11... 11... 10 years old and I do... 'Pedagogia', graduate of 'Pedagogia'.

The replacement of [ð] by [d] and the wrong stress placement in the noun phrase 'this course' gives a different meaning from the one intended. Luan has understood that B6 does 'Discourse' rather than 'this course'. Her misunderstanding has led her to classify the text as vague. Caroline, on the other hand, needed to listen 3 times to understand B6's text correctly.

1.2. The interlocutor understands part of the text owing to difficulty in understanding the other words.

a) INTERVIEWER: What do you like in your English Course?

B8: My English course... what I really like... I would be very personal... what I really like is ðɪ ɵpər'tunɪtɪ dæɾəj hæv ču dɪ'vɛləp məj ĩŋglɪš bɪ'kɔz əjv 'nɛvər hæd 'əbɔrd and what I know it's... is what I learn here and the course that I did, so what I really like is the opportunity to develop my... my oral... my oral practice because grammar I've studied a lot, writing I did a lot but oral practice I didn't.

B8 wanted to say the word 'abroad', but owing to metathesis she pronounced 'aboard'. Luan could not

understand the intended word and classified the text as partially intelligible. According to Caroline's judgement, the text is intelligible although there are pronunciation problems. She had to listen 3 times to get the meaning. However, she does not mention the fact that B8 has never been abroad.

2. an ambiguous message: the interlocutor has two interpretations for the same message.

a) INTERVIEWER: Tell me about a book you've read and liked.

B8: A book? I've read Gone with the Wind and I liked it a lot. if aj kud red... if aj kæn red it mɔr ðən wəns aj wiw 'rɛdi 'ɛvərɪ

Both interlocutors are able to understand what B8 has said. However, Luan has considered the text ambiguous, probably because of grammar problems. B8 says: 'If I could read' and then "If I can read'. The use of the two conditional clauses may have led Luan to judge the message ambiguous.

It is expected that Luan has fewer problems in understanding the texts than Caroline, because the former has been longer in Brazil. This suggests, therefore, that she is more acquainted with the Portuguese phonological system than the British girl. However, most of Luan's judgements reveal that she is not able to understand clearly all the texts, even though she has provided the correct meaning of some learners' ILs. Her answers generally involve alternatives d and e. On the other hand, most of Caroline's

answers cover aiternative c which means that she is able to understand the learners' message despite their pronunciation problems.

Considering the amount of time in Brazil and the choice of the alternatives of each respondent, we may suggest that Luan seems to be more critical towards the learners' text than Caroline. Whereas the American respondent provides only the translation of the texts, The English one tries to give the interpretation of each text.

Texts 2 and 3, for example, are classified as vague by Luan. She gave the correct translation of the texts but she was not able to explain what the learners wanted to say. It is probable that her evaluation is related to poor sentence structure rather than to the learners' pronunciation problems. Caroline, on the other hand, is able to understand text 3 perfectly well, although she considers it partially intelligible.

Faerch et al (1980:394) say that "the intelligibility of interlanguage is not a function of relative proximity to the target language but a function of different types of errors in specific textual and situational contexts." Although this is true, the interlocutor cannot always depend on the context to decode the learner's segmental errors. This is illustrated in texts 6 and 15 which are judged intelligible by Caroline and Luan. However, their interpretation does not fit the meaning intended by the learner.

According to the respondents' judgements, not only pronunciation problems but also grammatical and word choice problems are found in many of the IL texts.

In general, the respondents needed to listen more than once to understand the learners' texts. The maximum of times devoted to that was four (e.g. Caroline's number of times to understand text 6).

CHAPTER 4

THE RESEARCH

4.1. DATA ANALYSIS

4.1.1. VARIETY OF ENGLISH

The data are analyzed according to General American English (GA) and standard British English Pronunciation (RP), since both varieties are used in dictionaries, textbooks, manuals, etc. The hybrid pronunciation (RP + GA) is also accepted.

As to the acceptance of pronunciations which do not follow either RP or GA, there are forms in the data which were not considered error since they reflect speech patterns of educated people. For example, the word 'usually' is pronounced either [ʒ] or [z] by British English speakers. Therefore, I agree with Bronstein (1960:7), who says that "although certain usages may well be questioned from a structural view by some, their widespread usage by so many educated persons in informal speaking situations necessitates their acceptance into the standard pattern."

4.1.2. SUBJECTS

The sample consists of 6 students from each of the 2nd, 4th, 6th and 8th semesters (24 students altogether) of the

Portuguese-English Letters Course at the Federal University of Santa Catarina.

The study begins with 2nd semester students in order to provide a baseline against which the data collected from the other semesters can be compared. The residual errors in the last semester (8th) constitute the main concern of this study.

The subjects are referred to throughout the data as A2, B4, C6, B8, etc. This code is explained by the numbers 2, 4, 6 and 8 which indicate the semester in which each subject is. The letters, on the other hand, refer to individual students.

4.1.3. CONTRASTIVE ANALYSIS

The Portuguese and the English phonological systems are compared in Chapter 2 to predict the difficulties of the undergraduate students of English.

Based, therefore, on contrastive analysis, the following sounds were chosen to be the object of analysis:

Consonantal phonemes: affricates: /č,ǰ/
fricatives: /š,ž,s,z,θ,ð/
nasal: /ŋ/

Vocalic phonemes: front vowels: /I,i:,ɛ,æ/
back vowels: /U,u:/

Allophones: [p^H,t^H,k^H]

allomorphs: [-z] and [-Iz] (inflexional ending: -(e)s)
[-t] and [-d] (past morpheme: -(e)d)

4.1.4. DATA COLLECTION

The students were asked to perform the following tasks:

(1) To fill out a questionnaire to provide information about their background in English, and also possibly to help to draw some conclusions about their phonological output (Questionnaire in appendix I).

As productive tasks, they were asked:

(2) to record a text and a word list. Both materials designed to be recorded contain the English sounds predicted to cause difficulty. They are in different positions in the word (initial, medial, and final; stressed and unstressed positions), and in different syllable configurations (front and back vowels). The word list contains minimal pairs such as 'feel/ 'fill', 'gas/guess'; derived forms as 'worth/worthy', 'south/southern'; some words also found in the text as 'there', 'needed'; and other words whose sounds are in the positions of interest. All these words are placed randomly in the list. (Text and word list in appendices II and III)

(3) to answer questions in a recorded interview with the researcher. The questions are the same for all the students and are meant to elicit spontaneous speech (Questions in appendix IV).

As perception-discriminatory tasks, the students were asked:

(4) to mark the word which is recorded by a native speaker in a script of 25 sets of three words each (see appendix

V).

(5) to mark either 'correct', 'incorrect' or 'I don't know' in a script of 16 sentences which were recorded, containing a word whose pronunciation might be either correct or incorrect. This word is underlined in the students' script to be better identified. The words chosen to be pronounced incorrectly in the 16 sentences have only one mispronounced sound (see appendix VI).

The students who have marked 'incorrect' were supposed to record the right pronunciation of the word in a cassette, because this exercise involves words with more than one syllable. This means that the students may think of another phoneme rather than the mispronounced one when they mark 'incorrect' for the word. The word 'virtuous', for instance, is recorded by the native speaker as *ˈvərʧʊəʊs, in which the mispronunciation is in the suffix -ous. Many students marked 'incorrect' for this pronunciation and recorded *ˈvɪrʧʊəʊs. This shows that they did not detect the mispronunciation in the suffix -ous; on the contrary, they made another error, replacing the initial correct vowel [ə] by [i].

4.1.5. ANALYSIS

4.1.5.1. PRODUCTION

All deviations found in the data were transcribed into broad phonetic notation. The segmental errors were then placed in specific diagrams. For example, B6 pronounced the

word 'think' as *SiŋK , resulting in two segmental errors, i.e., the replacement of [θ] by [s] and [ŋ] by [i]. This word was, therefore, included in two diagrams, the one for the phoneme /θ/ and the one for the phoneme /ŋ/.

There are 22 diagrams altogether, which is compatible with the number of sounds under analysis. Next to each segmental error identified, there is the number of times of its occurrence.

In order to compare the total number of errors of a particular sound in each semester individually, 88 diagrams were made for each sound per semester (22 diagrams X 4 semesters). They are divided into 3 parts. The first one contains the segmental errors found in the text reading, the second those found in the isolated word reading test and the third part those errors found in the interview situation.

In addition, one diagram was designed for general consonantal substitutions and another for general vocalic ones, covering eight altogether (2 diagrams X 4 semesters).

All these maps provide information about the number of errors found in each semester, all substitutions made for each sound, and consequently the contexts in which each error occurs. Based on this, an error analysis was conducted.

4.1.5.2. PERCEPTION

Perceptual variations were collected to see if they are the same as the variants used in the productive task. After

that, a diagram was made containing the number of students per semester who failed to recognize the correct phoneme. This information provides means to measure the degree of difficulty in the perception of the English phonemes. In other words, if the perceptual variation of a particular English sound persists throughout all the semesters, it is suggested that that sound is more difficult to be recognized than other sounds whose frequency of perceptual variation tends to decrease towards the advanced semesters (6th and 8th).

As a final step, the English sounds were classified into 2 categories: 1) those which cause difficulty in production only, 2) those which cause difficulty in both production and recognition.

4.2. QUESTIONNAIRE ANALYSIS

In this section, I will analyse only the results which are relevant to the purpose of this study. They will be correlated with the learners' residual errors at the general conclusion. The remaining results appear in table form in appendix IX for the reader to consult it for some reason or other s/he is interested in.

The questionnaire was done in Portuguese to guarantee complete comprehension of the questions and to enable the respondents to write with ease.

4.2.1. SUBJECTS' ENGLISH BACKGROUND

Table 4.1 The learners' English background before entering the Letters Course.

categorias	Tempo (em anos)								% de alunos
	1	2	3	4	5	6	7	8	
1o. Grau	2	4	2	10	-	-	-	-	75
2o. Grau	6	3	9	1	-	-	1	-	83.3
Escola particular de línguas	2	2	4	2	-	2	1	1	62.5

All the subjects had learned English before entering the Letters Course, whether in the 1st 'grau', 2nd 'grau', or in a private language school. Table 4.1 shows the percentage of those who studied English in each category. Some of the subjects checked off more than one, which means that the sum of the three categories together exceeds 100%. In general, the subjects had studied English for a period of time which varied from 1 to 4 years.

Table 4.2 Levels attended before entering the Letters Course.

Alunos que cursaram escola de língua antes do Curso Letras	níveis				tempo (em anos)
	básico	interm.	avançado	convers.	
A2			x		1
B2	x	x			4
E2	x			x	2
A4	x	x			8
D4	x	x			6
E4	x	x			2
F4	x	x			3
A6	x				3
B6	x	x			7
D6	x	x			3
E6	x	x			1
F6	x				*
B8	*	*	*	*	8
C8	x	x			3
E8	x				4

* not specified

According to table 4.2, 62,5% of the subjects attended a private English course before entering the Letters Course. They took the Basic and the Intermediate levels. The amount of time spent for taking both levels varies from subject to subject, since each one studied in a different private English course. At CCAA, for instance, the stages 1, 2, 3 and 4, which comprise the Basic level, are usually taken in

2 years. At Ibensa, on the other hand, the first 15 stages are considered Basic and are taken in 6 months depending on the student.

Table 4.3 Levels attended after entering the Letters Course.

Alunos que cursaram escola de língua durante o Curso de Letras.	Níveis				Tempo (meses)
	Básico	Interm.	Avanç.	Conv.	
A2			x		6
C2		x			6
E4		x			12
F4		x	x	x	8
B6		x			36
E6		x	x		42
F6		x			36
D8				x	48

Table 4.3 reveals that only 33,3% of the students took or are still taking a private English course after entering the Letters Course. The great majority has attended the intermediate level, giving sequence to the private studies started before entering the Letters Course. (cf. table 4.2)

ATTITUDE TOWARDS ENGLISH

Table 4.4 Answers to the question: "Gosta de estudar inglês? Quanto?"

	%
muito	54.2
bastante	37.5
pouco	8.3
muito pouco	0.0

Table 4.4 indicates that 91,7% of the students have a positive attitude towards the English language.

Table 4.5 Answers to the question: "Gosta de estudar inglês? Justifique."

Justificativas positivas	%
1. Inglês é uma língua interessante e fascinante.	25.0
2. Importância e necessidade deste idioma.	16.7
3. Ter maior conhecimento cultural.	8.3
4. Comunicar-se.	8.3
5. Interesse pessoal.	4.2
6. Ler textos em língua inglesa.	4.2
7. Facilidade de aprender inglês.	4.2
8. Desejo de falar corretamente este idioma.	4.2
Justificativas negativas	**%**
9. Inaplicabilidade imediata do inglês.	4.2
10. Materiais inadequados e desestimulantes.	4.2
11. Estar cansado de estudar inglês.	4.2
12. Requer muita memorização.	4.2

Among the several reasons shown in table 4.5, the positive ones, particularly numbers 2,3,4 and 6 confirm the importance of English in the global context.

Table 4.6 Answers to the question: "Até que ponto as pessoas abaixo consideram o ensino de língua inglesa importante?"

segmentos da comunidade	muito import. (4)	import. (3)	pouco import. (2)	não import. (1)	Grau de importância
Sua família	29.2%	58.3%	12.5%	-	3.2
Seus amigos	16.6%	62.5%	18.6%	4.3%	2.9
Seus profs.	75%	20.8%	4.2%	-	3.7
A sociedade	20.8%	62.5%	12.5%	4.2%	2.9
Você	79.2%	20.8%	-	-	3.8

Table 4.6 is based on the numbers ascribed by the subjects to each segment of the community. They have evaluated the degree of importance of English teaching according to the several segments of the community.

This evaluation is based on a scale from 1 to 4, in which 4 = 'very important', 3 = 'important', 2 = 'of little importance' and 1 = 'unimportant'.

According to the subjects, the teachers (3.7) and they themselves (3.8) consider English teaching very important. Their evaluation is closer to number 4. The other segments, on the other hand, tend to remain around 3: important.

SUBJECTS' MOTIVATION

Table 4.7 Some factors that motivate the subjects to learn English.

	% *
O curso em si.	0.0
A obtenção de um diploma.	12.5
O gosto pela língua inglesa.	91.7
A possibilidade de viajar/morar no exterior.	8.3
A importância/necessidade do inglês.	4.2
O conhecimento de outro idioma.	4.2
Os filmes e músicas inglesas.	4.2
A possibilidade de se comunicar.	4.2
A possibilidade de lecionar inglês.	4.2

* Some subjects checked off more than one alternative.

All the subjects feel motivated to learn English. The reasons appear in the table above, which shows that 91,7% of the subjects are motivated by the foreign language itself. It is probable that their interest in learning English results from the status that this language has in the world of science, technology, business, and other fields.

TEACHING EXPERIENCE

Table 4.8 Subjects' experience as English teachers.

alunos	experiência profissional					níveis		tempo (meses)
	1	2	3	4	5	básico	interm.	
A2					x		x	12
B2	x					x		6
C4		x				x		3
B6			x			x		12
E6				x	x	x	x	24
F6	x						x	24
A8				x			x	7
B8					x	x		12
C8					x	x		6
E8				x		x		12
F8			x	x		x	x	51

1. Aula particular, 2. Monitoria, 3. Escola particular, 4. Escola municipal/estadual, 5. Escola de Línguas.

Table 4.8 indicates that 45,8% of the students have had some experience as English teachers. Most of them have taught in Public Schools and in private language courses at both basic and intermediate levels. The levels are classified according to the structural organization of each private language course. For the public and private schools, the basic level covers roughly the 5th, 6th and 7th grades and the intermediate level, the 8th grade, 1st, 2nd, and 3rd years of high school.

The subjects' working experience varies from 3 months to 2 years. Most of them (72,2%) are satisfied with their teaching experience. The other 36,3% are not.

It is interesting to note that almost all the students who feel satisfied have only worked in private schools and as students teachers at the university, while the subjects who feel unsatisfied have worked in public schools. In fact, private schools compared with public ones offer better conditions for the teacher in terms of salary, material resources, good working atmosphere, etc. Public shools, on the other hand, have a different teaching reality characterized by the students' low socio-economic level, poor environment, the teachers' low salary and lack of motivation, etc. It is to be expected, therefore, that teachers who work in private schools are more satisfied than those who work in public schools.

Table 4.9 Reasons for satisfaction or dissatisfaction with the experience of teaching English.

Justificativas positivas	%
1. Experiência pessoal.	8.3
2. Interesse dos alunos.	4.2
3. Oportunidade de praticar inglês.	4.2
4. Possibilidade de transmitir conhecimento acadêmico.	4.2
5. Bom ambiente de trabalho.	4.2
Justificativas negativas	**%**
6. Desinteresse dos alunos.	8.3
7. Escola distante.	4.2
8. Nenhum interesse pelo magistério.	4.2
9. Pouca experiência como docente.	4.2
10. Baixo nível intelectual dos alunos.	4.2

According to reasons 1, 3 and 4, the subjects feel satisfied because of the opportunity they have not only to teach English but also to improve their knowledge of English. Reasons 2 and 5 are related to factors that contribute to efficient language teaching and learning. Reasons 6,8 and 10, on the other hand, refer to factors which determine the failure of both processes.

CONTACT WITH ENGLISH AND OTHER LANGUAGES

Table 4.10 Answers to the question: "Como é feito o seu contato com a lingua inglesa?"

	% *
Música.	91.6
Filmes.	79.2
Leitura.	91.6
Sala de aula.	100
Conversa com falantes nativos.	29.2
Conversa com falantes não nativos.	70.8
Membro de sua família.	25.0
Emprego.	29.2
Composição.	4.2

* The subjects checked off more than one alternative.

Outside the classroom, the subjects find other ways to be in contact with the English language. According to the table above, listening to songs and reading English texts are the activities with which most subjects get involved.

Table 4.11 Ways of reading.

	% *
Silenciosamente.	54.2
Em voz alta.	25.0
Com o uso do dicionário.	41.7

* Some subjects checked off more than one alternative.

The data indicate that 62,5% of the students read English texts besides those required by the Letters Course.

According to table 4.11, the subjects prefer to read them silently rather than aloud.

Some subjects use the dictionary in their reading. This is a positive habit considering that they have access to the meaning of new words as well as to their phonetic transcription.

Besides English, some subjects can speak other foreign languages, such as German (D2), Spanish (E2), and French (A4 and B8). It is difficult to say whether or not a particular sound substitution reflects the phonology of one of these foreign languages in the speech of those students. Besides, no systematic substitution was detected which could suggest the influence of a 3rd language in the speech of D2, E2, A4 and B8.

SUBJECTS' PRONUNCIATION

Table 4.12 Answers to the question: "Quais as estratégias que você usa para superar seus problemas de pronúncia na língua inglesa?"

Estrategias usadas	% *
Ouvir tapes.	41.6
Ouvir músicas.	75.0
Assistir filmes.	58.3
Prestar atenção a pronúncia dos professores.	95.8
Prestar atenção a pronúncia dos colegas.	62.5
Procurar transcrição fonética em dicionários.	20.8
Cantar em inglês.	4.2
Repetir a palavra/estrutura várias vezes.	4.2
Corrigir e ser corrigido pelos colegas.	4.2
Fazer auto-correção.	4.2

* The subjects checked off more than one alternative.

95,8% of the students are used to paying attention to the teachers' pronunciation to overcome pronunciation problems. This means that the teachers should have an accurate pronunciation, since they are taken as models.

Listening to songs is the second most used strategy. One of the problems concerning it is the risk of getting an incorrect pronunciation owing to perception-discriminatory problems. Besides, there is no feedback to confirm whether or not the subjects' pronunciation is correct.

Although paying attention to the classmates' pronunciation as a way to correct your own may be a risky strategy, I agree with Cohen who says that "student

self-correction and peer correction may do more to eradicate errors than teacher correction" (in Hahn, C, 1987:8/9).

Table 4.13 Answers to the question: "Você como aluno do Curso de Letras considera a pronúncia correta algo:"

	% *
Muito importante	66.7
Bastante importante	29.2
Pouco importante	0.0
Não importante	0.0

* Only one subject did not answer this question.

Table 4.14 Reasons for the answers given in table 4.13.

	% *
1. Para a inteligibilidade.	45.8
2. Para melhor se comunicar.	20.8
3. Para o professor que for lecionar.	12.5
4. Para que a comunicação futura seja perfeita.	4.2
5. Faz parte do aprendizado.	4.2

* Some subjects provided more than one reason and others did not answer.

According to table 4.13, all subjects consider an accurate pronunciation to be either very important (66.7%) or fairly important (29.2%). As shown in table 4.14, 45,8% of them believe that good pronunciation is an important ingredient for mutual intelligibility.

Table 4.15 Answers to the question: "Como classifica sua pronúncia em relaçaõ a outras habilidades?"

	%
Melhor em relaçaõ às outras habilidades.	21.7
Boa em relaçaõ às outras habilidades.	21.7
Mais ou menos em relaçaõ às outras habilidades.	39.1
Ruim em relaçaõ às outras habilidades.	17.5

The subjects were asked to evaluate their own pronunciation in relation to other skills, such as reading, writing and listening. The result given in table 4.15 indicates that 39.1% of the subjects consider their pronunciation reasonable in relation to those skills. On the other hand, 43.4% believe that their pronunciation is 'good' (21.7%) or 'better' (21.7%) than the other skills.

THE TEACHING OF PRONUNCIATION

Table 4.16 Answers to the question: "Os cursos orientados para a pronúncia ajudaram você a resolver seus problemas?"

	2o. semestre	4o. semestre	6o. semestre	8o. semestre	%
sim	2	2	6	5	75
não	3	1	-	1	25

Table 4.17 Answers to the question: "Os cursos orientados para a pronúncia ajudaram você a resolver seus problemas? Quanto?

	2o. semestre	4o. semestre	6o. semestre	8o. semestre	%
Muito	1	1	3	3	40
Bastante	1	1	3	2	35
Pouco	-	-	-	-	0.0
Muito pouco	-	-	-	-	0.0

Among the 20 subjects who answered the question in table 4.16, 75% agree that pronunciation classes have helped them much to improve their pronunciation (see table 4.17). On the other hand, 25% of the subjects, most of them in the beginning semesters (2nd and 4th), do not consider pronunciation classes helpful, probably because the systematic teaching of pronunciation is only done in the advanced semesters (6th and 7th).

Table 4.18 Answers to the question: "Quais atividades e/ou exercícios que mais o tem ajudado a melhorar sua pronúncia".

Atividades/Exercicios	% *
Pares mínimos.	33.3
Transcriçaõ fonética.	20.8
Leitura em voz alta.	75.0
Descriçaõ fonológica.	12.5
Exercícios em fitas.	8.3
Ouvir palestras.	4.2
Ouvir/repetir liçoes em fitas.	4.2
Ouvir pronúncia dos professores.	4.2

* Some students checked off more than one alternative.

For the majority of the subjects, the activity which is most helpful to eliminate pronunciation problems is 'reading aloud' (75%).

THE LETTERS COURSE

Table 4.19 Answers to the question: "Indique até que ponto está satisfeito com os diversos aspectos abaixo:

1. Material usado nas aulas de expressão oral.
2. Atividades/exercícios de pronúncia.
3. Uso do laboratório de língua.
4. Oportunidades extra classe para o uso da língua.
5. Habilidade do professor em auxiliar os alunos.
6. Fluência do professor.

	item 1	item 2	item 3	item 4	item 5	item 6
2o. sem.	3.00	1.50	1.17	1.17	2.67	2.83
4o. sem.	2.17	2.33	1.67	1.83	2.50	2.67
6o. sem.	3.00	2.50	2.17	1.67	2.17	3.67
8o. sem.	2.00	2.17	1.50	1.67	3.00	3.67
média	2.54	2.13	1.63	1.59	2.59	3.21

7. Prática de língua inglesa em sala de aula.
8. Ensino de fonética e fonologia.
9. Condições para que o aluno fale em sala de aula.
10. Carga horária destinada a língua inglesa.
11. Disponibilidade dos professores.
12. Didática dos professores.

	item 7	item 8	item 9	item 10	item 11	item 12
2o. sem.	0.17	0.17	0.17	--	--	--
4o. sem.	--	--	--	--	--	--
6o. sem.	--	--	--	0.17	0.17	--
8o. sem.	--	--	--	--	--	0.33
média	0.04	0.04	0.04	0.04	0.04	0.08

Table 4.19 gives the degree of the subjects' satisfaction in relation to several aspects concerning the Letters Course. The numbers go from 1 to 4, in which 4 = 'very satisfied', 3 = 'fairly satisfied', 2 = 'little satisfied' and 1 = 'unsatisfied'.

According to the numbers ascribed by the subjects, they feel little satisfied and unsatisfied with most of the items. According to the data, 78.3% of the subjects think that the laboratory classes are really important. However, the teachers hardly ever work there with the students.

The subjects' dissatisfaction includes not only the use of the language laboratory (item 3) but also other items in table 4.19. Depending on the semester, the degree of satisfaction varies. In item 1, for example, the 2nd and the 6th semester students feel fairly satisfied with the materials used in the oral expression classes, while the 4th and the 8th semester students feel little satisfied with

them. The only item with which most subjects feel satisfied is number 6. Their answers vary between 2.6 to 3.6.

Table 4.20 Answers to the question: "Quais as sugestões que você daria para os professores ou responsáveis pelo Curso de Letras?"

	%
1. Usar o laboratório com mais freqüência.	29.2
2. Corrigir os errors dos alunos.	12.5
3. Estabelecer discussões em sala de aula.	12.5
4. Motivar os alunos a falar.	8.3
5. Praticar mais leitura em voz alta.	8.3
6. Ouvir músicas.	8.3
7. Melhorar as aulas de laboratório.	4.2
8. Introduzir aulas de conversação como diciplina a parte.	4.2
9. Utilizar temas atuais desvinculando-se do livro didático.	4.2
10. Praticar mais a pronúncia das palavras novas.	4.2
11. Fazer os alunos refletir sobre a pronúncia das palavras.	4.2
12. Aumentar a carga horária das aulas de expressão oral.	4.2
13. Aumentar a carga horária de língua e literatura inglesa.	4.2
14. Introduzir Lingüística Aplicada nas fases iniciais.	4.2
15. Observar e orientar os alunos com dificuldades	4.2
16. Ter boa vontade para trabalhar com os alunos.	4.2
17. Detectar as dificuldades dos alunos desde as fases iniciais.	4.2
18. Adotar material eficiente e sequencial.	4.2

Cont. (...)

19. Assistir filmes com mais freqüência.	4.2
20. Mais leituras.	4.2
21. Mais exercícios orais.	4.2
22. Oferecer oportunidades de contato com falantes nativos.	4.2

The subjects' suggestions provided in table 4.20 also reflect some dissatisfactions with the teachers' method as well as with the Letters Curriculum.

29.2 % of the subjects emphasize the necessity to use the language laboratory more frequently. Besides, one subject points out that the laboratory classes might involve more interesting activities, games and exercises: (item 7).

Other subjects suggest that there should be introduced conversation classes (items 3,4,8) with discussions on up-to-date and exciting themes (item 9).

Error correction is for some subjects also important (item 2). It is a way to get feedback on their phonological output.

The claims set above should be points of discussion and reflection on the part of teachers and authorities of the Letters Course.

4.3. PERCEPTION-DISCRIMINATORY ANALYSIS

The data indicate that almost all the phonemes under investigation cause difficulty in recognition, except for the English /č/, /ǰ/ and /l/, which presented no perceptual variation in the 8th semester.

In words containing either the suffix -ace or the suffix -ate such as in 'surface' and 'considerate', the phoneme /l/ is generally pronounced and recognized as [ej].

No comment will be made for the sounds [š̆] and [ž̆], because they were not considered in the perception -discriminatory tasks.

There are phonemes whose perceptual difficulty tends to increase or to decrease along the semesters. This is detected through the number of learners who have failed to recognize the correct phoneme in each semester (see table 4.21). Most learners could not perceive the segmental error in *dəS and *juz for the pronunciation of the words 'does' and 'use' (n.) in the recorded sentence list. This is probably due to the lack of phonemic contrast between [s] and [z] in word-final position in Portuguese. In the production task, the learners also tend to replace [s] by [z] and vice-versa without being concerned with the final voice contrast.

The word 'sing' in the sentence list was recorded

*sIŋg and the learners considered it 'correct'. The spelling -ng influences them not only in the recognition but also in the production task. In the multiple contrasts, the phoneme /ŋ/ is generally heard as [n] in the words 'thing and 'tongue'. As a result, the learners checked off 'thin' and 'ton' as being the words recorded.

The high number of learners who failed to recognize the phonemes /s/ and /z/ in word-final position remains the same throughout the semesters. On the other hand, the difficulty in recognizing the phoneme /ŋ/ tends to increase in the 6th semester and to decrease a little in the 8th (see table 4.21).

According to the error analysis, the VL interdental phoneme is normally pronounced [t]. At the perception level, however, [θ] is heard as [s] by most learners. This occurs in word initial and final positions as well as with front and back vowels (e.g. 'thin', 'thought', 'worth', and 'faith'). The variant [t] in the production task may result from the influence of the spelling system, whereas the variant [s] may be considered perceptually closer to [θ].

For the word 'ether', the learners tend to hear 'either' probably because of their greater acquaintance with the second item. It is interesting that the voice contrast existing in [θ] and [ð] is not distinguished. In the production task, the word 'ether' is pronounced with [ð], which reflects once more the learners' tendency to extend the phonology of the word 'either' to 'ether'.

The VD interdental sound is recognized as [d] in word-initial and medial positions (e.g. 'there', 'those' and 'other') and as [z] in word-final position (e.g. 'breathe' and 'clothe'). In the production task, the learners generally tend to replace [ð] by either [d], [t] or [θ], but rarely by [z], even in the words 'clothe' and 'breathe', which are preferably pronounced with [t]. It is interesting to note that /θ/ and /ð/ are heard as [s] and [z] respectively in word-final position.

The learners' difficulty in recognizing both VL and VD interdentals persists all long the semesters, although at a decreasing rate. The difficulty in the perception of the phoneme /ð/ is greater in the 6th semester, decreasing in the 8th.

The vocalic phoneme /i:/ causes difficulty especially to the learners in the 6th semester. Most of them tend to hear the recorded word 'leaving' as 'living'. In the word 'feel', /i:/ is sometimes recognized as [I], which made the learners check off the word 'fill'. This variation in the learners' perception may be explained by the spelling system. The learners may have associated the sound [i:] of the recorded words 'leaving' and 'feel' with the orthographic symbol i of the written words 'living' and 'fill'. This possible association does not necessarily mean that the learners have difficulty in recognizing the phoneme /i:/ in the recorded words, but in associating it with the correct word.

According to the data, the learners in the advanced semesters have more difficulty in recognizing [ɛ] than [æ] (see table 4.21). The words 'said' and 'guess', for example, are generally heard as 'sad' and 'gas'. The learners in the 2nd semester, on the other hand, can easily perceive [ɛ] in 'said' and 'guess', but cannot perceive [æ] in the word 'pan'. It is possible that the learning and the awareness of the phoneme /æ/ in the advanced semesters has affected the recognition of [ɛ]. In other words, the learners seem to ignore the fine phonetic details between [æ] and [ɛ] and favour the former. In the beginning semesters, however, the learners seem to be more familiar with the phoneme /ɛ/, because /æ/ is probably not yet well mastered.

As for the vocalic phoneme /U/, few learners had difficulty in recognizing it in the word 'look'. In the words 'could' and 'full', on the other hand, it is generally perceived and produced as [u]. In the exercise of multiple contrasts, some learners took the recorded pronunciations of the words 'fool' and 'cooed' for 'full' and 'could'.

Considering that the spelling system exerts a great influence on the learners' pronunciation, it is believed that the subjects were able to hear the vowel /u:/. However, they failed to check off the correct words. They seem to have related the graphic symbols u and ou of the words 'full' and 'could' with the sound [u:].

The data indicate that the learners are not able to identify the segmental error in the pronunciations *ˈlæʃɪs ,

*ˈparkɪd and *ˈgræbɪd. In both the production and perception tasks, the learner seems to follow a general morphological rule for the formation of the past of regular verbs (i.e. the addition of the [-Id]) and for the plural allomorph [-Iz] (i.e. the variant [-Is]). The spelling may certainly explain these variants. The learners keep the extended form suggested by the past morpheme -ed and the plural morpheme -es.

In the mispronunciation of the word 'lashes', the learner fails to recognize the error in the segment [s] in *[-Is]. In fact, the contrast between [s] and [z] in word-final position is not established in Portuguese; therefore, it is ignored by the learners.

With the production and the perception-discriminatory tests, two groups of sounds emerge:

1. Those which cause difficulty in both production and recognition: [θ,ð,ŋ,s,z,æ,ɛ,i:,u:], the plural and the past allomorphs.

Even though the number of students who failed to recognize the vowel [u:] throughout the semesters is significant and the number of students who failed to recognize the vowel [i:] is high in the 6th semester, it is probable that both vowels do not cause perceptual difficulty, since the English vowels [i:] and [u:] are similar in quality to the Portuguese [i] and [u]. The problem, however, seems to lie in the faulty association

between the former sounds and the graphic symbols i and u/ou which suggest [i] and [u] respectively.

Based on the data, the phonemes /s/ and /z/ cause perceptual difficulty only in word-final position. In other positions, however, those phonemes were not tested.

2. Those which cause difficulty in production only: [č, ǰ, I, U].

At the perceptual level, the subjects from all the semesters were able to recognize /ǰ/. As to the phoneme /č/, only some 2nd semester subjects had difficulty in recognizing it. However, this difficulty tends to decrease greatly throughout the semesters (see table 4.21).

The vowels [I] and [U] do not seem to cause perceptual difficulty to the subjects, because the number of those who failed to recognize them per semester is quite insignificant (i.e. one and two subjects among 6).

Table 4.21 Number of students per semester who failed to recognize the English sounds in both multiple contrasts and sentence list.

SEMESTERS	CONSONANTAL PHONEMES						
	affric.		fricatives				nasal
	/ʧ/	/ʤ/	/s/	/z/	/θ/	/ð/	/ŋ/
2nd semester	4	--	6	6	13	15	13
4th semester	1	--	6	6	12	12	12
6th semester	1	--	6	6	9	17	14
8th semester	--	--	5	6	4	12	10

SEMESTER	VOCALIC PHONEMES						ALLOMORPHS		
	FRONT				BACK		PAST		PLURAL
	/I/	/i:/	/æ/	/ɛ/	/U/	/u:/	[-t]	[-d]	[-Iz]
2nd sem.	--	1	5	2	1	5	5	7	5
4th sem.	2	1	3	5	--	8	5	11	5
6th sem.	1	6	4	7	1	6	6	9	5
8th sem.	1	2	2	7	2	6	5	11	5

4.4. ERROR ANALYSIS

4.4.1. ENGLISH CONSONANTAL PHONEMES

4.4.1.1. PRONUNCIATION PROBLEMS WITH AFFRICATES

4.4.1.1.a. VL AFFRICATE /č/

Table 4.22 The most frequent substitutions for [č]

	[t]			[š]			OTHERS *			
	Text	World	Interv.	Text	World	Interv.	Text	World	Interv.	T.1
2nd sem.	4	8	1	2	14	7	--	1	--	37
4th sem.	5	5	5	--	9	2	--	3	--	29
6th sem.	2	11	6	2	11	1	--	1	--	34
8th sem.	7	9	1	3	6	1	--	4	--	31
T.2		64			58			9		

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

* The frequency of occurrence of other variants involved in the substitution processes of each phoneme is given in the tables. However, these variants will not be described, because the number of occurrence of each one does not

surpass the number of occurrence of either the first or the second most used variant.

The most frequent contexts and possible sources:

1. [č] ⟶ [t] / $ t + u E.g. actual, actually, fortunate, natural, gesture

The substitution of [č] by [t] reveals that most of the learners have no knowledge about the alveolar palatal in this particular context. They are, therefore, misguided by the spelling system.

The phonological, graphic and semantic overlap between some of those English words and their equivalent ones in Portuguese, such as 'natural' and 'gesto' may trigger NL transfer.

2. [č] ⟶ [š] / ch E.g. chew, cheque, cheap, bachelor, approaches, marched

In the word 'marched', the past morpheme -ed is generally pronounced with an epenthetic vowel.

In most cases, the replacement of [č] by [š] occurs when the cluster ch is in initial and medial positions. This substitution results from the association of the cluster ch with the sound it represents in Portuguese, the [š], as in 'chá', 'enchente', etc. Although there are English words which follow that spelling-to-sound relation, such as in 'chic', brochure' (French loan words), it is more plausible to believe that the influence comes from the learners' NL.

The graphic and semantic similarities between the English words 'cheque', 'marched' and the Portuguese

'cheque', 'marchou' may also contribute to the use of [š] rather than [č] in the former words.

It is interesting to note that in the word 'machinery', most learners tend to violate the substitution process described above and pronounce the cluster ch with [č]. This resulted in the following mispronunciations: *'mɛčɪnɛrɪ and *mɛ'čɪnərɪ .

4.4.1.1.b. VD AFFRICATE /ǰ/

Table 4.23 The most frequent substitutions for [ǰ]

	[ž]			[d]			OTHERS			
	Text	Word	Interv.	Text	Word	Interv.	Text	Word	Interv.	T.1
2nd sem.	--	14	2	2	6	4	1	8	2	39
4th sem.	2	19	4	--	6	2	--	2	1	38
6th sem.	2	11	3	--	4	1	1	4	--	26
8th sem.	--	7	1	1	7	3	2	5	1	27
T.2		65			36			27		

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent contexts and possible sources:

1. [ǰ] → [ž] / a) $\overset{}{\$}$ g E.g. wages, arranged, fragile, original, pageant, intelligent

   / b) g + e,y # E.g. strange, anthology

In the words 'arranged' and 'managed', most learners tend to pronounce * - ǯɪd for the final sequence -ged.

In Portuguese, the letter g is pronounced either [g] or [ǯ] in both initial and medial positions. For example, the words 'galo' and 'fígado are pronounced with [g], while 'giro' and 'frígido are pronounced with [ǯ]. This spelling-sound relation may have been extended to the pronunciations of the English words 'gin' (*gɪn , *ǯɪn), 'gesture' (*'gɛsčər , *'ǯɛsčər) and 'wages' (*wejgz, *wejǯ).

In general, [ǯ] occurs much more frequently in the substitution processes than [g]. This is due to the great number of English words in the data which share semantic and graphic similarities with Portuguese items pronounced with [ǯ]. As a result, NL phonology is transferred. For example, the Portuguese words 'frágil', original' and 'registro' have probably imposed their phonology on the pronunciation of the English words 'fragile', 'original' and 'register', which resulted in the replacement of [j] by [ǯ].

The final sequence ge/y in the words 'strange', 'village' and 'anthology' was pronounced [ǯ] without the support of the final vowel. According to the Portuguese sound system, [ǯ] is not pronounced in word-final position, except when the vowel [e] or [i] is dropped in rapid speech (cf. p.46).

In the word 'anthology', the equivalent Portuguese item 'antologia' may have led the learner to replace [j] by [ǯ].

2. [ǰ] → [d] / a) $ d + high vowel E.g. soldier, education, graduation

b) $ g E.g. wages, ages, fragile, arranged

In the first context the spelling system influences the learners' pronunciation. They seem ignorant of the assimilation process between the alveolar [d] and the palatal [j], which is present in the pronunciation of 'education' [ɛdjə'keɪʃən] and 'graduation' [grædjʊ'eɪʃən] (Collins Cobuild Dicionary). In fact, the learners follow neither that form nor the coalesced one [ǰ]. Their pronunciation reflects simply the graphic symbol d. Lewis (1971:244) points out that GA and RP treat the palatal [j] alike, "either keeping it in the original form or converting it into the alveolar palatal consonants /tʃ/, /dʒ/, /ʃ/ or /ʒ/. This conversion is carried out more thoroughly in GA than RP."

The replacement of [ǰ] by [d] in (2b) occurs in few cases. It reflects the fronting substitution, which is common in the speech of English children acquiring their first language.

4.4.1.2. PRONUNCIATION PROBLEMS WITH FRICATIVES

4.4.1.2.a. VL PALATO ALVEOLAR /š/

Table 4.24 The most frequent substitutions for [š].

	[s]			[č]			OTHERS			
	Text	Word	Interv.	Text	Word	Interv.	Text	Word	Interv.	T.1
2nd sem.	7	14	3	5	10	--	3	2	--	44
4th sem.	3	6	--	3	3	--	--	4	--	19
6th sem.	3	9	6	2	7	--	1	3	--	31
8th sem.	2	3	--	--	4	--	1	1	--	11
T.2	56			34			15			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent contexts and possible sources:

1. [š] → [s] / $ ss, s, sc, c, x, t

E.g. pressures, fissure, insurance, consciousness, social, anxious, partial, revolutionary

The learner may have associated the English words above with their translation into Portuguese and applied L1 phonology. For example, the English words 'social', 'anxious' and 'pressures' are translated into Portuguese as 'social', 'ansioso' and 'pressões'. It is very probable,

therefore, that the phonology of these translated forms has affected the replacement of [š] by [s] in the equivalent English words. Besides, the letters s, ss, sc, c, and x in the English words above may also suggest the Portuguese [s]. Both strategies indicate NL interference. One is activated by the spelling and the other by the semantic and orthographic similarities between Portuguese and English items.

In the words 'partial' and 'revolutionary', [š] changes to [s] probably because of the influence of their equivalent Portuguese forms 'parcial' and 'revolucionário', which are pronounced with [s]. The spelling system in this case exerts no influence on the learners' pronunciation, since the orthographic symbol t in Portuguese is phonetically represented by /t/. The replacement of the palatal [š] by the affricate [č] in the word 'partial' is also commonly produced. It is possible that the learner has applied the affrication rule here, since the phonological context suggests this process.

The use of [s] for [š] in initial and final positions is not very frequent in the data. The words 'shrugged' and 'English' with four mispronunciations each are the only examples that illustrate this substitution. Although it reflects the fronting substitution, which results in a developmental error, it is possible that the learners have considered only the first element of the clusters shr- and -sh as a way to reduce their complexity, since these

sequences are not found in Portuguese. The latter explanation seems to be more plausible.

2. [ʃ] → [č] / a) $ sh E.g. shop, shallow, bushes, lashes

b) sh # E.g. cash, wish

c) $ ch E.g. machinery

Few learners replaced [ʃ] by [č] in contexts (2a) and (2b). This substitution seems to follow no pattern within L1 or L2. Therefore, it is probable that the learners have formulated their own hypothesis without an apparent influence of their NL or the TL.

In context (2c), the learners were expected to pronounce the word 'machinery' correctly, since they tend to associate the cluster ch with the sound [ʃ] (cf p.135). However, the learners have associated the spelling ch with one of its phonological representations in English, the sound [č], as in 'bachelor'. This spelling-sound relation was probably extended to the word 'machinery', resulting in an intralingual error.

4.4.1.2.b. VD PALATO ALVEOLAR /ž/

Table 4.25 The most frequent substitutions for [ž].

	[ʒ]			[š]			OTHERS			
	Text	Word	Interv.	Text	Word	Interv.	Text	Word	Interv.	T.1
2nd sem.	--	4	--	--	1	--	--	8	--	13
4th sem.	--	4	--	--	2	--	--	4	--	10
6th sem.	--	4	--	--	3	--	--	4	--	11
8th sem.	--	3	--	--	3	--	--	3	--	9
T.2		15			9			19		

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent contexts and possible sources:

1. [ž] ⟶ [ʒ] / ge # E.g. beige

Depending on the English word, the final sequence ge may be pronounced either [ž] or [ʒ]. The former occurs in French loan words, as in 'beige' and 'garage'. Some learners were able to pronounce them correctly. In 'beige', for example, it may have occurred positive transfer since the Portuguese word 'bege' is pronounced with [ž]. There are learners, however, who prefer the sound [ʒ] rather than [ž] in the pronunciation of 'beige'. In this case, the substitution process reflects an intralingual error, because the learner

overgeneralizes the more usual phonetic variant of the sequence ge in English.

Gimson (1982:29) points out that the English native speakers also tend to anglicize the sound [ʒ] in French loan words ending in -(a)ge. The word 'garage', for instance, has five accepted pronunciations, in which three have [ʒ]: ['gærɑːʒ], ['gærɪʒ], [gə'rɑːʒ], ['gærɑːʒ] and [gə'rɑːʒ] (p.60).

2. [ʒ] → [ʃ] or [z] / V́ + s + u E.g. measure, composure

The occurrence of the variant [ʃ] in the context above and particularly in the words 'measure' and 'composure' may be accounted for by the association between these words with other English words of similar spelling, such as 'sure' and 'censure' that are pronounced with [ʃ].

The variant [z], on the other hand, may reflect either the fronting substitution or phonological transfer. The learner may have applied the Portuguese voicing assimilation rule to the words 'measure' and 'composure'. This rule occurs when the phoneme /s/ is between VD sounds.

The figures below show the frequency of occurrence of each variant:

'measure'		'composure'	
* [ʃ]	5	* [ʃ]	4
* [z]	2	* [z]	6

In the word 'usually', [ʒ] also changes to [z]. This replacement was not considered a segmental error, because as Malcolm Coulthard (personal communication) points out, the

sound [z] in that particular word is an acceptable variant in the speech of educated people in England.

4.4.1.2.c. VL ALVEOLAR /s/

Table 4.26 The most frequent substitutions for [s].

	[z]			[θ]			OTHERS			
	Text	Word	Interv.	Text	Word	Interv.	Text	Word	Interv.	T.1
2nd sem.	14	17	7	4	4	2	1	3	4	56
4th sem.	8	9	14	3	5	3	5	5	3	55
6th sem.	11	7	13	3	6	--	1	7	--	48
8th sem.	14	11	9	1	3	--	1	10	3	52
T.2	134			34			43			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent contexts and possible sources:

1. [s] → [z] / a) # s E.g. small, smile, son

b) $ x + vowel E.g. exercise

c) s(e), ss $

E.g. disagree, nervous, cases, useful, purpose, house (n.), loss

The variant [z] in (1a) is probably explained by the position of the phoneme /s/ between voiced sounds (e.g. 'some small', 'young son'). It is probable that the learners

have transferred the Portuguese voicing assimilation rule to the pronunciation of /s/ in those English words. When there is no Vd sound preceding /s/, the following voiced sound may cause the change to [z] (i.e. the bilabial nasal [m] in '## small' and '## smile').

It is interesting that no epenthetic vowel is pronounced before [s] in the words 'small' and 'smile'. This is a surprising fact for the CA hypothesis, because in Portuguese the phoneme /s/ in word-initial position is generally pronounced with an epenthetic vowel, as in 'espelho', 'este', etc.

In the word 'exercise' the sequence ['ɛks] is frequently pronounced ['ɛkz] on account of either the influence of the following vowel *'ɛkzərsajz or language transfer. The learner may have thought of the pronunciation of the Portuguese item 'exercício' and transferred [z] to the pronunciation of the English word 'exercise', which shares graphic and semantic similarities with the former. This is a kind of 'phonological graft', in which part of the English phonology is preserved and another part is borrowed from Portuguese.

In the word 'useful', the learners replace [s] by [z] quite frequently. They sometimes introduce the epenthetic vowel [I], resulting in the mispronunciation *'juzɪfəl . In this case, the phoneme /s/ becomes [z] because of its position between vowels. The voice assimilation reflects phonological transfer.

The replacement of [s] by [z] in word-final position may reflect phonological patterns from the learners' native language. Mascherpe (1970:74) states that the Portuguese phoneme /s/ is pronounced either [s] or [z] in word-final position. The occurrence of these variants is conditioned by the following sound. The variant [z], for instance, occurs when the following sound is voiced. Some learners, therefore, may have applied this phonological rule to the English words 'loss' and 'nervous', since they are followed by a vowel in the text (e.g. 'loss of my personal things' and 'nervous about').

There are words, on the other hand, which are followed by no sound, such as those in the word list (e.g. purpose ##, house (n.) ##, etc). In this case, the variant [z] may reflect either a lapse, an incorrect hypothesis formation, or probably the influence of the preceding Vd sound.

2. [s] $\rightarrow$ [θ] / # s + $\acute{V}$

E.g. southwood, something, south, singer, soul,

Based on contrastive analysis, the replacement of [s] by [θ] is not expected to occur, because on the one hand, the Portuguese [s] occurs in the context above (e.g. 'salmo', 'sombra'). On the other hand, the phoneme /θ/ does not belong to the Portuguese sound system.

The substitution above is characterized by the anticipation of the Vl interdental to word-initial position, without losing its original position. The result is the following mispronunciations: *'θawθud for 'southwood',

*'θəmθiŋ for 'something' and *θawθ for 'south'.

In the word 'southern', the cluster -th- is also pronounced [θ] and anticipated to word-initial position, as in *'θawθɛrn and *'θɔθɛrn. Sometimes the correct [ð] in this word is replaced by either the alveolar [t] or [d] as in *'θawtər or *'θawdərn.

4.4.1.2.d. VD ALVEOLAR /z/

Table 4.27 The most frequent substitutions for [z].

	[s]			[θ]			OTHERS			
	Text	Word	Interv.	Text	Word	Interv.	Text	Word	Interv.	T.1
2nd sem.	--	10	13	--	2	--	--	--	--	25
4th sem.	2	20	19	--	--	--	--	2	--	43
6th sem.	3	34	33	--	--	--	--	--	--	70
8th sem.	--	15	69	--	1	--	--	1	--	86
T.2	218			3			3			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent contexts and possible sources:

1. [z] → [s] / s(e), ze #

E.g. please, these, ooze, is, his

The substitution process above suggests either phonological transfer or spelling interference.

In the words 'please ##' and 'these ##', the spelling se suggests the variant [s]. In 'ooze ##', however, the learners may have followed the pronunciation of Portuguese words ending in z when followed by silence.

E.g. 'paz' ## [paS]

BUT: 'paz e amor' [paziamor]

It is worth noting that no epenthetic vowel was pronounced after the English phonemes /s/ and /z/ in the words above, even though the orthographic symbol e suggests this.

The variant [s] also occurs in the words 'is' and 'his', even when a Vd sound follows them. This variant occurs inconsistently within the same word and in different words with the same context. In this case, the learners follow the spelling command rather than phonological transfer. If they had applied the Portuguese voicing assimilation rule, they would certainly have made positive transfer.

2. [z] → [θ] / se # E.g. those, these, nose

The substitution above is considered unexpected because the English [θ], which is predicted to cause difficulty, replaces [z], a familiar sound to the learner.

Just three words have followed this substitution pattern. For the words 'those' and 'these', the learners pronounced *dewθ and *tiθ. In the first case, the learner replaces [ð] by [d] coming close to the correct phoneme /ð/, while in the second case, the learner is probably misguided by the spelling, resulting in the replacement of [ð] by [t].

In both cases, however, the cluster th is associated with the sound [θ] and postponed to word-final position.

4.4.1.2.e. VL INTERDENTAL /θ/

Table 4.28 The most frequent substitutions for [θ].

	[t]			[s]			OTHERS			
	Text	Word	Interv.	Text	Word	Interv.	Text	Word	Interv.	T.1
2nd sem.	34	45	11	3	2	18	7	9	--	129
4th sem.	20	24	13	10	7	29	8	16	4	131
6th sem.	25	33	2	6	2	29	5	15	1	118
8th sem.	7	10	6	6	--	19	3	10	2	63
T.2	230			131			80			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent contexts and possible sources:

1. [θ] → [t] or [s] / a) $ th E.g. <u>th</u>ree, <u>th</u>ought
<u>th</u>ing, au<u>th</u>entic

b) th $ E.g. ba<u>th</u>room, sixt<u>h</u>

The phoneme /θ/ is one of the English sounds which does not belong to the Portuguese phonological system. Therefore, based on CA theory, this is a phoneme which causes difficulty in articulation and recognition.

In order to reduce the phonetic difficulty of /θ/, the learners generally replace it by either [t] or [s], because both variants share similar phonetic features with the VI interdental, such as articulatory approximation and voice.

In general, the variant [t] occurs more frequently than [s]. According to Ferguson (1979), the learners make use of a phonological strategy called 'preference strategy', in which they favour a particular variant in the substitution process. It is probable that the preference for [t] is explained by the spelling th, which suggests this variant.

The data reveal that in certain words and contexts the variant [s] prevails. In the words below, for instance, [θ] changes to [s] at a higher frequency than to the sound [t].

'think'	* [s]	55	'thing'	* [s]	14
	* [t]	6		* [t]	10
'something'	* [s]	24			
	* [t]	6			

The variant [s] generally occurs in contexts where the th is followed by the high front vowel [I].

The following context is generally characterized by the variant [t].

2. [θ] → [t] / # ___ ə́ E.g. thirty, thunderbolt

___ r E.g. threw, three

___ ɔ E.g. thought

The learners' preference for [t] rather than [s] in the words 'threw' and 'three' may have its source in the learners' NL. In other words, the consonant cluster [tr-], which has replaced the initial [θr-], is found in the Portuguese sound system, while the cluster [sr-] is not.

When the VI interdental occurs in a syllable boundary or in word final position, the preference is also given to the variant [t].

E.g. 'southwood' * [t] 9 'south * [t] 3

* [s] 2 * [s] 1

'eighth' * [t] 7

* [s] 2

In the words 'anthology', 'athlete', 'authentic' and 'catholic', the learners replace [θ] by [t] on account of the influence of the pronunciation of the Portuguese items: 'antologia', 'atleta', 'autêntico' and 'católico', which are pronounced with [t].

To sum up, the use of the variants [t] and [s] indicates that the learners fail to acquire the contrast between [θ] and [t] as well as between [θ] and [s]. This results, therefore, in problems with the discrimination of minimal pairs such as 'think/sink', 'three/tree', 'thought/taught/sought'.

4.4.1.2.f. VD INTERDENTAL /ð/

Table 4.29 The most frequent substitutions for [ð].

	[d]			[t]			OTHERS			
	Text	Word	Interv.	Text	Word	Interv.	Text	Word	Interv.	T.1
2nd sem.	197	19	193	8	25	18	4	16	7	487
4th sem.	183	16	226	1	9	1	7	26	26	495
6th sem.	164	26	253	1	9	--	6	27	35	521
8th sem.	193	30	163	1	3	--	6	29	19	444
T.2	1.663			76			208			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent contexts and possible sources:

1. [ð] → [d] or [t] / a) $ th E.g. thus, other, leather
/ b) th(e) $ E.g. southern, clothe

The phoneme /ð/ is generally replaced by the alveolars [d] and [t], probably because of the articulatory approximation between these variants and [ð].

Both variants differ from each other in the voice feature:

[ð] /+ voice/ [d] /+ voice/ [t] /-voice/

The replacement of [ð] by [t] occurs in all positions, although its frequency varies according to the word and the position that the th occupies in it.

In initial position, [t] is less frequent than [d]. For example:

'thus' * [d] 9 'these' * [d] 15
* [t] 6 * [t] 3

Some learners are probably influenced by the element t in the spelling th, which explains the variant [t] in the words above.

The variant [θ] also occurs in the substitutions of [ð]. In general, [θ] is more frequent than [t] in words where the latter has a higher occurrence in relation to [d].

E.g. 'southern' * [θ] 8 'worthy' * [θ] 16
* [t] 7 * [t] 4
* [d] 3 * [d] -
'rhythm' * [θ] 18 'clothe' * [θ] 9
* [t] 9 * [t] 8
* [d] - * [d] 1

BUT: 'although' * [d] 25
* [θ] 7
* [t] 1

For the word 'although', the learners prefer the variant [d], which is perceptually closer to the Vd interdental [ð].

According to the English sound system, the cluster th may be pronounced either [θ] or [ð], depending on the word. In the words above, the th was related to the Vl interdental

rather than to its Vd counterpart, which resulted in an intralingual error. The variant [t], on the other hand, results from the spelling-oriented pronunciation.

In the word 'worthy', some learners tend to elide the final vowel and pronounce *wərθ ## or * wərt ##. There are learners, however, who pronounce the final [I], as in *'wərθɪ ##.

The high occurrence of [θ] and [t] in the words 'worthy', 'southern', 'loathsome', 'clothe' and 'breathe' reflects the pronunciation [θ] of the items from which they derive: 'worth', 'south', 'loath', 'cloth' and 'breath'. The variant [t], on the other hand, is probably used when the VI interdental is not yet well mastered.

The variant [s] does not occur very frequently in the substitutions of [ð]. However, many learners use it in the pronunciation of the preposition 'with' (*[s] 32, *[t] 18).

It should be noted that the phoneme /ð/ is mainly replaced by the variants found in the substitutions of the phoneme /θ/. They are [t], [f] and [s] which replace [ð] in a range of 76, 70, and 36 occurrences respectively. Besides those variants, [θ] also replaces [ð] with 73 occurrences.

It is evident that each learner uses his own strategy for the substitutions. These strategies are based on associations within L2 or across L1. The word 'rhythm', for instance, is sometimes pronounced *'rɪθəm or *'rɪtəm . In the first mispronunciation, the cluster th is pronounced

[θ], reflecting an intralingual error. The second mispronunciation has probably its source in the spelling th.

4.4.1.3. PRONUNCIATION PROBLEMS WITH THE NASAL /ŋ/

Table 4.30 The most frequent substitutions for [ŋ].

	[ŋg]			Ø			OTHERS			
	Text	Word	Interv.	Text	Word	Interv.	Text	Word	Interv.	T.1
2nd sem.	23	24	11	1	1	--	2	2	--	64
4th sem.	18	22	8	1	--	--	--	1	--	50
6th sem.	14	18	9	--	3	9	--	4	1	58
8th sem.	18	22	14	1	1	8	3	1	2	70
T.2	201			25			16			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent contexts and possible sources:

1. [ŋ] → [ŋg] or Ø / a) ng, ngue #

E.g. young, king, something, tongue

/ b) ng + suffix #

E.g. singer, bringing

It seems evident that the spelling ng suggests the variant [ŋg] in the words above. This spelling-sound relation is valid for the pronunciation of some English words such as 'longer' and 'finger'. It is possible that the

learners have overgeneralized that association to the words 'singer' and 'bringing', as well as to words which contain the cluster ng in word-final position.

It should be said that I had some difficulty in recognizing which deviant form the learners produced for the medial cluster ng in the words 'singer' and 'bringing' (i.e. *'sĩgər or *'sĩŋgər ; *'brĩg- or *'brĩŋg-), since the difference between the forms of each pair is almost imperceptible when we hear them on a tape recorder. Whenever I was in doubt, the error was classified as having the variant [ŋg], because it covers the nasalization process as well as the velar nasal [ŋ], which is phonetically affected by the velar stop [g], forming an homorganic cluster.

The variant Ø, on the other hand, results from the nasalization process of the preceding vowel and the elision of [ŋ], such as in 'railings' *'rejlĩs , 'wedding' *'ωɛdĩ 'everything' *'ɛvərɪθĩ , etc. The same process occurs with the Portuguese nasals (e.g. 'bingo' ['bĩgu] and 'finca' ['fĩka]), which may have influenced the pronunciation of the English words above.

4.4.1.4. PRONUNCIATION PROBLEMS WITH OTHER CONSONANTS

Table 4.31 Number of errors in other consonantal substitutions.

	Text	Word List	Interv.	T1
2nd semester	65	83	33	181
4th semester	44	62	37	143
6th semester	40	81	36	157
8th semester	32	59	34	125
T2	606			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

Some substitutions are described here because of their high occurrence in the data:

1. [r] → [x] / a) $ ___

E.g. remember, rubbish, bathroom

/ b) in medial position

E.g. learn, marched

/ c) ___ # E.g. finger, their

In some dialects, as the Catarinense one, the Portuguese phoneme /R/ in word initial position is pronounced [x], as in 'rio', 'romaria', etc. Some learners, therefore, seem to have transferred this spelling-to-sound relation to the pronunciation of the English words: 'register', 'remember', 'roses', etc. This phonetic transfer also occurs when the orthographic r is in medial and final positions. The

consonantal cluster rr in the English words 'terrible' and 'arranged' was also pronounced [x], just like in the Portuguese words 'terrível' and 'arranjo'.

2. [r] → [ɾ] / a) $ [obstruent] ___

E.g. shrugged, dread, proof, strange

b) V ___ V

E.g. very, around, original

The use of the tap in the contexts above may be accounted for by L1 transfer. In Portuguese, [ɾ] forms consonantal clusters with stops, as in ['pɾatu] 'prato', ['gɾama] 'grama', and with some fricatives, as in ['fɾevu] 'frevo', [lɐ'vɾadu] 'lavrado'. Besides, the tap occurs between vowels in Portuguese, as in the word 'careca' [kɐ'ɾɛkɐ]. The replacement of [r] by [ɾ] in context (2b) was not considered incorrect, since the sound [ɾ] is regularly used intervocalically within RP (Gimson, 1980:207).

3. [ɾ] → [d] / V́ ___ V E.g. letter, better, water

Owing to the difficulty in recognizing the phonetic and acoustic characteristics of the allophone [ɾ] in this context, some learners replace it by [d], which shares common features with the former, such as point of articulation and voice.

4. [w] → [v] / # ___ E.g. wallet

This replacement seems to reflect NL transfer, because in Portuguese, words beginning in /w/ are pronounced [v], as in the proper nouns 'Walter' and 'Waldir'.

5. [d] → [t] / a) # ___ E.g. does, did

b) ___ # E.g. need, food, sad

The phoneme /d/ in these words becomes VI probably because of either the devoicing process or the slight difference in voice onset time (VOT) between the phonemes /d/ and /t/.

In initial and especially in final positions, following or preceding silence, /b,d,g/ are partially devoiced. not in BP According to Bronstein (1960), full devoicing in those particular positions indicates a foreignism. The replacement of [d] by [t] in word-final position, for example, may be explained by the process called Terminal Devoicing (TD), which is formulated by the following rule: [-sonorant] → [-voice] / ___ # (Eckman 1981:197).

Eckman also remarks that TD is an independent rule when neither NL nor TL motivates ILs for this type of process. Both Portuguese and English do not seem to exhibit such a rule. As to English, Eckman (ibid.) points out that it has phonological contrast in word-final position; however, there is no TD rule.

Speakers of Brazilian Portuguese differentiate Vd /b,d,g/ from VI /p,t,k/ in word-initial and final positions by means of VOT, the interval between the release of the stop and the onset of phonation. It is also probable that the replacement of [d] by [t] in the contexts (5a) and (5b) is due to the similar VOT values between the two stops.

[v] also shares the features of full devoicing in word-initial and final positions. Some learners replaced [v] by [f] in words as 'wives' *wajfs (3), 'conceive' * kẽśif (2), 'village' *filəj (1). Apparently, this case may be explained by the same process described for the [d]-to-[t] substitution. However, this is only a hypothesis. In the function word 'of', on the other hand, the learners tend to be misguided by the spelling and pronounce * ɔf .

6. [d] → [ǰ] / a) $ d + í E.g. difficult, audition
   b) ___ # E.g. child, old

7. [t] → [č] / a) ___ [i,u,ɔ]
   E.g. acoustic, together, story
   b) ___ #
   E.g. taught, let me see

The phonetic substitutions above reflect a phonological process found in the learners' NL. For example, the English words 'difficult' and 'audition' were pronounced with [ǰi]. The vowel [I] is replaced by [i] and the alveolar [d] assimilates the latter, resulting in the allophone [ǰ]. This affrication process may also explain the variant [č] in the words 'acoustic', 'city', etc. In word-final position, the consonants /t/ and /d/ are supported by the high front vowel [i] and become [č] and [ǰ] respectively through affrication. This occurs in the words 'taught', 'let', 'child', 'old', etc, in the subjects' output.

The occurrence of the affrication process in contexts where [t] is followed by [u] or [ɔ] is not very frequent in

Portuguese. It occurs in a few dialects (cf. Chapter 2). It is possible, therefore, that phonological transfer has occurred when the learners pronounced the words 'together' * ʧuˈgɛðər, 'twelve' * ʧuˈɛlv , and 'story' * ˈsʧɔrɪ .

8. [g] → [ʤ] / $ g, gg

E.g. finger, sagged, shrugged

The spelling g or gg represents certain sounds in the TL. One of them is the affricate [ʤ], which is heard in the words 'suggest', sergeant' and 'vegetable'. The substitution process above seems, therefore, to reflect an intralingual error, since the learner overgeneralizes the English [ʤ].

The data contain other consonantal substitutions which are not dealt with, because there are only few cases of each.

4.4.2. ENGLISH VOCALIC PHONEMES

4.4.2.1. PRONUNCIATION PROBLEMS WITH FRONT VOWELS

4.4.2.1.a. MID-HIGH VOWEL /I/

Table 4.32 The most frequent substitutions for [I]

	[i]			ø			OTHERS			
	Text	World	Interv.	Text	World	Interv.	Text	World	Interv.	T.1
2nd sem.	67	51	72	4	6	14	25	35	3	277
4th sem.	60	80	129	10	9	9	22	27	--	346
6th sem.	80	98	223	12	16	23	20	26	2	500
8th sem.	94	88	336	8	16	56	24	27	4	653
T.2	1.378			183			215			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

Two factors may explain the substitution processes shown above. The first one consists of the association between the letter i and the sound it represents in Portuguese, as in 'iludir' [iludir], 'fim' [fĩ], etc.

The replacement of [I] by [i] in stressed positions is much more frequent than in unstressed ones. This is

explained by the larger number of words containing the stressed vowel i in the data.

The phoneme /I/ in the suffix -ing is generally pronounced [ĩ] in words such as 'nothing', 'something', 'railings', etc. Since there is no phoneme /I/ in the Portuguese sound system, the learners resort to the Portuguese high front vowel /i/, which is nasalized when a nasal consonant follows it. Therefore, in the English suffix -ing, the velar nasal [ŋ] nasalizes the preceding vowel, just as in Portuguese.

The second substitution process consists of the elision of the vowel [I] or [ə] in some English words, which causes the formation of consonantal clusters such as [zk] for the word 'music', [st] for 'university', [kts] for 'practice', [ts] for 'criticism', [fs] for 'office', and [fk] for 'difficult'.

This is a form of simplification which occurs when a weak vowel follows a stressed syllable. In colloquial English speech, for example, it is common to find simplifications of this kind. Tench (1981:70) mentions two:

1) The loss of /ə/ after a consonant and before /r,l,n/ in an unaccented syllable immediately after an accented syllable is firmly established in British English

E.g. history /ˈhɪstrɪ/

family /ˈfæmlɪ/

reasonable /ˈriznəbl/

2) /r/ is elided along with an unaccented vowel (usually /ə/) when another /r/ is close.

E.g. library /laɪbrɪ/

february /febrɪ/

In Portuguese there are also cases of elision of an unaccented vowel after a stressed syllable, as for example in:

'lápis' ['lapis] → [laps]

'chácara' ['šakaɾa] → ['šakɾa]

The clusters formed by the elision of the English vowel /I/ are not familiar in Portuguese, except for [st], which occurs only at word boundaries (e.g. 'mais tempo' [majs 'tẽpu]) and for [fk], which is found in the phrase 'vem cá ficar comigo' when it is pronounced in rapid speech: [vẽj kaf ka kú̃igu].

Some of these clusters occur in English words as for example in 'lust', 'acts', 'cats' and 'muffs'. The cluster [zk], however, is found neither in Portuguese nor in English.

The phoneme /I/ or /i:/ in word final position is elided by some learners and devoiced by others. The elision of the final vowel in the words 'city', 'coffee' and 'worthy' along with some other sound substitutions have resulted in homophones with the words 'seat', 'cough' and 'worth'. Besides, there are learners who devoice the final [i:], as in *'siti̥, *'stədi̥, *ju nə'vərsti̥. This process seems to reflect language transfer, since the Portuguese final [i] is

sometimes devoiced in words as 'gente', 'grande', 'pode'. Depending on the dialect, these words are subject to affrication and then, optionally devoiced.

		affrication	devoicing	elision
'gente'	['ʒẽtʃi]	['ʒẽʧi]	['ʒẽʧi̥]	[ʒẽʧ]
'grande'	['gɾɐ̃dʒi]	['gɾɐ̃ʤi]	['gɾɐ̃ʤi̥]	[gɾɐ̃ʤ]

The forms [ʒẽʧ] and [gɾɐ̃ʤ] are considered optional.

4.4.2.1.b. HIGH VOWEL /i:/

Table 4.33 The most frequent substitutions for [i:]

	[I]			[i]			OTHERS			
	Text	Words	Interv.	Text	Words	Interv.	Text	Words	Interv.	T.1
2nd sem.	4	14	12	5	5	4	5	26	1	76
4th sem.	6	8	1	6	4	--	2	10	--	37
6th sem.	5	15	2	1	4	6	--	18	1	52
8th sem.	2	16	10	--	6	9	1	7	--	51
T.2	95			50			71			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The occurrence of the Portuguese [i] in the substitution process is accounted for by the difficulty in producing the English long [i:], since in Portuguese there are no long vowels.

The variant [I] occurs in words such as 'leave', 'deed', 'cheap', 'feel', etc. It is possible that the learners have mixed up the phonemes involved in the minimal pairs, which resulted, therefore, in homophones with 'live', 'did', 'chip' and 'fill'.

There are words, however, which do not form minimal pairs and are pronounced with [I], such as 'leaf', 'thieves', and 'these'. The data reveal that the learners tend to associate the graphic symbols ea, ee, ie, ei and e with the vowel [I]. It is possible, although this is just a hypothesis, that the learner considers the vowel [I] an allophone of the phoneme /i/ in the graphic contexts mentioned above. This hypothesis is suggested because most of the learners use [I] as an alternative pronunciation of [i]. The examples below illustrate the frequency of occurrence of each variant:

peanut	* [I] 4	leave	* [i] 5
	* [i] 2		* [I] 3
thieves	* [I] 7	these	* [i] 8
	* [i] 5		* [I] 4
beaches	* [I] 7	week	* [I] 6

Another variant used in the substitution process of the English [i:] is [ɛ], which was pronounced in the words 'ether' and 'athlete'. These words share graphic and semantic similarities with the Portuguese equivalents 'éter' and 'atleta', which are pronounced with [ɛ]. It seems evident, therefore, that the replacement of [i:] by [ɛ] in

these English words may have its source in the phonology of the equivalent Portuguese items.

4.4.2.1.c. LOW VOWEL /æ/

Table 4.34 The most frequent substitutions for [æ]

	[a]			[ɛ]			OTHERS			
	Text	World	Interv.	Text	World	Interv.	Text	World	Interv.	T.1
2nd sem.	1	18	5	3	7	--	3	17	1	55
4th sem.	--	4	1	7	6	--	3	24	3	48
6th sem.	1	10	2	2	8	--	6	31	9	69
8th sem.	4	10	2	2	9	9	8	24	11	79
T.2	58			53			140			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent context and possible sources:

1. [æ] → [a] or [ɛ] / a´

E.g. actual, bachelor, grabbed, shallow, lack

The orthographic symbol a has suggested two types of association. One reflects the spelling-sound relation derived from the learners' NL. In Portuguese the letter a in stressed position is pronounced [a]. Therefore, the replacement of [æ] by [a] in words such as 'actual',

'attack', and 'lashes' may result from the influence of this association.

It is interesting to note that when the vowel [a] is followed by the nasal consonants [m], [n] or [ŋ], the learners tend to replace [æ] by [ɛ] or [ã]. The latter occurs less frequently.

E.g.	[ɛ]		[ã]	
		jam		bamboo
		handbag		anthology
		bank		answer
		anxious		angry

The nasalized vowel [ã] in the words above suggests NL transfer, because in Portuguese it also occurs in similar contexts, as in 'lâmpada', 'tanto', ângulo', etc.

The second type of association reflects a spelling -sound relation in English: the graphic symbol a may be pronounced [ɛ] in words such as 'stare' and 'scarce'. However, it is probable that because of the relatively marked nature of [æ], the learners resort to the vowel [ɛ], which is perceptually closer to the former. Besides, [ɛ] is a familiar sound to the learners, since it belongs to the Portuguese sound system.

The variants [ɛ] and [a] differ in frequency of occurrence, depending on the word. For example:

valid	*	[a]	3	sagged *	[a] 4
	*	[ɛ]	1	*	[ɛ] 1
grabbed	*	[a]	4	gas *	[ɛ] 5
	*	[ɛ]	1	*	[a] 2

In the word 'laughed', [æ] is replaced either by [ɔ] as in *lɔft, *'lɔgəd, *'lɔθɪd, etc, or by the diphthong [aw], resulting in the mispronunciations *'lawgɛt, *'lawnɛt, etc. In the first case, the learners overgeneralize the vowel [ɔ] to the spelling au, since this association is possible with words such as 'taught' and 'laundry'. In the second case, the learners are influenced by their NL spelling, because in Portuguese the diphthong /au/ is always pronounced [aw].

4.4.2.1.d. MID VOWEL /ɛ/

Table 4.35 The most frequent substitutions for [ɛ].

	[æ]			[i]			OTHERS			
	Text	Words	Interv.	Text	Words	Interv.	Text	Words	Interv.	T.1
2nd sem.	2	4	6	3	11	--	8	5	3	42
4th sem.	10	13	14	2	10	--	4	5	8	66
6th sem.	10	6	1	2	11	--	6	6	4	46
8th sem.	6	3	4	1	9	--	6	12	6	47
T.2	79			49			73			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The replacement of [ɛ] by [æ] contradicts CA theory as well as the markedness considerations, because the English

[ɛ] is not expected to cause difficulty to the learners, since it has a similar phonetic status to the Portuguese [ɛ]. Even the letter e in the words 'left' and 'guess' did not suggest positive transfer. The graphic and phonetic similarities between the English and the Portuguese /ɛ/ do not seem, therefore, to prevent the learners from making a segmental error.

In the minimal pair 'sad/said', the learner tends to pronounce [sæd] for both words. The tendency to replace [ɛ] by [æ] may be accounted for by overgeneralization in the direction of [æ], a very salient and focused on segment in the English language learning process.

The variant [i], on the other hand, is also used to replace [ɛ], such as in 'leaden', 'dread', 'ledger', etc. It is probable that the learner has followed the English spelling system and associated the graphic symbols ea and e with the vowel [i]. This overextension of analogy often occurs in the learners' IL. There are learners, however, who use the variant *[ɪ] rather than *[i] or *[æ] in the words above. This preference may be explained by the hypothesis proposed on page 166: the English vowel [ɪ] generally occurs in the graphic contexts ea, ee, ie, ei and e, replacing either [i:] or [ɛ] depending on the word. Because of that, [ɪ] will be considered a free variant of either /i/, /ɛ/ or /æ/, since these vocalic phonemes occur along with [ɪ] in the learners' mispronunciations.

The frequence of occurrence of each variant is given

below:

leaden	* [æ]	1	measure	* [æ]	-
	* [ɪ]	21		* [ɪ]	8
	* [I]	1		* [I]	4
dread	* [æ]	7	ledger	* [æ]	2
	* [ɪ]	5		* [I]	4
	* [I]	5		* [I]	-

In the word 'leaden', most learners tend to replace [ɛ] by [ɪ] probably because of the words 'lead' (v) and 'leader', which are pronounced with [ɪ:] and share orthographic similarity with 'leaden'. This faulty association of items within the TL results in an intralingual error.

The variant [æ] is perceptually closer to [ɛ] than the other variants used in the substitution processes above. The replacement of [ɛ] by [æ] may be explained by the acoustic similarity between the two vowels. On the other hand, the replacement of [ɛ] by either [ɪ] or [I] may result from a spelling-to-sound association in the TL, which is overgeneralized to other contexts. Those substitution processes reflect, therefore, intralingual errors.

In the word 'their', two mispronunciations were detected: *ˈdejər and *dɪr . In the first one, the diphthong [ej] results from spelling influence. The schwa sound is introduced to ease the transition of [ej] to [r].

4.4.2.2. PRONUNCIATION PROBLEMS WITH BACK VOWELS

4.4.2.2.a. MID-HIGH VOWEL /U/

Table 4.36 The most frequent substitutions for [U].

	[u]			[ə]			OTHERS			
	Text	W L words	Interv.	Text	W L words	Interv.	Text	W L words	Interv.	T.1
2nd sem.	19	6	22	10	2	6	4	1	2	72
4th sem.	33	12	37	5	1	8	--	--	--	96
6th sem.	20	14	42	2	--	--	--	1	--	79
8th sem.	16	13	56	6	1	--	--	--	--	92
T.2	290			41			8			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

As the phoneme /U/ does not exist in the Portuguese sound system, the learners tend to resort to their native vowel [u].

The replacement of [U] by [u] in the English words containing the orthographic u reflects a spelling-to-sound relation existing in the learners' NL. The variant [ə], on the other hand, is also produced in this particular graphic context. In this case, the learner overgeneralizes the vowel [ə] to the graphic symbol u, which results in an intralingual error.

The variants [u] and [ə] occur in the same phonological contexts, although the number of occurrences of each one differs according to the word. For example:

looked	* [u] 22		full	* [u] 12	
	* [ə] 4			* [ə] 3	
book	* [u] 35		bushes	* [u] 1	
	* [ə] 2			* [ə] 15	

4.4.2.2.b. HIGH VOWEL /u:/

Table 4.37 The most frequent substitutions for [u:].

	[ə]			[ow]			OTHERS			
	Text	Words	Interv.	Text	Words	Interv.	Text	Words	Interv.	T.1
2nd sem.	--	12	--	--	8	--	5	14	--	39
4th sem.	1	5	1	--	8	--	4	8	--	27
6th sem.	--	6	--	--	9	--	4	12	--	31
8th sem.	1	6	--	1	3	--	3	13	5	32
T.2	32			29			68			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The variants [ə] and [ow] used to replace the high back vowel result from false analogies drawn from the English spelling of the words.

The orthographic u in the words 'tune', 'brute', 'rude' and 'juice', for example, is generally pronounced [ə] on account of the overgeneralization of this spelling-to-sound relation, which is found in words such as 'but', 'buck' and 'bud'. Another example of overgeneralization is the association made between the spelling o and the sound [ow] in the word 'lose'. The learners have extended the pronunciation pattern of words such as 'rope' and 'home' to an item of similar spelling.

In the word 'acoustic', several possibilities of association may occur: * [ow] 4

* [ɔ] 3

* [ə] 2

The variant [ow] reflects the spelling ou, just as in Portuguese. [ɔ] and [ə], on the other hand, result from overgeneralizations of spelling-sound relations within the TL. English words containing the spelling ou may be pronounced either [ɔ] or [ə], such as in 'bought' and 'enough' respectively.

In the word 'ooze', the spelling oo is produced either as [ow] or as [U]. The first variant may reflect the same analogy drawn for the word 'lose'. The variant [U] in turn reflects the pronunciation of the sequence oo found in the words 'book' and 'cook'.

It is interesting to note that the same learner pronounces the sequence ew differently according to the contextual style. In the text reading, for example, the word

'threw' is pronounced * θri by D2, F2, B6, C6 and E6. The replacement of [u:] by [i] may be accounted for by the learners' limited orthographic awareness during the reading of the text. They may have thought of the word 'three' when they pronounced 'threw', since these words share some graphic similarity. It is also possible, however, that the learners have simply associated the spelling ew with the sound [i].

In the isolated word reading style, the word 'chew' was pronounced * ʧew by D2, B6, C6 and * ʧju by F2 and E6. The learners' pronunciation tends to be based on the spelling, since this type of contextual style involves a more careful reading and a close attention to the sequence of phonemes in the word.

4.4.2.3. PRONUNCIATION PROBLEMS WITH OTHER VOWELS

Table 4.38 Number of errors in other vocalic substitutions.

	Text	Word List	Interv.	T1
2nd semester	19	31	21	71
4th semester	30	52	32	114
6th semester	23	46	52	121
8th semester	52	70	63	185
T2		491		

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

1. [ɔ] → [aw] / au, ou E.g. audition, taught, thought

The replacement of [ɔ] by [aw] in the words above is certainly caused by the spelling. For the same reason, in the word 'thought', the variant [ow] occurs more frequently than the variant [aw].

Contrary to the spelling-oriented pronunciation, there are learners who pronounce [aw] for the sequence ou (as in 'thought') and conversely, [ow] for the sequence au (as in 'exhausted' and 'taught').

The frequency of occurrence of each variant shown below illustrates the possible associations which the sequences ou and au may generate.

thought	* [ow] 7	exhaust	* [ɔw] 7
	* [aw] 3		* [aw] 5
	* [ɔw] 3		* [ow] 3

In the word 'cloth', the learners tend to follow the same pronunciation pattern of the words 'close' and 'home'. The association process between the orthographic o and the sound [ow] existing in the TL is overgeneralized, causing an intralingual error.

2. [ej] → [ɛ] or [æ] / a, ai, ei (+ nasal)

[ej] → [ã] / a + nasal

The occurrence of the variants [ɛ] and [æ] varies according to the word. For example:

strange	* [ɛ] 8	arranged	* [æ] 8
	* [æ] 6		* [ɛ] 4

plain	* [ɛ]	8	obtain	* [æ]	4
	* [æ]	5		* [ɛ]	2
beige	* [ɛ]	2	nature	* [æ]	5
	* [æ]	1		* [ɛ]	1

It is possible that the emphasis given to the phoneme /æ/ in the learning process has caused the learners to overuse it. This probably explains the high occurrence of this vowel rather than the vowel [ɛ] in some of the words above. There are learners, on the other hand, who pronounce [ã] in words containing the vowel a followed by a nasal, as for example in 'arranged' (9) and 'strange' (4).

In the word 'beige', [ej] is replaced either by [æ] or by [ɛ]. No matter which of the two variants the learner has used, either a TL sound or a NL sound, s/he was probably influenced by the Portuguese word 'bege', which is pronounced with [ɛ]. This association of items result in an interlingual error.

It is interesting to note that the variants [æ] and [ɛ] also occur together in other phonological contexts.

For example: [a] → [æ] or [ɛ] / bilabial + á + r

partial	* [ɛ]	5	marched	* [æ]	3
	* [æ]	2		* [ɛ]	1

In the words 'partial', 'part', and 'apartment', the vowel [ə] also replaces [a], although there are few occurrences.

In the word 'wallet', [ɔ] is replaced either by [ɛ] (as in * ˈvɛlɪt), by [æ] (as in * ˈvælɪt), or mainly by [a] (as

in *ˈvælɪt). The first two substitutions reflect an intralingual error, while the variant [a] reflects NL transfer, because in Portuguese the stressed orthographic a is generally pronounced [a].

The substitution processes which involve the variants [ɛ] and [æ] share the same graphic symbol: the a. In English, it may be pronounced either [ɛ] in words such as 'many', 'fare', etc, or [æ], such as in 'marry', 'sad', etc. It is probable, therefore, that the learners have extended this spelling-sound relation to other words which contain the graphic symbol a.

Other vocalic substitutions are found in the data but they are not within the scope of this study.

4.4.3. ALLOPHONES

4.4.3.1. PRONUNCIATION PROBLEMS WITH THE ASPIRATED VL STOPS

4.4.3.1.a. THE ASPIRATED [p^H]

Table 4.39 The most frequent substitution for [p^H].

	[p^o]			
	Text	Word List	Interv.	T1
2nd sem.	5	15	2	22
4th sem.	9	14	4	27
6th sem.	31	48	16	95
8th sem.	7	30	35	72
T.2		216		

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent context and possible sources:

1. $[p^H] \longrightarrow [p^o] \; / \; \$ \; p + \acute{V}$

E.g. parked, apartment, package, published, Portuguese, important

In Portuguese there are no aspirated VL stops, therefore, the learners resort to the unaspirated [p^o, t^o, k^o] in the substitution process.

4.4.3.1.b. THE ASPIRATED [t^{H}]

Table 4.40 The most frequent substitutions for [t^{H}].

	[t°]			[č]			OTHERS			
	Text	W L Word	Interv.	Text	W L Word	Interv.	Text	W L Word	Interv.	T.1
2nd sem.	2	10	12	1	3	2	--	2	--	32
4th sem.	10	10	12	2	3	17	--	2	--	56
6th sem.	14	19	38	--	1	17	--	1	--	90
8th sem.	12	16	49	--	2	24	--	--	--	103
T.2	204			72			5			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent contexts and possible sources:

1. [t^{H}] → [t°] / $ t + V́

E.g. taken, potato, attack, took, taught

2. [t^{H}] → [č] / $ t + [j, í, u, ɔ]

E.g. tune, teacher, took, torture

Words produced with stress shift, such as * Sə́mtajmz, were not disregarded, because we want to find out whether the learner can apply the aspiration rule to the VL stop [t]. The result indicates that few learners aspirate [t] in initial position in accented syllables.

The data also reveal that both aspirated and unaspirated [t] replace [θ] in many ILs. D6, for example, pronounces with [t^H] the words 'anthology' and 'thousand', while 'thunderbolt' and 'thoughtful' are pronounced with [t^o]. The use of these variants does not seem to be rule governed. Besides, it is very probable that the learners are not aware that they are pronouncing the aspirated variant. The lack of consistency in the use of [t^H] and [t^o] in the data shows that the learner has not acquired full mastery of the aspiration rule.

The variant [č] occurs in contexts where [t] is followed by a back vowel, as in 'torture' *'čɔrčər , 'took' * čuk , etc. There is a phonological rule in Portuguese, which characterizes the speech of the people from the interior of Florianópolis island as well as some dialects in the northeast of Brazil. Words such as 'muito' and 'oito' are pronounced ['mũjču] and ['ejču] in these places. The existence of a phonological process like this in Portuguese might explain the replacement of [t^H] by [č] in the English words above. However, this is only a tentative explanation.

When the phoneme /t/ is followed by the high front vowel [i] or the palatal [j], the learners tend to apply the affrication rule. This is a quite common phonological process in Portuguese, which has certainly influenced the pronunciation of English words as 'tune' *čjun , 'teacher' *'čičər , 'tunnel' *'čjunew and 'boutique' * bu'čik .

The word 'tune' was also pronounced * ʧun . In this case, the phoneme /t/ assimilates the palatal [j] resulting in the coalesced form [ʧ].

4.4.3.1.c. THE ASPIRATED [k^H]

Table 4.41 The most frequent substitution for [k^H].

	[k°]			
	Text	Word List	Interv.	T1
2nd sem.	2	3	--	5
4th sem.	11	3	5	19
6th sem.	10	7	11	28
8th sem.	7	5	16	28
T.2		80		

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The most frequent context and possible sources:

1. [k^H] → [k°] / $ k + V́

E.g. card, account, discover, course

Just like the phonemes /p/ and /t/, /k/ has an aspirated variant which causes difficulty to the learners. As it does not exist in the Portuguese sound system, the learners resort to their native [k°].

Ingram (1986) points out that English speakers hear unaspirated VL stops as VD ones. In other words, [p,t,k] become [b,d,g], when aspiration is lacking. Therefore, some

English words such as 'parked', 'pay', 'time' and 'came' may be heard as 'barked', 'bay', 'dime' and 'game', if the learners do not aspirate the VI stops correctly.

4.4.4. ALLOMORPHS

4.4.4.1. PRONUNCIATION PROBLEMS WITH PAST ALLOMORPHS

4.4.1.1.a. ALLOMORPH [-t]

Table 4.42 The most frequent substitutions for the allomorph [-t].

	[-Id]			Ø			OTHERS			
	Text	Words	Interv.	Text	Words	Interv.	Text	Words	Interv.	T.1
2nd sem.	8	10	2	5	1	--	2	9	--	37
4th sem.	10	7	1	2	4	--	3	8	--	35
6th sem.	9	16	3	--	2	--	4	3	1	38
8th sem.	3	3	4	--	2	--	5	7	1	25
T.2	76			16			43			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

4.4.4.1.b. ALLOMORPH [-d]

Table 4.43 The most frequent substitutions for the allomorph [-d].

	[-Id]			Ø			OTHERS			
	Text	Words	Interv.	Text	Words	Interv.	Text	Words	Interv.	T.1
2nd sem.	15	25	10	4	--	--	3	9	3	69
4th sem.	7	18	8	7	4	--	3	10	--	57
6th sem.	17	24	6	3	2	--	2	11	1	66
8th sem.	9	15	7	1	3	--	6	8	1	50
T.2	161			24			57			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

Only the allomorphs [-t] and [-d] are analyzed in this study. The allomorph [-Id] was disregarded, because the learners are able to extend this form to the verbs ending in [t] and [d]. In this case, the spelling -(e)d serves as a positive visual sign.

The substitution processes shown in tables 4.42 and 4.43 reveal that the learners make use of two main strategies for the pronunciation of the morpheme -(e)d. The first one is based on the spelling, which suggests the use of an epenthetic vowel between the consonantal cluster (e.g. 'loved' *-vɪd and 'dumped' *-pɪd). Other vowels rather

than [I] are also heard in the learners' IL. They are [ɛ], [ə] and [i].

The difficulty in pronouncing the consonantal clusters formed by the addition of the morpheme -(e)d may explain the Portuguese CVC pattern. As Tench (1981:66) puts it "problems concerning consonant clusters are usually simply a problem of articulation". However, I believe that these intrusive sounds are actually the result of a spelling-oriented pronunciation. The orthographic symbol e suggests the addition of a vocalic segment.

Some of these consonantal clusters are found in Portuguese at syllable boundaries, as in the words 'subdito', 'captou', 'factual', 'afta'. Although these sequences are possible in Portuguese, they have a different phonetic effect if compared with the English finals [bd], [pt], [kt] and [ft]. According to Cagliari (1986:108), these consonantal clusters in Portuguese have no fixed form, so they can be modified either by an epenthetic [i] or not. The word 'factual', for example, may be pronounced either [fakituáw] or [faktuáw] depending on the speaker.

Generally, the learners tend to preserve the Portuguese CVC pattern as a means of reducing the complexity of certain English clusters. The sequences -rl- and -dth- in the words 'world' and 'width', for instance, are considered difficult to pronounce, because they are not found in Portuguese. In order to simplify the pronunciation of these words, the

learners tend to use one of the following strategies: 1) to pronounce an epenthetic vowel between the cluster (e.g. *ˈwɪdɪθ: [ɪ] insertion); 2) to eliminate one sound of the cluster (e.g. *wərd : [ɪ] elision, *wɪd : [θ] elision); 3) to replace one element of the cluster (e.g. *wθwd [ɪ] → [w] and [r] elision, *wɪdt [θ] → [t]); and 4) to replace the cluster by a single sound (e.g. *wɪð [dθ] → [ð]).

The replacement of the allomorphs [-t] and [-d] by ∅ characterizes the second strategy used by the learners, which is called 'avoidance strategy'.

According to Ferguson (1979:195), individual adult and child phonologies exhibit preferences and avoidances. Sometimes a child may avoid saying words containing certain difficult sounds. It is probable, therefore, that the learners avoid pronouncing the morpheme -(e)d, because of their lack of security in applying the correct phonological rule for the formation of the -ed form.

The data indicate that the zero allomorph in the text reading represents 15,28%, while the percentage in the isolated word reading is of 13,89%. In the interview part, on the other hand, the learners hardly ever use the past tense. They favour the present tense even when refering to past events.

In the text reading, the learners elide the morpheme -(e)d probably because of their careless reading. This is an unconscious process, the opposite of the avoidance strategy,

which seems to be a conscious way of eliminating pronunciation problems.

The verbs 'phoned' and 'informed' in the text are followed by the definite article 'the'. Owing to the difficulty in pronouncing the sequence [d] and [ð], resulting from the pronunciation of the past morpheme and the following th in 'the', the learners unconsciously apply the dissimilation process to break up the similarity between these two sounds. In other words, the allomorph [-d] is dropped and [ð] is replaced by [d], which is expected to occur. As a result, the learners pronounce ˈfəʊn dɪ and ɪnˈfɔrm dɪ. The elision of the past morpheme in these verbs was not considered a segmental error, because even English native speakers dissimilate contexts like that in rapid speech.

Comparing the total number of errors in table 4.42 with that in table 4.43, we come to the conclusion that the allomorph [-d] causes more difficulty than the allomorph [-t]. However, this is not true, because the learners do not apply the rule formation to both allomorphs, they simply create a general phonological rule on the basis of the spelling -ed. As a result, the extended form [vowel + d] becomes a productive rule, which prevents the evaluation of the degree of difficulty between the acquisition of the allomorphs [-t] and [-d].

4.4.4.2. PRONUNCIATION PROBLEMS WITH PLURAL ALLOMORPHS

4.4.4.2.a. ALLOMORPH [-z]

Table 4.44 The most frequent substitutions for the allomorph [-z].

	[-s]			Ø			OTHERS			
	Text	World	Interv.	Text	World	Interv.	Text	World	Interv.	T.1
2nd sem.	22	23	16	4	--	--	--	--	--	65
4th sem.	37	29	15	5	2	--	1	2	--	91
6th sem.	32	34	40	6	--	--	--	--	1	113
8th sem.	22	26	66	--	--	--	--	1	--	115
T.2	362			17			5			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

4.4.4.2.b. ALLOMORPH [-Iz]

Table 4.45 The most frequent substitutions for the allomorph [-Iz].

	[-Is]			[s]			OTHERS			
	Text	Words	Interv.	Text	Words	Interv.	Text	Words	Interv.	T.1
2nd sem.	6	17	10	3	4	--	2	4	--	46
4th sem.	8	22	6	1	2	1	1	2	--	43
6th sem.	6	21	5	3	4	--	2	5	--	46
8th sem.	3	16	3	3	6	2	2	2	--	37
T.2	123			29			20			

T.1 = Total of substitutions per semester
T.2 = Total of substitutions per variant

The plural morpheme has 3 allomorphs: [-s], [-z] and [-Iz]. The first one is used after Vl sounds, except for [s]. The clusters formed by the addition of this allomorph do not cause much difficulty to the learners; therefore, they were disregarded. The allomorph [-z], on the other hand, is used after Vd sounds, except for [z]. [-Iz] in turn forms a separate syllable and is used after the sibilants [s,z,ʃ,ʒ,ʧ,ʤ].

In table 4.44, the allomorph [-z] is replaced by [-s] probably because of the influence of the graphic symbol s, which suggests the pronunciation [s]. For example, 'clubs'

*klɔbs, 'knows' *nɐws, etc.

Considering the influence of the orthographic system on the learners' pronunciation, the morpheme -es in the words 'does', goes', 'thieves' and 'wives' would be pronounced *[-es]. However, they prefer *[-s], which is perceptually closer to the correct pronunciation of the morpheme in these words.

The replacement of the allomorph [-z] by Ø, which occurs mainly in the text reading activity, may result from a careless reading. The learners ignore the marked element in the word, that is, the plural morpheme, and pronounce the singular form, as if it were already in the plural.

Table 4.45 shows that most learners are able to apply the extensive form to words ending in [s,z,š,č,j]. The data do not provide examples of words ending in [ž] followed by the -(e)s morpheme.

The element [z] in the [-Iz] allomorph is generally replaced by [s], resulting in the following mispronunciations *'kɪsɪs, *'bʊšɪs, *'rɐwzɪs, etc. The spelling -es has certainly contributed positively to the extended form but negatively to the use of [s]. The problem lies in the lack of ability to produce the voice contrast between [s] and [z] in word-final position.

Some pronunciations are not apparently motivated by the spelling, as in 'wages' *wejjs, 'approaches' *ɔ'prɐwčs and 'lashes' *'læšs. The learners consider only the element [s] in the morpheme -es. Although there are a few

cases like that in the data, the learner opts for the [-s] form, which represents the more general phonological rule in the formation of noun plurals.

It is interesting to note that when [s] is pronounced after [ʃ], the latter sometimes becomes [d], as in 'wages' * wejdS and 'ages' * ejdS .

The occurrence of a Vd sound before the morpheme -(e)s does not seem to inhibit the use of [s]. This is the case of the word 'wages', which had the following mispronunciations: * wejgs , * wejžs , * wejʃs .

CONCLUSION

In general, a sound substitution does not result from the inability to produce the correct phoneme. The data reveal that most learners know how to articulate all the English sounds, including those which do not belong to the learners' phonological system. The difficulty lies (a) in the interrelation between the segment and the several contexts in which it occurs, (b) in contrasting the Portuguese and the English sounds, (c) in contrasting the sounds within the target language. Therefore, the learners' difficulty does not seem to be the lack of knowledge of a segment but the use and the command of the segment in their output.

According to the error analysis, two main factors contribute to trigger sound substitution:

1. The graphic context.

The learners tend to associate the graphic symbol with the sound it represents in either the NL or the TL. E.g. 'remember' (English [r] becomes Portuguese [x]), 'worthy' (English [ð] becomes English [θ]).

The number of variants in the substitution process of each phoneme is generated by the several possibilities of association suggested by the graphic symbol. Among these possibilities, each learner chooses his/her own. Sometimes the learners' acquaintance with the English vocabulary may

help them produce a variant perceptually closer to the correct phoneme. There are variants, on the other hand, which result from word associations. When an English word shares orthographic and/or semantic similarities with another English item or with an equivalent Portuguese item, the learners tend to resort to the phonology of these equivalent words. In the word 'ether', for instance, [θ] is replaced by [ð], probably because of its similarity with the English item 'either'.

2. The phonological context

Some segmental errors occur as a result of the phonological context. For example, in words such as 'difficult' and 'audition', the learners apply the affrication rule. There are learners, on the other hand, who pronounce these words according to the graphic context, without being influenced by the assimilation process.

Depending on the context, the learners follow phonological processes found either in their NL (as the affrication process), or in both Portuguese and English (as the voicing assimilation process). There are phonological rules that occur neither in the NL nor in the TL. They are 'natural phonological processes' found in other languages or they are simply patterns created by the learners. For example, in the words 'food' and 'need', the phoneme /d/ becomes [t] probably owing to the terminal devoicing process.

Contrary to what the strong version of CA theory claims, most of the substitution processes observed in the corpus are mainly generated by similar linguistic factors existing in the target item and its equivalent form in the learner's NL. Therefore, similarities more than differences have activated NL transfer. This is also true as regards over-generalizations. Sometimes these similarities have resulted in correct pronunciations but generally they have caused deviant pronunciations.

Substitution processes verified in the first semesters have persisted into the advanced ones. Their frequency of occurrence varies according to the semester and to each phoneme.

Two different statistical treatments are given to the present data to see whether the residual errors persist at an increasing or decreasing rate or whether they remain at the same rate throughout the semesters (see appendix VIII). For that, the semesters are grouped into the following pairs: 2nd and 4th, 4th and 6th, 6th and 8th, and 2nd and 8th.

The first statistical treatment was based on 'Paired Comparisons' (Gibra, 1973 :265/9). It shows that the difference in frequency of occurrence of errors of one semester in relation to the other is insignificant. For example, the number of errors involving the phoneme /č/ that occurred in the 2nd semester is about the same as the number of errors involving the same phoneme in the 8th semester.

This is indicated by the sign =. This result is valid not only for the phoneme /č/ but also for the following phonemes: /ǰ,ž,s,θ,ð,ŋ,æ,i:,ɛ,U,u:/, for the past allomorphs, for the plural allomorph [-Iz], for other consonantal/vocalic substitutions and for the cases of insertion and èlision. Therefore, we can conclude that the number of errors involving these sounds in the 2nd and in the 8th semesters isolatedly is almost the same.

The only phoneme that has a decreasing amount of error in the 8th semester in relation to the 2nd one is /š/. On the other hand, the sounds which show an increasing amount of error in the 8th semester are [z,I,p^H,t^H,k^H] and the plural allomorph [-z].

The second statistical treatment gives the ratio of segmental errors between the paired semesters. The numbers provided by this treatment do not prove to have complete scientific rigour. Therefore, they will not be dealt with. Despite that, the procedures followed in this statistical treatment are explained so that the reader may understand the numbers provided in appendix VIII.

The ratio was calculated through the function:

$$K = \frac{X1 - X2}{S2}$$ in which

X1 = total number of errors of a particular phoneme of the semester below the one with which the comparison is made. For example, the phoneme /θ/ in the 2nd and 4th semesters, X1 = errors concerning /θ/ in the 2nd

semester.

X2 = total number of errors of a particular phoneme of the semester above the one with which the comparison is made. Taking the same example above, X2 = errors concerning /θ/ in the 4th semester.

S2 = deviation of errors of a particular phoneme of the semester above the one with which the comparison is made. E.g. S2 = deviation of errors concerning /θ/ in the 4th semester.

K is positive when X2 is lower than X1. Conversely, K is negative when X2 is higher than X1. The higher the positive result of K is, the greater the difference in errors between the 2 semesters in comparison will be. On the other hand, the lower the negative result of K is, the greater the difference in errors between the 2 semesters in comparison will be.

K = 0 when the total number of errors in each semester is the same.

K = ∞ when the number of errors is the same for each student in the semester above the one with which the comparison is made.

Based on the results of the first statistical treatment, one may conclude that although efforts were made to help the subjects eliminate their segmental errors, these efforts were not enough, since it was expected that the subjects would gradually improve their English until they reached the 8th semester in a process of phonological

development. What should be done to remedy residual segmental errors then?

As a suggestion, there should be used systematic pedagogical procedures beginning at the early stages. These procedures would include the application of remedial materials and activities as well as techniques capable of widening the learners' phonological awareness. Some of these activities are suggested by the subjects in this research (see table 4.18). Reading aloud, for example, is a supporting remedy which could help the students improve their pronunciation. However, this activity per se does not contribute much to that. It should involve the teacher's participation as to the treatment and the correction of errors. The errors identified, for example, should be the object for further pronunciation exercises. As for error correction, Cathcart and Olsen's (1976:52) questionnaires reveal that students want to be corrected even "more than teachers feel they should be" (in Hahn, 1987:8). However, any correction should require much care so as not to create a negative psychological effect upon the students.

Another activity mentioned by the subjects is exercises with minimal pairs, which is valid for the discrimination of sound differences. Considering the subjects' answers in table 4.20, we can find a number of pedagogical suggestions to improve the oral expression classes as well as the learners' pronunciation.

As motivating remedial materials, there are pronunciation games, communicative exercises in which the problematic segment is used in output, written materials for transcription, songs which contain the segments which cause difficulty to the learners, dictation, etc. Some existing books and articles on pronunciation can help the teacher design his own remedial materials (some are mentioned in the suggested bibliography). It is important to note, however, that pedagogical materials should be designed according to the particular needs of each learner or group of learners.

Preparing a systematic remedial program on segmental phonology is not an easy task, because it requires not only the detecting of errors and the study of their source but also error treatment and correction. The latter requirements deserve further research.

APPENDIX I - QUESTIONÁRIO

Este questionário foi elaborado com a finalidade de prover informações sobre a formação do aluno em língua inglesa. Sua resposta será de grande valia para proporcionarmos uma melhoria no programa, portanto, contamos com a sua compreensão e colaboração. Por favor, preencha o questionário de forma clara e legível.

1. Nome:
2. Fase:
3. Data de nascimento:
4. Telefone:
5. Lugares onde morou antes de vir a Florianópolis:

6. Estudou inglês antes de ingressar na universidade?
   ( ) não ( ) sim
   Onde? Por quanto tempo?
   ( ) 1o. Grau? ( )
   ( ) 2o. Grau ( )
   ( ) Curso Particular? ( )
   Nome do curso:

   Níveis:

   ( ) Prof. particular? ( )
   ( ) Outros:

7. Você já viajou para o exterior?
   ( ) não ( ) sim
   Em que país esteve?
   Com que finalidade?
   ( ) Acadêmica
   ( ) Turística
   ( ) Outras:
   Por quanto tempo?

8. Frequentou algum curso particular depois de ingressar na universidade?
   ( ) não ( ) sim
   Nome do curso:

   Nível:
   Por quanto tempo?

9. Gosta de estudar inglês?
   ( ) não ( ) sim

Quanto?
( ) Muito
( ) Bastante
( ) Pouco
( ) Muito pouco

Justifique:

10. Em sua opinião até que ponto as pessoas abaixo consideram o ensino de língua inglesa importante: Escolha um número da relação seguinte e preencha os parênteses de acordo com a avaliação que lhe convier.
    4= muito importante
    3= bastante importante
    2= pouco importante
    1= não importante

( ) a) Sua família
( ) b) Seus amigos
( ) c) Seus professores
( ) d) A sociedade em geral
( ) e) Você

11. Sente-se motivado a aprender a língua inglesa?
    ( ) não ( ) sim
    O que o faz sentir motivado?
    ( ) O curso em si
    ( ) A obtenção de um diploma
    ( ) O gosto pela língua inglesa
    ( ) Outros:

12. Ensina inglês atualmente?
    ( ) não ( ) sim
    Onde?
    Há quanto tempo?
    Quantas horas semanais?
    Em que nível?
    Está satisfeito?
    ( ) não ( ) sim

Justifique:

13. Ensinava inglês anteriormente? (mas agora não ensina mais)
    ( ) não ( ) sim
    Onde?
    Por quanto tempo?

Quantas horas semanais?
Em que nível?
Ficou satisfeito?
( ) não ( ) sim

Justifique:

14. Exerce alguma profissão além de professor de língua inglesa?
( ) não ( ) sim
Qual?

15. Exerceu alguma profissão antes de ingressar no Curso de Letras?
( ) não ( ) sim Qual?

16. Tem algum diploma de curso superior?
( ) não ( ) sim
Especifique:

17. Algum membro de sua família fala inglês?
( ) não ( ) sim

18. Como é feito o seu contato com a língua inglesa?
( ) música ( ) conversa com falantes nativos
( ) filmes ( ) conversa com falantes não-nativos
( ) leitura ( ) membro de sua família
( ) sala de aula ( ) emprego
( ) outros:

19. Fala outra língua além do português e inglês?
( ) não ( ) sim
Qual?

20. Como é feito o contato com esta língua?
( ) música ( ) conversa com falantes nativos
( ) filmes ( ) conversa com falantes não-nativos
( ) leitura ( ) membro de sua família
( ) sala de aula ( ) emprego
( ) outros:

21. Considera-se um leitor em língua inglesa? (isto é, lê material extra que não faça parte das exigências do Curso de Letras?)
( ) não ( ) sim
Como?
( ) silenciosamente
( ) em voz alta
( ) com o uso do dicionário
Com que freqüência?
( ) hora(s) por semana

22. Quais as estratégias que você usa para superar seus problemas de pronúncia na língua inglesa?
    ( ) ouvir tapes
    ( ) ouvir músicas
    ( ) assistir filmes
    ( ) prestar atenção a pronúncia dos professores
    ( ) prestar atenção a pronúncia dos colegas
    ( ) outras:

23. Você acha que o ensino de pronúncia recebeu enfase adequada no seu Curso de Letras?
    ( ) não ( ) sim

24. Os cursos especificamente orientados para a pronúncia ajudaram você a resolver seus problemas?
    ( ) não ( ) sim
    Quanto?
    ( ) muito
    ( ) bastante
    ( ) pouco
    ( ) muito pouco

25. Indique até que ponto está satisfeito com os diversos aspectos abaixo. Escolha um número da relação seguinte e preencha os parênteses de acordo com a avaliação que lhe convier.
    4= muito satisfeito
    3= bastante satisfeito
    2= pouco satisfeito
    1= insatisfeito

( ) a) O material escrito usado nas aulas de expressão oral (apostilas, livros, leitura, etc).
( ) b) As atividades e/ou exercícios de pronúncia usados em sala de aula.
( ) c) O uso do laboratório de língua.
( ) d) As oportunidades extra-classe para praticar o uso da língua.
( ) e) A habilidade do professor em auxiliar os alunos na aprendizagem.
( ) f) A fluência do professor no uso da língua inglesa.
g) Há mais algum aspecto que gostaria de salientar?

26. Acha válido o uso do laboratório?
    ( ) não ( ) sim

27. Quais atividades e/ou exercícios que mais o tem ajudado a melhorar sua pronúncia?
    ( ) exercícios com pares mínimos
    ( ) exercícios com transcrição fonética
    ( ) leitura em voz alta
    ( ) descrição fonológica
    ( ) outros:

28. Como classifica sua pronúncia em relação a outras habilidades, como por exemplo, leitura, escrita e compreensão auditiva?
    ( ) melhor em relação às outras habilidades
    ( ) boa em relação às outras habilidades
    ( ) mais ou menos igual às outras habilidades
    ( ) ruim em relação as outras habilidades

29. Você como aluno do Curso de Letras considera a pronúncia correta algo:
    ( ) muito importante
    ( ) bastante importante
    ( ) pouco importante
    ( ) não importante

Justifique:

30. Caso você não conseguiu ou não está conseguindo solucionar seus problemas de pronúncia, quais as sugestões que daria para os professores ou responsáveis pelo Curso de Letras?

MUITO OBRIGADA

APPENDIX II - READING PASSAGE

Please first read this passage silently and then read it aloud as naturally as you possibly can.

AN OPEN LETTER TO A TRIO OF THIEVES

This is an open letter to the three people who stole my handbag from the Highgate boutique where I am employed as a sales assistant.

When you took my bag I don't know what you thought you were going to get. With my wages, there's not much left on a Wednesday. I hope the last eighth pound was useful to you. I have informed the social security office so you won't be able to cash the child benefit next week. I hope that won't leave you too short, but if you really need a couple of pounds, I suppose you could always cash one of the two cheques left in my cheque book. Isn't that lovely? Of course, I phoned the bank right away and the cheque-cashing card is no longer valid, so it won't be much use to you.

Actually I don't mind about the money too much. We single parents who work to support our families understand only too well what it means to be short of cash. On the other hand, I don't suppose it went very far between three of you. Sorry about that!

I wish you had put the bag behind you and left it and just taken the wallet and cheque book. There were all kinds of papers in it, and notes and things that I really need. I

really think that was very inconsiderate and indelicate of you. I mean, how would you like something like that to happen to you?

Well, perhaps the bag will appear. It wasn't even an expensive one, just a plain, old brown leather shoulder bag. You probably dumped it in the nearest rubbish bin or threw it over the park railings into the bushes. We've looked around, of course, but no one saw which way you went after you left the shop.

I'm neither angry nor nervous about this terrible situation. I know how the pressures of modern living can affect one, but I am sad and distressed at the loss of my personal things. I feel violated and helpless, and although the police were very nice, they just shrugged their shoulders. 'It happens all the time', they told me. Some small comfort, I think. But I've lost just a little more faith in human nature. And as my young son said when I told him what had happened, 'Why, mummy, why us?' I couldn't answer that question. I wonder if you can?

Peggy Smith
Southwood Avenue
Highgate, N6

Adapted from ABBS, B. et al 1982 Studying Strategies, London: Longman, p.20.

APPENDIX III - WORD LIST

Please now read aloud the words in this list in vertical order and make sure to pause between each word. Circle the words that you don't know.

tea	purpose	alone
bank	machinery	pan
kill	fragile	furnace
thin	nothing	rich
belt	peanut	please
nose	attack	football
guess	capture	proof
insurance	usually	implement
played	change	onion
east	genius	goes
full	cathedral	authentic
clubs	anxious	a house
south	these	vicious
filter	criticism	lose
king	suddenly	package
loathsome	feel	thanks
potato	remarkable	taught
calm	parked	acoustic
exercise	fortunate	measure
chocolate	explain	bachelor
moon	obtain	thousand

finger	chew	lashes
leaden	jam	partial
soul	thus	usher
world	clothe	breathe
published	marched	singer
worthy	cheap	appointment
cloth	brute	ether
explanation	cover	garage
gas	gin	tunnel
ship	beige	worth
audition	laughed	thirty
ooze	anthology	natural
certainly	village	loved
thoughtful	middle	exhaust
tongue	fissure	bamboo
written	either	rude
tell	soldier	bathroom
danced	person	gesture
fill	kisses	arranged
dread	thunderbolt	bringing
there	actual	although
width	juice	ledger
apartment	sixth	wives
tune	grabbed	coffee
account	ill	headache
composure	woman	sagged

excuse me

ages

shallow

does

athlete

home

apple

pageant

it's no use

approaches

pathway

leaf

even

suggest

conceive

original

visited

knows

called

southern

studied

engine

register

rhythm

managed

successful

tries

strange

whose

deed

food

those

roses

needed

APPENDIX IV - GUIDING QUESTIONS USED IN THE INTERVIEW

1. Where were you born? How long have you been living here?
   Do you like to live here? Why?
   If the person is not from Fpolis:
   Tell me something about your native town.
   Who do you live with? Do you get along with _____?
   Have you ever quarreled with _____? When was it?
   Tell me what happened.

2. Tell me what you do on weekends.
   Do you go to any bars at night? Which one? What is it like?

3. Have you gone to the movies recently?
   If not: What was the last film you saw?
   What did you see?
   Tell me what the story was about. (Give a brief summary)
   Did you like it?

4. Do you often watch TV? What programs do you like to see?
   Do you see soap opera? Which one? What happened yesterday?
   If s/he did not see the previous chapter, ask: What is the soap opera about?

5. Are you married?
   What do you think about marriage?
   What do you think about abortion?

6. Tell me about a book you've read and liked.

7. What do you like in your English Course?
   What don't you like in your English Course?

APPENDIX V - MULTIPLE CONTRASTS

Please mark the word you have heard.

1. ( ) shoe
   ( ) chew
   ( ) jew

2. ( ) tin
   ( ) sin
   ( ) thin

3. ( ) long
   ( ) lawn
   ( ) law

4. ( ) breed
   ( ) breathe
   ( ) breeze

5. ( ) shin
   ( ) chin
   ( ) gin

6. ( ) pan
   ( ) pen
   ( ) pin

7. ( ) taught
   ( ) thought
   ( ) sought

8. ( ) full
   ( ) fool
   ( ) fall

9. ( ) tongue
   ( ) ton
   ( ) Tom

10. ( ) either
    ( ) eater
    ( ) ether

11. ( ) clothe
    ( ) close
    ( ) clove

12. ( ) sad
    ( ) said
    ( ) sit

13. ( ) fill
    ( ) feel
    ( ) fell

14. ( ) worth
    ( ) worse
    ( ) word

15. ( ) theme
    ( ) thin
    ( ) thing

16. ( ) gas
    ( ) guess
    ( ) geese

17. ( ) face
    ( ) faith
    ( ) fate

18. ( ) ill
    ( ) eel
    ( ) L

19. ( ) look
    ( ) Luke
    ( ) luck

20. ( ) dare
    ( ) there
    ( ) tear

21. ( ) home
    ( ) hum
    ( ) whom

22. ( ) utter
    ( ) udder
    ( ) other

23. ( ) living
    ( ) leaving
    ( ) leafing

24. ( ) could
    ( ) cooed
    ( ) cud

25. ( ) those
    ( ) doze
    ( ) toes

APPENDIX VI - SENTENCE LIST

Each sentence below has one underlined word which may or may not be pronounced correctly by the speaker. Pay attention and mark either correct or incorrect according to the correct or incorrect pronunciation of the words you are going to hear. In case of doubt, mark I don't know.

1. My car is parked ['parkɪd] ( ) correct ( ) incorrect ( ) I don't know over there.

2. Tom seems to be very considerate [kən'sɪdərejt] ( ) correct ( ) incorrect ( ) I don't know towards old people.

3. She arranged ['ərejnʤɪd] ( ) correct ( ) incorrect ( ) I don't know her papers before starting to write.

4. The wave lashes ['læšɪs] ( ) correct ( ) incorrect ( ) I don't know the rocks.

5. The painting seems authentic. [ɔ'θɛntɪk] ( ) correct ( ) incorrect ( ) I don't know

6. He grabbed ['græbɪd] ( ) correct ( ) incorrect ( ) I don't know the coin and ran off.

7. Does [dəs] ( ) correct ( ) incorrect ( ) I don't know the parrot sing well?

8. They are not stingy, although [ɔl'ðəw] ( ) correct ( ) incorrect ( ) I don't know they are poor.

9. If all people were virtuous ['vərčɯəws] ( ) correct ( ) incorrect ( ) I don't know there would be no crime

10. He doesn't know how to sing. ( ) correct
[sɪŋg] ( ) incorrect
( ) I don't know

11. He played ( ) correct her a nasty trick by taking
all the money. ( ) incorrect
[plejd] ( ) I don't know

12. Please, put ( ) correct a little sugar in my
coffee. [put] ( ) incorrect
( ) I don't know

13. The bank ( ) correct clerks are on strike.
[bæŋk] ( ) incorrect
( ) I don't know

14. The surface ( ) correct of it is plain.
['sərfejs] ( ) incorrect
( ) I don't know

15. Few of my friends are rich ( ) correct men.
[rɪč] ( ) incorrect
( ) I don't know

16. The use ( ) correct of it seems to be necessary.
[juz] ( ) incorrect
( ) I don't know

APPENDIX VII - EVALUATION OF INTELLIGIBILITY BY TWO NATIVE ENGLISH SPEAKERS

RESPONDENT'S NAME:

Listen carefully to some learners' interlanguage on the tape which is partially transcribed in this evaluation test. The blank space is the part of the text on which you are supposed to concentrate more. Your answers will be based on the questions below for each non-transcribed text.

1. How would you classify the text? Give more than one alternative if it is necessary.

A ( ) unintelligible due to pronunciation problems;

B ( ) Unintelligible due to other types of problems (specify them);

C ( ) Intelligible although there are some pronunciation problems;

D ( ) Partially intelligible due to the difficulty in understanding the pronunciation of some words;

E ( ) Vague, that is, you are in doubt about what the speaker wants to say, due to the difficulty in understanding the pronunciation of some words;

F ( ) Ambiguous due to pronunciation problems;

G ( ) Funny due to pronunciation problems;

H ( ) Others (specify).

2. What did you understand from the text? (Do not answer if you mark A or B in question 1).

3. How many times did you have to listen to it to understand? (Do not answer if you mark A or B in question 1).

TEXTS

1. INTERVIEWER: Tell me what the story was about.
D4: A woman that combat to the past. She review your life and... things that she don't... maked, made and... she change something and when she return in the present, she thinks that your life... that her life is good and... she prefer stay... stej ɪn ðɪ 'sejmɪ lajf wif his 'hazbənd ænd his 'dɔtər
INTERVIEWER: And at the end?,
D4: dej... ši... ši 'livdɪ wif her 'dɔktər ənd 'hazbənd

2. INTERVIEWER: What is the story about?
B4: I don't know exactly. There's a lot of stories in the... in the same time. ðɛrz ə lɔɾɛv gɛwz ənd gajz ? wən 'æftər ə'nəðər. iz Jəst ču wejst ɔ čajm ju new.

3. INTERVIEWER: What was the story about?
E4: The guy that... was 'preso'.
INTERVIEWER: Was in jail.
E4: In jail... because... let me remember... he died a guy but it was... it was not him. dɛn hi wɛnt ču dɪ ... 'ikʌ du 'djabu ... ænd ðɪ ... hi stej ðɛr bewt ... čuɛnt 'ɪərz aj θɪŋk ænd dɪ ... hi 'didənt ... hæv 'kupə. Its ə gʊd bʊk

4. INTERVIEWER: Do you like to live here?
F6: Yes. So much.
INTERVIEWER: Why?
F6: Because the city is... very calm and... relax 'bjuɾifəw bits, 'bjuɾifəw 'plejsɪs ænd sew gud ču liv ænd riew new

5. INTERVIEWER: What kind of person would you like to marry?

F4: I don't have a kind of person... when I met, I met... a good person, honest, ne. I think that everyone wants a person honest, good, with the... a financial situation well bi'kɔz nawə'dejz wi... wi məst θiŋk ? and ? But... I believe that I... I would like a christian person... like me.

6. INTERVIEWER: What kind of problems?

E6: 'prɔbləmz ə'bawt sewts... sɔts... ə'bawt... maj 'fəðər sæs 'dæt ajm 'difərənt frɛ̃ 'ɔðərz... ajm nɔt ə'bedɪənt.

7. INTERVIEWER: What do you think about marriage?

E6: aj siŋk its ə ɪm'pɔrtənt siŋk ĩ lajf dɪ 'wʊmən... new dɪ mæn dæt kɔm'plitid her.

8. INTERVIEWER: Tell me what you do on weekends.

F6: ən 'wikendz? wen... hæv... səm ajm 'gewɪŋ tə ðɪ bɪĕ bat... wen rɛn aj stej ət hewm or I'm going to my boyfriend's home... or going to the movie... listen to music. I love music.

9. INTERVIEWER: What do you do?

B6: aj du diskərs, I teach English for childrens about 11... 11... 10 years old and I do... 'Pedagogia', graduate of 'Pedagogia'.

5. INTERVIEWER: What kind of person would you like to marry?

F4: I don't have a kind of person... when I met, I met... a good person, honest, ne. I think that everyone wants a person honest, good, with the... a financial situation well _bi'kɔz nɐwə'dejz wi... wi_ _məst θiŋk ? ənd ?_ But... I believe that I... I would like a christian person... like me.

6. INTERVIEWER: What kind of problems?

E6: _'prɔbləmz ə'bawt sewts... sɔts... ə'bawt... maj 'faðər sæs 'dæt ajm 'difərɛnt frẽ 'ɔðərz ... ajm nɔt ə'bedɪɛnt._

7. INTERVIEWER: What do you think about marriage?

E6: _aj siŋk its ə ɪm'pɔrtənt siŋk ĩ lajf dɪ 'wumən ... new dɪ mæn dæt kɔm'plitɪd hɛr._

8. INTERVIEWER: Tell me what you do on weekends.

F6: _ən 'wikɛndz ? wɛn... hæv... səm ajm 'gewɪŋ tə ðɪ bɪč hat... wɛn rɛn aj stej ət hewm_ or I'm going to my boyfriend's home... or going to the movie... listen to music. I love music.

9. INTERVIEWER: What do you do?

B6: _aj du 'diskərs_, I teach English for childrens about 11... 11... 10 years old and I do... 'Pedagogia', graduate of 'Pedagogia'.

10. INTERVIEWER: Do you like to live here?
B8: Yes, I like.
INTERVIEWER: Why?
B8: I like Fpolis. Is difficult when we are speaking English and suddenly you have to say a word in Portuguese. Why? I like the beaches that there are here. I don't like the... the... wind, the South Wind... the cold... I don't like these... these things, because I'm from Rio and there we don't have winter. But dɪ 'siti æz ə howl ɪn 'ɣenɪrəl aj lajk 'vɛrɪ məč... wi hæv ə 'trɜ̃kow wajf hir ðən wi hæv ə 'træŋkəl wej əv 'livɪŋ widawt dɪ... dɪ... 'fiərs ov big 'sitis

11. INTERVIEWER: Tell me about a book you've read and liked.
B8: A book? I've read Gone With the Wind and I liked it a lot. if aj kud red... if aj kæn red it mor ðən wəns aj wiw 'redi 'ɛvərɪ

12. INTERVIEWER: What do you like in your English course?
B8: My English course... what I really like... I would be very personal... what I really like is ðɪ eper'tunɪtɪ dæ ʃaj hæv ču di'vɛləp maj ĩŋglɪš bɪ'kɔz ajv 'nɛvər bæd ə'bord and what I know it's... is what I learn here and the course that I did so what I really like is the opportunity to develop my... my oral, my oral practice because grammar I've studied a lot, writing I did a lot but oral practice I didn't.

13. INTERVIEWER: What was the last film you saw?
A8: 'living kləwz tu dɪ wuvz əj θiŋk
INTERVIEWER: Did you like it?
A8: Yes, but they mixture everything... wolves and 'Chapeuzinho Vermelho', yeah... mixture everything.
INTERVIEWER: What's the story about?
A8: dɛr wɔz wufs 'liviŋ ĩ ʒɪ 'fɔrɛst ænd dej but there was some men that transformed in wolves... ə'tæk 'pipəl

14. A8: bɛxnə'dɛti 'awər čiʒərs 'litɪrəʒər ... ši dɔnt nəw if... dej wiw 'fɔləw dis səks (?) ɔf dɪ plej... bət ši... təwd əs 'dæti his 'fɔləwiŋ səm pəxts ɔf it

15. INTERVIEWER: What's the story about?
C8: Uhmm it's terrible... to tell. Is about a... wajld lɔ. its ə 'vɛrɪ 'ænšənt ən 'iŋgləd 'nəvəl. bat its nɔt 'mɔdərn yeah! There was... it's about a family, ok? And the father goes to a city one day, I don't know... I don't know what city and when he comes back, he brings with him a little boy and he creates this boy as a son and ʒiz bɔj fɔw ĩ lɔv wif ʒɪ 'dɔtər.

16. F8: What I like? Well, I like the teachers, because I think they explain very well, but a good teacher... have good teachers, but on the other hand, we don't train the conversation, but don't I like English Literature, because we read a lot and... we read and she always correct our... pronunciations and this doesn't happen with the others.
INTERVIEWER: Who's she?

F8: Bernadete. bɪˈkɔz aj sewlt maj ˈɪŋglɪš wɔs kwajt gud nɔt... bət naw əz aj æmɪ ... ɣɪˈʁiʁər tewɪd mi ... bət jəx ˈɪŋglɪš ɪs ˈtɛrɪbəw sew aj maj ˈgudnɪs ɪ dɪ ɛnd əv ɣɪ kars . The sort of things you get upset. You don't know how your English is.

17. INTERVIEWER: Do you like to live here?
A2: Yes, I do.
INTERVIEWER: Why?
A2: aj θɪŋk ɪts ə najs ˈsiti smɔw wən wɪɣ bɪčɪs and I have my jobs and friends, my family.

APPENDIX VIII - STATISTICAL ANALYSIS OF THE DATA

/ɾ/	2/4	4/6	6/8	2/8
TOTAL	= k= 0,82	= K= -0,13	= K= 0,26	= K= 0,58
TEXT	= K= 0,40	= K= 0,20	= K= -0,82	= K= -0,55
WORD LIST	= K= 0,54	= K= -0,29	= K= 0,33	= K= 0,33
INTERV.	= K= 0,32	= K= 0,10	= K= 1,9	melhora 2,9

/ʃ/	2/4	4/6	6/8	2/8
TOTAL	= k= 0,10	= K= 0,55	= K= -0,09	= K= 0,36
TEXT	= K= 0,32	= K= -0,30	= K= 0	= K= 0
WORD LIST	= K= 0,04	= K= 0,44	= K= 0	= K= 0,70
INTERV.	= K= 0,17	= K= 0,61	= K= -0,14	= K= 0,43

/ʁ/	2/4	4/6	6/8	2/8
TOTAL	= K= 1,1	= K= -0,55	= K= 4,4	melhora 7,3
TEXT	= K= 0,75	= K= 0	= K= 0,91	= K= 3,7
WORD LIST	= K= 1,0	= K= -0,58	= K= 3,6	melhora 5,8
INTERV.	= K= ∞	= K= -0,60	= K= ∞	= K= ∞

/ʒ/	2/4	4/6	6/8	2/8
TOTAL	= K= 0,48	= K= -0,22	= K= 0,32	= K= 0,64
TEXT	--	--	--	--
WORD LIST	= K= 0,48	= K= -0,22	= K= 0,32	= K= 0,64
INTERV.	--	--	--	--

/s/	2/4	4/6	6/8	2/8
TOTAL	= K= 0,05	= K= 0,53	= K= -0,31	= K= 0,31
TEXT	= K= 0,97	= K= 0,11	= K= -0,10	= K= 0,31
WORD LIST	= K= 0,63	= K= -0,16	= K= -0,47	= K= 0
INTERV.	= K= -0,54	= K= 0,73	= K= 0,07	= K= 0,07

/z/	2/4	4/6	6/8	2/8
TOTAL	= K= -1,2	= K= -0,97	= K= -0,89	piora -3,4
TEXT	= K= -0,65	= K= -0,2	= K= ∞	--
WORD LIST	= K= -0,63	= K= -0,80	= K= 1,5	= K= -0,45
INTERV.	= K= -0,36	= K= -0,76	= K= -1,3	piora -2,1

/θ/	2/4	4/6	6/8	2/8
TOTAL	= K= -0,02	= K= 0,18	= K= 1,0	= K= 1,2
TEXT	= K= 0,23	= K= 0,09	melhora 1,4	melhora 2,0
WORD LIST	= K= 0,34	= K= -0,13	melhora 3,1	= K= 3,7
INTERV.	= K= -0,30	= K= 0,34	= K= 0,13	= K= 0,05

/ð/	2/4	4/6	6/8	2/8
TOTAL	= K= -0,04	= K= -0,41	= K= 0,39	= K= 0,22
TEXT	= K= 0,71	= K= 0,60	= K= -0,50	= K= 0,15
WORD LIST	= K= 0,62	= K= -0,81	= K= 0	= K= -0,15
INTERV.	= K= -0,18	= K= -0,66	= K= 0,62	= K= 0,21

/ŋ/	2/4	4/6	6/8	2/8
TOTAL	= K= 0,58	= K= 0,48	= K= -0,56	= K= -0,28
TEXT	= K= 0,60	= K= 0,69	= K= -1,1	= K= 0,55
WORD LIST	melhora0,89	= K= -0,44	= K= ∞	= K= ∞
INTERV.	= K= 0,27	= K= -1,1	= K= -0,24	= K= -0,62

/I/	2/4	4/6	6/8	2/8
TOTAL	= K= -0,56	= K= -1,3	= K= -0,67	piora - 1,6
TEXT	= K= 0,09	= K= -0,38	= K= -0,31	= K= -0,67
WORD LIST	= K= -0,79	= K= -0,81	= K= 0,17	= K= -0,75
INTERV.	= K= -0,62	piora - 1,6	= K= -0,94	piora - 1,9

/i:/	2/4	4/6	6/8	2/8
TOTAL	melhora 1,5	= K= -0,73	= K= 2,7	= K= -4,7
TEXT	= K= 0	= K= 2,1	= K= 0,6	= K= 2,2
WORD LIST	melhora 1,2	= K= -1,0	= K= 0,42	melhora 0,8
INTERV.	= K= ∞	= K= -0,97	= K= -0,53	= K= -0,72

/æ/	2/4	4/6	6/8	2/8
TOTAL	= K= 0,31	= K= -0,67	= K= -0,18	= K= -0,44
TEXT	= K= -0,41	= K= 0,16	= K= -0,30	= K= -0,43
WORD LIST	= K= 0,57	= K= -0,83	= K= 0,21	= K= 0,04
INTERV.	= K= 0,41	= K= -0,64	= K= -0,71	= K= -1,0

/ɛ/	2/4	4/6	6/8	2/8
TOTAL	= K= -0,78	= K= 1,6	= K= -7,8	= K= -0,38
TEXT	= K= -0,14	= K= -0,43	= K= 0,61	= K= 0
WORD LIST	= K= -1,7	= K= 0,68	= K= -0,11	= K= -0,32
INTERV.	= K= -0,68	= K= 2,4	= K= -0,69	= K= -0,14

/U/	2/4	4/6	6/8	2/8
TOTAL	= K= -1,1	= K= 0,70	= K= -0,36	= K= -0,99
TEXT	= K= -0,4	melhora 2,5	= K= 0	= K= 0,9
WORD LIST	= K= -0,50	= K= -0,24	= K= 0,34	piora - 1,4
INTERV.	= K= -0,39	= K= 0,14	= K= -0,42	= K= -0,77

/u:/	2/4	4/6	6/8	2/8
TOTAL	= K= 0,69	= K= -0,31	= K= -2,8	= K= 0,2
TEXT	= K= 0,32	= K= 0	= K= 0,65	= K= 0,97
WORD LIST	melhora0,83	= K= -0,46	= K= 0,18	= K= 0,43
INTERV.	--	--	= K= -0,63	= K= -0,63

[p^H]	2/4	4/6	6/8	2/8
TOTAL	= K= -0,36	piora - 3,2	= K= 0,54	piora - 1,2
TEXT	= K= -0,34	= K= -1,4	melhora 2,1	= K= -0,17
WORD LIST	= K= 0,11	piora - 4,0	= K= 0,93	= K= -0,78
INTERV.	= K= -0,32	= K= -0,83	= K= -0,52	= K= -0,90

[t^H]	2/4	4/6	6/8	2/8
TOTAL	= K= -0,60	= K= -0,69	= K= -0,25	piora - 1,4
TEXT	piora -0,68	= K= -0,13	= K= 0,13	= K= -0,59
WORD LIST	= K= 0	= K= -0,95	= K= 0,16	= K= -0,16
INTERV.	= K= -0,41	= K= -0,67	= K= -0,51	piora - 1,7

[k^H]	2/4	4/6	6/8	2/8
TOTAL	piora - 1,1	= K= 0,40	= K= 0	piora - 1,2
TEXT	piora - 1,0	= K= 0,07	= K= 0,27	= K= -0,45
WORD LIST	= K= 0	= K= -0,42	= K= 0,44	= K= -0,44
INTERV.	= K= -0,63	= K= -0,55	= K= -0,26	= K= -0,82

[-d]	2/4	4/6	6/8	2/8
TOTAL	= K= 0,33	= K= -0,53	= K= 0,49	= K= 0,58
TEXT	= K= 0,71	= K= -0,68	= K= 0,61	= K= 0,61
WORD LIST	= K= 0,11	= K= -0,62	= K= 0,68	= K= 0,50
INTERV.	= K= 0,30	= K= 0,22	= K= -0,11	= K= 0,55

[-t]	2/4	4/6	6/8	2/8
TOTAL	= K= 0,13	= K= -0,19	= K= 0,49	= K= 0,45
TEXT	= K= 0	= K= 0,25	= K= 0,55	= K= 0,77
WORD LIST	= K= 0,07	= K= -0,24	= K= 0,72	= K= 0,64
INTERV.	= K= 0,41	= K= -0,61	= K= -0,10	= K= -0,31

[-z]	2/4	4/6	6/8	2/8
TOTAL	= K= -1,0	= K= -0,73	= K= -0,06	piora - 1,5
TEXT	= K= -0,80	= K= 0,48	= K= 1,1	= K= 0,27
WORD LIST	= K= -2,0	= K= -0,32	melhora 1,4	= K= -0,80
INTERV.	= K= 0,07	= K= -1,1	= K= -0,82	piora - 1,6

[-lz]	2/4	4/6	6/8	2/8
TOTAL	= K= 0,29	= K= -0,97	= K= 0,87	= K= 0,87
TEXT	= K= 0,32	= K= -0,41	= K= 0,61	= K= 0,61
WORD LIST	= K= -0,14	= K= $-\infty$	melhora 1,1	= K= 0,19
INTERV.	= K= 0,66	= K= 0,44	= K= 0	= K= 2,0

other vocalic substit.	2/4	4/6	6/8	2/8
TOTAL	= K= 0,65	= K= -0,36	= K= 0,75	= K= 1,3
TEXT	= K= 0,69	= K= 0,36	= K= 0,55	= K= 2,3
WORD LIST	= K= 1,1	= K= -1,2	= K= 1,0	= K= 1,1
INTERV.	= K= -0,21	= K= 0,05	= K= 0,14	= K= -0,07

other consonant substit.	2/4	4/6	6/8	2/8
TOTAL	= K= -0,36	= K= -0,11	= K= -0,27	= K= -0,52
TEXT	= K= -0,30	= K= 1,0	= K= -0,38	= K= -0,44
WORD LIST	= K= -0,33	= K= 0,43	= K= -0,25	= K= -0,42
INTERV.	= K= -0,37	= K= -0,58	= K= -0,18	= K= -0,67

Insertion	2/4	4/6	6/8	2/8
TOTAL	= K= 2,5	piora - 1,7	= K= 0,01	= K= 0,39
TEXT	= K= 1,7	= K= -0,45	= K= -0,21	= K= 0,69
WORD LIST	= K= 2,7	= K= -1,3	= K= 0,38	= K= 0,96
INTERV.	= K= 1,8	piora -0,93	= K= -0,17	= K= -0,29

Omission	2/4	4/6	6/8	2/8
TOTAL	= K= -1,1	= K= -0,35	= K= 0,47	= K= -0,39
TEXT	= K= 0,09	= K= -0,81	= K= 1,4	= K= 0,18
WORD LIST	= K= -1,2	= K= 2,9	= K= -0,04	= K= -0,26
INTERV.	= K= -0,14	= K= -0,70	= K= 0	= K= 0,62

APPENDIX IX - QUESTIONNAIRE TABLES 4.46 - 4.49

Table 4.46 Subjects' age.

IDADE	2nd semester	4th semester	6th semester	8th semester	Total %
20 - 22	4	4	5	-	54
23 - 25	-	2	1	2	21
26 - 28	2	-	-	2	17
29 - 31	-	-	-	1	4
32 - 34	-	-	-	1	4

Table 4.47 Experience abroad.

Alunos	País		Finalidade			Tempo (meses)
	Inglaterra	EUA	acadêmica	turística	outras	
A2	X		X			12
B2		X		X		6
C8		X		X		6
F8	X				X	48

Table 4.48 Present professions plus English teaching.

Número de alunos	Profissões
1	Assistente Administrativo
1	Professora de Pintura
1	Funcionário Público Federal
1	Professora de Português
1	Tradutora
1	Professora Primária

Table 4.49 Professional activities before entering the Letters Course.

Número de alunos	Atividades Profissionais *
4	Professor
2	Vendedor
1	Garçon
1	Cozinheiro
1	Pescador
1	Bancária
1	Tradutora
1	Músico
1	Costureira
1	Desenhista de Projetos
1	Secretária

* Some students had more than one job.

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