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(UN)INTELLIGIBILITY IN THE CONTEXT OF ENGLISH AS A LINGUA FRANCA: A STUDY WITH FRENCH AND BRAZILIAN SPEAKERS

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RESUMO: Este estudo tenciona investigar os aspectos de pronúncia que impediram a inteligibilidade entre três falantes brasileiros e três falantes franceses de inglês. Para tanto, além de identificar os fatores que causaram problemas de comunicação no nível fonológico, almejamos também relacionar tais fatores com o modelo de ensino proposto por Jenkins (2000), o Lingua Franca Core. Mais precisamente, o presente estudo objetiva responder às seguintes perguntas: 1) quais aspectos de pronúncia impediram a inteligibilidade entre seis falantes de inglês língua franca?; e 2) como os fatores identificados são abordados no modelo de pronúncia fornecido por Jenkins (2000)? A análise das interações envolvendo os seis participantes corrobora o modelo de ensino proposto por Jenkins (2000).

PALAVRAS-CHAVE: pronúncia; inteligibilidade; inglês língua franca.

ABSTRACT: This study aims at investigating the pronunciation aspects which hindered the intelligibility between three Brazilian and three French speakers of English. For this, besides identifying the factors which led to communication problems in the phonological level, we also intend to relate such factors to the teaching model proposed by Jenkins (2000), the Lingua Franca Core. More precisely, this study aims at answering the following questions: 1) what pronunciation aspects hindered the intelligibility of six speakers of English as a lingua franca?; and 2) how the factors identified are approached in the pronunciation model provided by Jenkins (2000)? The analysis of the interactions involving the six participants corroborates the teaching model proposed by Jenkins (2000).

KEYWORDS: pronunciation; intelligibility; English as a lingua franca.

Introduction

The ongoing growth experienced by the community of non-native speakers of English – whose members, according to Crystal (2008), outnumber the native English-speaking users roughly 4 to 1 – has created the appropriate conditions to study and describe the use of English as a Lingua Franca (henceforth ELF), i.e., as a "lingual medium of communication between people of different mother tongues, for whom it is a second language" (SAMARIN, 1987 apud SEIDLHOFER, 2004: 211).

Nowadays, most of the interactions involving the use of English as a Second Language or English as a Foreign Language (for short, ESL and EFL, respectively) do not entail the participation of any native speakers (SEIDLHOFER, 2002). Furthermore, the vast majority of verbal interactions in English do not involve any mother tongue speakers at all. For that reason, English is being regarded as the world's main international language. Numerically speaking, this means that a group of about 1.5 billion non-native speakers of English use the language to communicate with other non-native speakers from different L1 backgrounds (GRADDOL, 2006). English, then, is being more used as an L2 than as a mother tongue. As a result, "English is being shaped at least as much by its non-native speakers as by its native speakers" (SEIDLHOFER, 2005: 339). Hence, a growing number of linguists and Language Acquisition (LA) researchers, such as Crystal (2008), Seidlhofer (2001), Jenkins (1998), and Widdowson (1994), are sharing the view that the language is no longer solely owned by the native-speaking communities. This fact does not only emphasize the role of English as an international lingua franca; it also reveals a great deal of change in learners' goals and needs.

Until fairly recently, the varieties of English used by its native speakers – markedly, Received Pronunciation (RP) and General American (GA) – were unquestionably adopted as norms for the teaching of the language. However, the expansion of English throughout the world and the consequent emergence of different varieties of the language have caused some linguists and educators to question the effectiveness of using native-speaker models to prepare learners for interactions in international settings (JENKINS, 2000). According to Jenkins (1998), the primary motivation for the majority of learners of English is *not* to communicate with native speakers, but to interact effectively with other non-native speakers from a broad range of mother tongue backgrounds. Such a change in learners' goals and needs has

inevitably influenced English Language Teaching (ELT) norms and models. Consequently, teaching guidelines are gradually moving from the native speaker to the non-native speaker (CRYSTAL, 2008). Thus, something which might be refuted 50 years ago by the ELT curriculum appears to be a pressing need now: teaching models based on the needs of non-native learners. In other words, models for ELT which do not require from learners a native-like performance in English.

In addition to this emerging possibility of using English manifestly as a lingua franca, especially among non-native speakers, there are several other arguments which dispute the efficiency of demanding from learners the acquisition of a native-like performance in English. Concerning their accent, some relevant justifications highlighted by Field (2003) for adopting intelligibility as a pronunciation target for learners of ESL and/or EFL, instead of a native-speaker model, are: 1) many speakers express their individual and national identities through their foreign accent; 2) many learners do not have the opportunity to acquire a native-like accent; and 3) the time wasted on the acquisition of a native-like accent could be better spent on other areas.

If a native-like accent is no longer the ultimate pronunciation goal for the majority of learners, then one might assume that the field of intelligibility is the contemporary Tower of Babel, where learners of ESL/EFL can speak the way they wish to speak. But this is not true. As a matter of fact, the situation is far from being that simple. Since intelligibility entails not only the speakers, but also the listeners taking part in the communication act (FIELD, 2003), mutual understanding is a crucial key to determine what can be considered intelligible or not. As a consequence, there are many factors which are likely to affect the intelligibility of non-native speakers of English to other non-native speakers and, thereby, either facilitate the interaction or cause communication breakdowns.

The global spread of English has created the adequate conditions to study the use of this language among non-native speakers. Despite that, very little work on English as a lingua franca has so far been done. According to Seidlhofer (2005), the systematic study of the nature of ELF is necessary for its establishment as a distinct manifestation of the language. The acceptance of the concept of ELF alongside English as a Native Language (ENL), then, is crucial to get to the bottom of the contradiction which characterizes the teaching and learning of the language today: in spite of the fact that for the vast majority of its users English is a foreign language, there is still a strong tendency to regard

its native speakers as the only owners of the language and, thereby, "as custodians over what is acceptable usage" (SEIDLHOFER, 2005: 339). Notwithstanding, empirical work on the linguistic description of ELF has in fact been conducted at the levels of: 1) phonology (JENKINS, 2000); 2) pragmatics (MEIERKORD, 2002); and 3) lexicogrammar (Seidlhofer, 2004). Nonetheless, there is still an urgent need for more studies aiming to describe and conceptualize the use of ELF, since the findings in these areas so far "should not be expected to be 'conclusive'" (SEIDLHOFER, 2001: 142).

With regard to the phonological level, whose features play an important role in intelligibility, Jenkins (2000) proposes a model which prioritizes pronunciation features considered essential in terms of mutual understanding for speakers of English as an international language (EIL). This author was, thereby, able to identify in her research phonological aspects which are said to be crucial for mutual understanding when a non-native user of English speaks with another non-native user, and features which are not essential for this kind of interaction. Admittedly, Jenkins' contributions are valuable and relevant, although not definite, as suggested by Cruz (2006), Deterding (2001), and Hewings (2001), who cast doubts on the reliability of her model. This only reinforces the aforementioned need for more conceptualization and description of ELF, as Jenkins (1998: 121) herself admits: "remarkably little research has been conducted into the intelligibility of English among its non-native speakers from different L1s". Considering the dearth of research on the use of English among non-native speakers, this study focuses on unintelligible features in ELF speakers' speech and, therefore, aims at answering the following two questions:

1) What pronunciation aspects hindered the intelligibility between six speakers of ELF?; and
2) Are the phonological aspects hindering the speakers' intelligibility present in the pronunciation model provided by Jenkins (2000)?

1. Theoretical background

Since some scholars, such as Jenkins (2000), Seidlhofer (2001) and Crystal (2008), argue that a native-like accent should no longer be the ultimate objective in preparing learners for interactions in ELF contexts, the teaching of pronunciation has started to undergo dramatic changes.

Concerning these changes, intelligibility emerges as an imperative aspect to be considered.

The term "intelligibility" was first employed with reference to second language performance in 1949 by Abercrombie, who argued that, apart from intending secret agents and intending teachers, "learners need no more than a comfortably intelligible pronunciation" (ABERCROMBIE, 1956: 37). According to Field (2003), it was only in the 1970s, however, that this concept started being more widely discussed by pronunciation teachers, who began to reconsider their priorities in language teaching and to establish more realistic goals for learners to achieve. This being the case, a considerable number of pronunciation teachers at that time started asking questions whether the goals in force were practical or not. They unsurprisingly came to the conclusion that it was unrealistic to expect learners to acquire an accent that resembles that of a native-speaker. In other words, teachers started realizing that their aim should be a pronunciation that could be effortlessly understood by other users of the language: an intelligible pronunciation (FIELD, 2003).

According to Field (2003: 35), intelligibility, unlike comprehensibility or interpretability, can be defined as "the extent to which the content of the message is *recognizable*". Still in relation to this notion, the author states that it "depends very much on the listener as well as the speaker" (FIELD, 2003: 37). The recognition of any content, then, involves not only the production by the speaker, but also the decoding of such a production by the listener. Due to its subjective nature, measuring the intelligibility of both speakers and listeners is admittedly difficult, since it implicates a considerable number of linguistic and extra-linguistic variables which are likely to affect it.

Concerning speaker's intelligibility, Field (2003) lists factors which are likely to have an effect on it: 1) the speaker's phonological representations; 2) the influence of L1 on the speaker's L2 phonological categories; 3) the speaker's articulatory command of L2 phonology; and 4) possible effects of accommodation – when the speaker's and listener's L1s share features or when the speaker makes allowance for the listener's limited knowledge of L1. The listener factors, according to him, are: 1) the listener's phonological representations; 2) the influence of L1 on the listener's L2 phonological categories; 3) the listener's familiarity with the speaker's variety; 4) the extent to which the listener's L1 approximates to the speaker's; 5) the level of the listener's L2 knowledge compared to that of the speaker; and (6) the listener's phonological working memory.

Out of the variables mentioned by Field (2003), the third listener factor, namely the listener's familiarity with the speaker's variety, is relevant to this study, since there are three participants who are familiar with the interlocutors' variety: one of the Brazilian participants is familiar with the French English and two of the French speakers are familiar with the way Brazilians speak English. Comments about the effect of such a familiarity on the speakers' intelligibility are made in the analysis.

In the field of pronunciation, which is mainly associated with the speaker, there are valuable contributions from researchers such as Seidlhofer (2001) and Jenkins (2000). The latter carried out a research on EIL which aimed to investigate pronunciation features which are crucial for mutual understanding when a non-native user of English interacts with other non-native users, in addition to aspects which are not important. Based on the results obtained from this research, Jenkins (2000) proposes a phonological model called Lingua Franca Core (LFC), which consists of a set of pronunciation features that are considered essential to the phonological intelligibility of speakers of EIL. These features, named ”core”, were established on the basis of the two most prevailing native varieties of English and so they comprise phonological aspects present in either RP or GA. Thus, the pronunciation features included in the LFC require from non-native users the approximation of the RP and GA sounds. On the other hand, features which did not lead to any intelligibility problems are regarded as ”non-core”. It follows that divergences from native-speaker realizations concerning ”non-core” aspects are considered instances of acceptable L2 regional variation.

According to Jenkins (2000), the aspects which are crucial to international intelligibility should be emphasized in the teaching of pronunciation, whereas the features which were proven not to hinder intelligibility should be excluded from the syllabus. Jenkins' findings present an interesting trend: the production of sounds that are commonly referred to as “typically English”, namely the ”th” sounds /θ/ and /ð/, is non-essential for mutual understanding among speakers of EIL. In short, the aspects included in the LFC are: 1) consonants (except for the dental fricatives /θ/ and /ð/); 2) consonant cluster; 3) vowel quantity and diphthongs; and 4) nuclear stress. The aspects which are unessential to intelligibility and, thereby, excluded from the LFC consist of: 1) weak forms; 2) stress; and 3) pitch movement (essentially rising and falling tones).

2. Method

The group of participants who provided the data analyzed here consists of six non-native speakers of English: three of them are Brazilian and the other three, French. The participants are indicated as: B1, B2, B3 = Brazilian speakers of ELF; and FI, F2, F3 = French speakers of ELF. In spite of the fact that at least three of the participants are from the same mother tongue background, all the interactions selected for this study required the use of English among them, since only one of the Brazilian participants speaks French, as well as only two out of the three French participants speak Portuguese. This being the case, half of the participants cannot speak the first language of the other interlocutors who are from a different mother tongue background. In other words, two of the Brazilian participants cannot speak French and one of the French participants cannot speak Portuguese. As a result, English was chosen by them as a means of communication.

The data were collected from February 2007 to February 2009 in the city of Campina Grande, Paraiba, Brazil. A total of five interactions were recorded during these two years. Table 1 displays the periodicity in which these interactions occurred, specifying: 1) the month and the year when the interaction took place; 2) the duration of recording; and 3) the participants involved.

Table 1 – Periodicity of the interactions

Interaction	Date	Duration	Participants
Interaction 1	February 2007	26’41’’	B3 and F3
Interaction 2	March 2007	21’23’’	B2, B3, and F3
Interaction 3	December 2008	34’26’’	B1, F1, and F2
Interaction 4	January 2009	22’47’’	B1, B2, F1, and F2
Interaction 5	February 2009	1:3’46’’	B1, B2, F1, and F2

As can be noticed from Table 1, none of the interactions involves all of the six speakers of ELF at the same time. The duration of the recordings ranges approximately from 21 minutes to 1 hour. The gap between one interaction and another is related to the French participant(s) involved, since the data collection among them occurred as soon as they arrived in Brazil, when these participants were still unable to use Portuguese. This being the case, interactions 1 and 2 took place in the end of February and in the beginning of March, shortly after F3's arrival in the country. Likewise, interactions 3, 4, and 5 occurred during the first three months of participants F1 and F2 presence in Brazil.

The procedures adopted to collect the data from the speakers of ELF followed four steps. In the first step, interactions among the six participants were recorded in audio. After that, during the second stage, the data were examined in order to identify excerpts presenting communication breakdowns. In the third step, informal interviews were carried out with the main aim of obtaining participants' explanations for the communication problems in their interactions. Finally, the last step involved the data transcription. In addition to these four steps, another procedure was adopted and it concerned field notes, which were taken during and after the data collection.

The empirical data were elicited from both natural and semi-natural settings. Therefore, the interactions consisted of: 1) informal conversations, which emerged spontaneously among the participants – interactions 1 and 3; and 2) mini-debates, in which they were asked to give their opinion on polemic themes that had been previously and deliberately selected by the researcher in order to spur discussion among them – interactions 2, 4, and 5. In spite of the fact that the aforementioned themes had been previously chosen by the researcher, the participants did not have the chance to prepare their oral production in advance and only learnt what the topics were at the moment of the interaction. In other words, these mini-debates, similar to the informal conversations themselves, can be said to have occurred spontaneously, albeit the initial encouragement on the part of the researcher for asking questions about specific subject matters. Such spontaneity can be observed in the frequency of pauses and other features, such as interruptions, hesitations, repetitions, and self-corrections, which are largely recurrent in informal oral productions, turning the mini-debates closer to the conversational genre than to debates themselves.

Once the phase of audio-recording had been concluded, the data were analyzed so as to identify excerpts presenting communication

breakdowns. Since intelligibility involves both the speakers and the listeners taking part in the communication act, mutual understanding is a crucial key to determine what can be considered intelligible or not. In view of that, such breakdowns were established here through the listeners' reaction. Given that intelligibility is regarded in this study as the first impression, the analysis focused only on the first reaction of the listeners towards the interlocutors' unintelligible production. This being the case, three types of reaction were identified and taken into account: 1) the listener demonstrating problems to understand the interlocutor by using the word *sorry* with a rising tone; 2) the listener repeating the sentence produced by the interlocutor, replacing the unintelligible word by the interrogative pronoun *what*, also with a rising tone; and 3) the listener repeating the unintelligible word either the way he/she understood it or the way it was supposedly produced by the interlocutor.

The fourth step consisted of the detection of the reasons why the speakers' intelligibility was hindered. In order to precisely identify these reasons, interviews were carried out with all the participants. During this stage, answers such as "I don't know", "I have no idea" or "I'm not sure" were widely given by them to the question "why do you think you were not able to understand him/her?". In view of that, another selection was carried out so that interactions presenting doubts on the actual reasons for the participants' lack of understanding were excluded from the corpus. As a consequence, the excerpts selected to be part of the corpus of this study consist of those which could either be explained by the participants or those which clearly present communication breakdowns caused by factors regarding the phonological level. As a consequence, a total of nine excerpts was established following these criteria.

After the selection of excerpts presenting communication breakdowns, the next step involved the data transcription. All the nine excerpts were orthographically transcribed, whilst only the crucial words which caused communication problems in each of the selected interactions were phonetically transcribed.

3. Analysis

There are nine excerpts in the corpus presenting phonological aspects which hindered speakers' intelligibility. According to the nature of these aspects, the excerpts were distributed into four categories: 1) consonants; 2) vowels; 3) diphthongs; and 4) consonants and vowels.

The data were transcribed according to the rules established by "Projeto de Estudo Coordenado da Norma Urbana Linguistica Culta" (Projeto NURC), as presented by Dionísio (2001)[1]. In addition to the symbols presented by this author, others, which are not included in the proposal, were used[2].

Each excerpt with communication breakdown will be preceded by a short description, which will provide: i) the indication of the speaker who produced the unintelligible utterance; ii) the crucial word as found in ENL; iii) the phonetic transcription of the problematic utterance as produced by the speaker; and iv) the effect of such a production on the listener. With regard to the excerpts, they were extracted from the data so as to contain both the unintelligible word and listener's reaction, as specified in method.

3.1. Consonants

The type of deviation in the category *consonants* consists of the deletion of the alveolar consonant /t/ in the words *spirit* and *what*, produced respectively by F2 and B2 as [spɪrɪ] and [wɔ].

(1) F2: *spirit* pronounced as [spɪrɪ] (B2 only understands what F2 says when the word is repeated with the production of the consonant sound /t/).

F2: the [spɪrɪ] of people here…
B2: the what ↗ ?
F2: the [spɪrɪt] of people here…

One of the most distinctive aspects regarding the relation between pronunciation and spelling in the French language refers to the deletion of several word-final written consonants in speech. The word *esprit* ("spirit"), for instance, is pronounced as /ɛspʀi/ in French (GALVEZ, 2005), without the production of the /t/ sound. The influence of L1 on F2's phonological categories, then, may have led the French speaker to pronounce the word *spirit* according to the rule of *final consonant deletion* (cf. CASAGRANDE, 1984), which relates to a common process

[1] The symbols used in the analysis are: **…** (pauses); **:** (extension of sounds); CAPITALIZED LETTERS (emphasis); and **?** (interrogation).
[2] The additional symbols are: **/…/** (splits in the speech); and **[ ]** (completion of ideas expressed in previous speeches).

in the phonology of French. As a result, the French participant failed to pronounce the final consonant sound /t/ in the word *spirit*. The production [spɪrɪ] made B2 believe that his French interlocutor was using a word which was not part of his vocabulary:

> B2: I/…/ I couldn't understand becau::se I thought I… didn't know the word…

(2) B2: *what* produced as [wɔ] (F1 mistakes the word for *why*).

> B2: [wɔ] is necessary to learn a language?
> F1: WHY↗ ?
> B2: [wɔt]…

With respect to the word *what*, produced by B2 as [wɔ], the participant himself explained the omission of the alveolar consonant sound /t/:

> B2: I think I was trying to… SWALLOW the *t* as they do in Britain, you know… maybe I swallowed it too much…

Technically speaking, by "swallow", B2 means that he tried to "glottalize" the alveolar consonant (cf. WELLS, 1982). However, instead of producing a glottal stop, the participant merely omitted the /t/ sound in *what*. Thus, the communication problem between B2 and F1 may have been caused by B2's unsuccessful attempt to glottalize the voiceless consonant. The deletion of such a consonant, then, led F1 to interpret the word *what* as *why*.

3.2. Vowels

There are two occurrences of communication breakdown in the category *vowels*. The types of deviation produced by the participants regarding this category refer to: 1) the replacement of /ɜː/ for /ɔː/ in the word *working*; and 2) the deletion of the vowel sound /ɪ/ in the word *reactions*.

(3) F1: *working* pronounced as [wɔːkɪŋ] (B1 only understands when F1 repeats the word replacing the open-mid back rounded vowel /ɔ/ by the close-mid back rounded vowel /o/).

> F1: what do you mean, for you it's [wɔːkɪŋ]?
> (B1 demonstrates lack of understanding through facial expressions)
> F1: what do you mean, for you it's [woːkɪŋ]?
> B1: oh, I think it's working because people… people actually do it…

The type of deviation in *working*, conspicuously the replacement of the open-mid central unrounded vowel /ɜː/ by the open-mid back rounded vowel /ɔː/, created another word known to B1 (*walking*). Thus, the communication breakdown in this excerpt is likely to have been caused due to the oddity produced by the word which was created as a result of the replacement of /ɜː/ by /ɔː/. It can be perceived, then, that B1 based his interpretation of the crucial word on the acoustic information provided by F1 and consequently understood it as "walking", instead of "working". This can be confirmed in the following passage from the interview with B1:

> B1: the first thin/…/ the fi:rst thing that went through my mind, I think, was "WHO's talking about WALKING?"…

(4) F1: *reactions* produced as [ˈɹɛkʃəns] (B1 understands the first production of the word as *erections*).

> F1: Two [ˈɹɛkʃəns] different…
> B1: eRECtions ↗ ?
> F1: No, [ɹᴵɛkʃəns]...

Regarding this second case of deviation from GA and RP sounds, it follows that the deletion of the vowel sound /ɪ/ in the word *reactions* once more led B1 to interpret the word on the basis of the acoustic information. In spite of the fact that the production of *reactions* as [ˈɹɛkʃəns] does not imply any existing word in English, the listener related it to a word whose phonological representation resembled that of [ˈɹɛkʃəns], as produced by F1. Therefore, this may explain why [ˈɹɛkʃəns] was interpreted by B1 as *erections*.

3.3. Diphthongs

With regard to the deviations produced by the participants concerning the pronunciation of *diphthongs*, all three excerpts found in this category refer to the deletion of a vocalic segment, resulting, as a consequence, in the production of pure vowels.

(5) F1: *identity* produced as [iːˈdɛntɪtɪ] (B2 only understands the word when B1 repeats it producing the diphthong /aɪ/).

> F1: it's a question of [iːˈdɛntɪtɪ]
> B2: of what ↗?
> B1: [ˌaɪˈdɛntɪtɪ]
> B2: yeah, yeah…

In spite of the fact that both French and Portuguese lack the diphthongal offglides typically heard with English single vowels, i.e., all vowels in these Romance languages are pure, both of them present in their phonological system diphthongal realizations, which are represented in orthography by two vowels, one of them being considered a semivowel. This being the case, the production of *identity* as [iːˈdɛntɪtɪ] may have been caused by the influence of L1 on the speaker's linguistic categories, given that single vowels in written French are always pronounced as pure sounds. As a consequence of such a deletion, the Brazilian participant B2, whose phonological representation of the word *identity* involves the diphthong /aɪ/, was not able to understand [iːˈdɛntɪtɪ], produced by F1 with the omission of the vowel sound /a/ from the diphthong. This can be perceived in the following excerpt from the interview with B2:

> B2: I have no idea [why I was not able to understand *identity* produced by the interlocutor without the diphthong]… I guess I just thought it was weird/…/ i[iː]dentity, you know…

(6) F1: *hope* produced as [hop] (B1 only comprehends the word containing deviation when F1 repeats it for the third time).

> F1: I think education is a [hop].
> B1: is a what ↗?

> F1: is a [hop]…
> B1: a [hop] ↗ ?
> F1: yeah, for me education is a [hop].

Since the production *hope* as [hop] involves the same French speaker from the prior interaction, the communication breakdown between F1 and B1 is likely to have occurred as a result of the same type of influence which led this speaker to delete a segment in the diphthong /aɪ/ from the previous case. Hence, the influence of the French language on F1's linguistic categories once more induced her to delete a segment from the diphthong, which, in this case, consists of the semivowel sound /ʊ/ from the diphthong /oʊ/. As a result, B1 understood the crucial word as *hop*, which made no sense in the context of the interaction and, for that reason, hindered the communicative success between them:

> B1: she repeated [the word *hope*] THREE times and I couldn't understand it/…/ but did you hear it? DID you? She said… *hop* [hop], like JUMP, I don't know…

(7) B2: *gay* produced as [geː] (B1 only understands B2 when the word is pronounced with the diphthong /eɪ/, followed by the synonym *homosexual*).

> B2: the other theme I was going to ask your opinion about is the [geː] marriage.
> B1: what ↗ ?
> B2: [geɪ] marriage, homosexual marriage…

The production of *gay* as [geː], which led B1 to misunderstand his interlocutor, needs to be considered from a different perspective, given that the diphthong /eɪ/ in the word *gay* is orthographically represented by two letters and that such a word is lexicalized in Portuguese. Moreover, the pronunciation of *gay* in Portuguese also involves the diphthong. As a matter of fact, unlike F1, who repeated the word *hope* three times as [hop], B2 corrected himself as soon as his interlocutor demonstrated misunderstanding. Therefore, the production of [geː] by B2 may have been merely the result of fast speech. Conversely, what is more important than the reasons which led B2 to produce *gay* as [geː] is the fact that the deletion of a segment from the diphthong revealed intelligibility problems between the participants, since B1's first reaction towards the crucial word reveals that he was not able to understand it.

3.4. Vowels and consonants

This last category, *vowels and consonants*, contains two occurrences of communication breakdown.

(8) B1: *could* produced as [k$^{=}$uːd] (B2 understands the first production of the word as *good*).

> B1: I believe it [k$^{=}$uːd] work.
> B2: good work? you believe it what ↗ ?
> B1: it [k$^{=}$ʊd] work…

This excerpt presents the word *could* produced as [k$^{=}$ud]. Such a production contains two types of deviation: 1) the replacement of the half-close back rounded vowel /ʊ/ by the close back rounded vowel /uː/; 2) and the lack of aspiration of the voiceless velar plosive /k/. The replacement of /ʊ/ by /uː/ shows that B1 was not able to contrast either the height or length of these vowels, an inability which may be derived from the fact that there is neither a half-close back rounded vowel nor any contrast between long and short vowels in Portuguese. In addition to this aspect, B1 also failed to aspirate the fortis /k/ in *could*. Given that the plosives /p/, /t/, and /k/ are not aspirated in Portuguese, B1's pronunciation of *could* may have been influenced by the way these consonant sounds are produced in his mother tongue. In short, the lack of aspiration and the inability to produce high back vowels with different heights and duration constitute deviations from ENL sounds which may have been caused by the influence of Portuguese on the speaker's L2 phonological categories. Thus, the combination of these deviations led the Brazilian listener B2 to take the crucial word as *good*, in spite of the grammatical oddity that such an interpretation would implicate and his awareness of it:

> B2: it sounded weird [I believe it good work], but I heard him say *GOOD*, you know, with *g*…

(9) B1: *miss here* produced as [miːsɪə̷] (F1 only understands B1 when he pronounces the two words slowly, adding the word *Brazil*).

> B1: will you [miːsɪə̷]?

(F1 demonstrates misunderstanding through facial expressions and shoulder movements)
B1: will you [mis hɪə̯], Brazil?
F2: yeah… sure...
(F1 nods)

With regard to the production of *miss here,* it follows that B1 replaced the half-close front unrounded vowel /ɪ/ by the close front unrounded vowel /iː/ in the word *miss* and omitted the voiceless glottal fricative /h/ in the word *here.* It can be perceived that the Brazilian speaker failed again to maintain the appropriate length of the vowel sound found in the word *miss*. Instead of using the short vowel /ɪ/, B1 pronounced the crucial word with the long vowel /iː/. This type of deviation parallels with the replacement of /ʊ/ by /uː/, analyzed in the previous excerpt. Thus, the replacement of /ɪ/ by /iː/ confirms B1's inability to contrast between different vowel heights and duration, and such an inability may be derived from the influence of his L1.

The Brazilian participant also failed to produce the glottal fricative /h/ in the word *here*, which is generally represented in orthography by the letter "h". Since this letter is mute in CV environments in Portuguese, there may have been again an influence of L1 on the speaker's linguistic categories, which led him to omit the /h/ sound. Consequently, neither F1 nor F2 were able to infer any interpretation to [miːsɪə̯]. According to one of the French listeners, the utterance was beyond her understanding:

F1: it was just… in::compre:hensible…

The factors which hindered the intelligibility between the participants at the level of phonology are included in four categories: 1) consonants; 2) vowels; 3) diphthongs; and 4) consonants and vowels.

According to Jenkins (2000), all consonants are essential for intelligible pronunciation except for the dental fricative sounds /θ/ and /ð/. Thus, deviations from British/American English pronunciation with regard to the production of most consonant sounds may hinder communicative success when a non-native speaker of English interacts with other non-native speakers. Accordingly, the omission of the alveolar consonant sound /t/ in the words *spirit* and *what*, produced by F2 and B2 respectively, hindered speakers' intelligibility. This type of deviation identified in this research, then, parallels with Jenkins'

statement that consonants are important for an intelligible pronunciation.

With regard to vowels, Jenkins (2000) points out that vowel length distinctions, i.e., the contrast between long and short vowel sounds, are important for the phonological intelligibility in EIL interactions. An interesting example found in the data presenting communication breakdown with regard to vowels is the replacement of the open-mid central unrounded vowel /ɜː/ by the open-mid back rounded vowel /ɔː/ in the word *working*. Evidently, the replacement of /ɜː/ by /ɔː/ does not correspond to the distinction between long and short vowels highlighted by Jenkins (2000). Instead, the referred replacement of phonemes consists of a deviation regarding vowel quality, which is an aspect excluded from LFC.

According to Richards & Schmidt (2002), vowel quality refers to the features which distinguish one vowel sound from another, as determined by the position of the tongue and lips. Thus, in relation to foreign language performance, it comprises the use of a different quality in the production of the target phoneme. According to Jenkins (2000), vowel quality regards the difference in the production of vowel sounds which is not related to length, e.g., the pronunciation of /e/ as /æ/. According to the author, such an aspect is not essential for intelligibility in EIL interactions, given that vowel quality is not stable even across native varieties of English. However, the replacement of the sound /ɜː/ by another vowel sound is regarded as an exception in her work, since it proved to cause communication problems in a number of interactions investigated by the author. As a result, the author made an exception in the LFC (JENKINS, 2000: 146), and included vowel quality regarding the sound /ɜː/. The intelligibility problems caused by the replacement of /ɜː/ by another vowel sound in Jenkins' research occurred due to the creation of another word known. One of the examples mentioned by the author is the pronunciation of "curtain" as "carton", with the replacement of /ɜː/ by /aː/. Accordingly, the replacement of /ɜː/ by /ɔː/ in the word *working* by F1 created another known word (*walking*), and this led to an intelligibility problem between F1 and B1. In short, the type of deviation produced by the French participant in this research is rightfully included in LFC.

The other type of deviation in the category *vowels* refers to the deletion of the vowel sound /ɪ/ in the word *reactions*. Although this type of error is not directly addressed by the author, it is possible to assert

its inclusion in the LFC, owing to the prominence given to the production of vowel sounds and to the avoidance of incorrect deletions.

Concerning diphthongs, Jenkins' pedagogical proposal takes them into account, since her findings showed their importance for intelligibility, with special regard to /aʊ/, /aɪ/ and /ɔɪ/, which "are common to all NS varieties" (JENKINS, 2000: 145) and, therefore, significant for general intelligibility. As for the other diphthongs, the author states that it is length rather than quality which is most important for intelligibility, since many native accents of English present different productions of the same diphthong with regard to quality, e.g., the word "cake", which is pronounced as /kaɪk/ in South London but as /keɪk/ in RP (JENKINS, 2000). The three samples of interactions containing deviant pronunciation of diphthongs reveal that they are in fact essential for an effective communication among ELF speakers. However, rather than applying L1 qualities to the diphthongal productions, the participants who had communication problems regarding this category deleted either the vowel or the semivowel sound. Thus, the deletion of a segment in the diphthongs of the words *hope*, *identity*, and *gay* proved to cause communication problems among the participants involved in this research. The results obtained here, then, confirm Jenkins' evidence on the importance of diphthongs for the phonological intelligibility in international settings.

The last category comprises communication breakdowns due to deviations in both vowels and consonants. The production of *could* as [k$^{=}$ud] by B2 reveals two types of deviation: the lack of aspiration of the voiceless velar plosive /k/ and the replacement of the half-close back rounded vowel /ʊ/ for the close back rounded vowel /uː/. Concerning the fortis plosives /p/, /t/ and /k/ in word-initial position, Jenkins (2000) considers the aspiration of these consonants important. Thus, the lack of aspiration of /k/ by B1 may have contributed to the communication problem captured between B1 and B2, since the listener understood *could* as *good*. The replacement of /ʊ/ by /uː/ by B1 demonstrates his inability to contrast different vowel heights and lengths, the latter being an aspect regarded as essential for intelligibility in ELF contexts. Therefore, the production of [k$^{=}$ud] presents deviations from two relevant pronunciation features, namely lack of aspiration and vowel quantity. Such a combination consequently resulted in communication breakdown.

Comparable to the production of [k$^{=}$ud], analyzed in the previous paragraph, the pronunciation of *miss here* as [miːsɪə̷ɹ] presents

deviations from two phonological features which are considered essential by Jenkins (2000): 1) the inaccurate distinction of vowel length, namely short /ɪ/ and long /iː/; and 2) the deletion of the consonant sound /h/.

In conclusion, it is possible to perceive that all the phonological aspects analyzed in this section are present in Jenkins' pedagogical proposal. This being the case, the results obtained here corroborate LFC, given that they are in accordance with the phonological features included in Jenkins' model.

Final remarks

The results obtained from the data analysis make it possible to answer the research questions formulated in the introduction: i) what pronunciation aspects hindered the intelligibility of six speakers of ELF?; and ii) are the phonological aspects which hindered speakers' intelligibility present in the pronunciation model provided by Jenkins (2000)?

The pronunciation features which caused communication problems among the six speakers of ELF involve deviations from British/American English with regard to *consonants, vowels, diphthongs* and *vowels and consonants.* In spite of the fact that intelligibility is being claimed as a more appropriate pronunciation target for learners of ESL/EFL than a native-like performance, certain phonological aspects regarding ENL need to be emphasized in the teaching of pronunciation so as to guarantee an efficient communication among speakers of ELF. Some of these aspects involve the production of consonant sounds (as in the cases where the /t/ sound was omitted in the words *what* and *spirit*, resulting in communication problems), and diphthongs (since all the examples presenting the omission of a segment in diphthongs led to misunderstandings among the participants), to mention only some of these aspects.

As an answer to the second research question – "are the phonological aspects which hindered speakers' intelligibility present in the pronunciation model provided by Jenkins?" –, it is possible to state that all the factors identified in the analysis refer to those included in the LFC.

Excerpts 1 and 2, with communication problems caused by the influence of French on the speaker's L2 production, showed that the listener's lack of familiarity with the prototype of French English played

an important role for the unintelligibility of the speaker. Two other participants who are familiar with the way French people speak English had no difficulties for understanding the interlocutor. Hence, a suggestion for future research is investigating the intelligibility of speakers of ELF from a wider range of first language backgrounds, since this study had limitations with regard to the diversity of the participants' mother tongues, which involved only Portuguese and French. Granted such a variety of participants' L1 backgrounds, it would be possible to analyze the relation between intelligibility and variables such as the listener's familiarity with a given variety of English and the effects elicited by an approximation of the listener's L1 to the speaker's.

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