

# A pilot study of bidirectional transfer in English and Brazilian Portuguese

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## Outras informações

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**ABSTRACT:** Most studies on language acquisition focus on the linguistic transfer of a first language (L1), or a previously learned language, on the acquisition of a second language (L2) or an additional language. Very few studies look at transfer from a different perspective: L2 transfer to L1, and this may be because it is believed that once L1 is acquired it becomes stabilized and it may not suffer from interference of additional languages learned in other stages of life. Thus, this squib aims at presenting a pilot study investigating L2 transfer to L1. More specifically, I want to know whether the advanced knowledge of an L2 interferes in the judgment of grammaticality in L1. Brazilian Portuguese as an L1 and English fluent speakers as an L2 take part of this study in which they answer a self evaluation questionnaire on their English proficiency and use, and are asked to judge the grammaticality of sentences presented in their L1, Brazilian Portuguese (BP). A control group of BP speakers with basic English knowledge is also included in the study in order to compare performances between groups. The transfer from languages in either way is also called bidirectional transfer, and results may be explained on the basis of this conception.

**KEY WORDS:** transfer; grammaticality; SLA; bidirectional transfer

## Introduction

It is becoming more and more difficult to find pure monolinguals in the world today. People are engaging in learning new languages, cultures are closer and the phenomena of bilingualism and multilingualism is rapidly spreading around the world. Monolingual countries seem to only exist in theory, for instance, theoretically, Brazil is a monolingual country, but in reality one can find between 160 and 180 languages spoken in the country (RODRIGUES, 2014). Therefore, it becomes even more important to study how the knowledge of more than one language may have an impact on a variety of things such as society, cognition, government, and on the languages themselves. Bilingualism is a very broad area of study in linguistics and fields interested in the process of learning, acquiring, and processing two or, in the case of multilingualism, more languages. Often these studies mention how the L1, or the native language, of a speaker may influence on learning and acquiring a second language. The discussion often points to the issue when a previous learned language plays an important role on the acquisition of a subsequent learned language, in the sense of interference or transfer. Thus, there are many studies on L1 transfer to L2 and they mostly explore the idea of a unidirectional transfer (to mention some: RINGBOM, 1992; FEI, 1997;

SLABAKOVA, 2000; PIENEMANN, 2005; HERMAS 2014; ZUFFEREY, 2015). In the present study, however, we analyze the phenomena of acquiring a new language from a different perspective, as a bidirectional transfer. As defined by Pavlenko & Jarvis (2002), the concept of bidirectionality in language transfer is understood as the influence of both L1 and L2 in either direction, that is, transfer from L1 to L2, and from L2 to L1. Although few studies have explored this matter, this idea is not brand new. Back in 1953, Weinreich mentioned interference as “those instances of deviation from the norms of either language which occur in the speech of bilinguals as a result of their familiarity with more than one language” (WEINREICH, 1953, p. 1). What happened after that is that few attention was given to the fact that he said either language, that is, the interference of both L1 and L2. Over the past decade, some attention has been given to it, for instance, Vivian Cook published a book devoted to the issue (*Effects of the Second Language on the First*, 2003).

However, in Brazil very few are the studies carried on this matter. Thus, the aim of this study is to look at participants whose first language is Brazilian Portuguese (L1) and second language is English (L2) performing grammaticality judgments of sentences in their L1 as compared to less proficient in the L2 as English controls. This way, we want to investigate whether the knowledge of an L2 interferes in the judgment of grammaticality in L1, and whether L2 transfer to L1 is more likely to happen when L2 is more proficient.

## 1. Bidirectional transfer

Pavlenko & Jarvis (2002, p. 190) define bidirectional transfer as “the notion that in the oral and written production of the same adult L2 user, crosslinguistic influence can simultaneously work both ways, from L1 to L2, and from L2 to L1”. The knowledge of two languages has been widely studied in many fields, for instance, Cook (2003) reflects upon the effects of the second language on the first, wondering what are the roles played by languages once there are two languages in the same mind, revealing the concept of multicompetence as the ability of having many languages in only one mind. The researcher discusses the existence of three kinds of models regarding vocabulary, a separation, an integration model and an interconnected model. On the one hand, the separation model claims that the

different languages of a speaker have no connection in the mind, that is, they are totally separated. In this case, the model is not even close to assuming L2 effects on L1. On the other hand, the integration model is quite the opposite, once it claims that two languages are integrated in the same system. In order to counterbalance these last two models, Cook (2003) presents the interconnection model, which consists of linked languages in the system, one of the most assumed model in second language acquisition. One of the most known interconnection model is the Revised Hierarchical Model (RHM). According to the Revised Hierarchical Model (KROLL, & STEWART, 1994), semantic representations are shared between the languages of a speaker. The model assumes that less proficient L2 speakers would at first have to be mediated by L1 lexicon in order to utter sentences. However, as the speaker becomes more proficient in his/her L2, the access can be direct. So, the proficiency of the L2 plays a role on the integration of languages. The model also predicts translation time, postulating that translating from L2 to L1 is much faster than the opposite.

One of the few studies on bidirectional transfer is authored by Degani, Prior & Tokowitz (2014). They investigated the bidirectional transfer of English and Hebrew speakers and found out the possibility of a bidirectional semantic transfer. The researchers argue that the semantic system may be rather unstable and that it can change over time as the speaker learn more languages, corroborating the idea of a bidirectional transfer and an integrated semantic system.

Pavlenko & Jarvis (2002) studied Russian and English speakers performing oral narratives in both languages and found L2 transfer to L1 in six categories of transfer: framing, semantic extension, lexical borrowing, case marking, loan translation and subcategorization. Some of these categories will be better explained in the methodology section since they are used in this study as well.

## **2. Method**

### **2.1 Instrument and Procedures**

A questionnaire was elaborated on a website ([www.surveymonkey.com](http://www.surveymonkey.com)) and sent online to participants between the ages of 18-59. The questions consisted of participants age, languages (it was specifically asked which languages participants were familiar with and their level of proficiency as judged by

themselves). In the case of English, they answered a question on how often they use English in their daily lives and when they started learning it (age of acquisition).

## 2.2 Linguistic task

The linguistic task consisted of the judgment of grammaticality of twelve sentences, three of which were fillers. The sentences were presented in the written form and the classification of types of transfer is adapted from the study of Pavlenko & Jarvis (2002). The types of transfer investigated are split into paradigmatic and syntagmatic. Among the paradigmatic types are the semantic extension, which refers to extension in the use of L2 words and expressions to include the meaning of a perceived L1 translation equivalent. For example, in the sentence *Tive que salvar muito dinheiro para viajar ano passado*, the verb *salvar* is being misused with the meaning of *to save*, a better verb choice would be *guardar*, or *economizar*. A second type of paradigmatic transfer is the lexical borrowing, it refers to the use of a phonologically and sometimes morphologically and/or orthographically adapted word from one language in the other language. For example, in the sentence *Estudar geologia também envolve diferentes áreas da bioquímica*, the word *envolve* is an adaptation of the word *involves* in English, but it is misspelled. The right spelling would be *envolve*. The syntagmatic type of transfer is the word order interference, and it refers to sentences in a language using the word order of another language. The sentences created here follow the least conventional word order in BP, they are not considered ungrammatical but they are less common. It should also be noted that when these sentences are used in context they may have very subtle differences in meaning, however, discussing these differences in context is not the concern of this squib. For example, in the sentence *A querida mãe abraçou sua filha ao vê-la*, the most conventional way of saying this sentence would be as in *A mãe querida abraçou sua filha ao vê-la*, following the order noun+adjective, most common in BP. It is important to highlight that, different from the others, this sentences are not wrong, however, it is predicted that bilinguals will think of them as more grammatical than monolinguals because they follow the order of English (adjective+noun).

Among the twelve sentences, participants were given the sentences *Este homem querido* and *Este querido homem*. The task was to decide which of the sentences were more acceptable in BP, and the options were the a) first sentence, b) the second sentence, c) both are equally acceptable because they have different meanings, d) both are equally acceptable because they have the same meaning. This sentence can only be translated to English in one sentence: This dear man.

Three other sentences were presented as fillers, they had no apparent possibility of transfer, and they were important in order to check whether participants were paying attention to the task, once they are common sentences in BP.

### 2.3 Hypothesis

We hypothesize that L2 level of proficiency will interfere with the judgment of L1 sentences. That is, the more proficient the L2, the more interference of L2 with the judgment of an L1 sentence. The consequences of L2 interfering with L1 might bring into light the possibility that both grammars are activated while one is speaking, corroborating integration and interconnected models. In the case of L2 not interfering in L1 it may be due to the fact that L1 is already stable and may not be interfered and influenced by subsequent acquired languages.

In relation to sentences *Este homem querido* and *Este querido homem*, we predict that less proficient speakers will judge the first as more acceptable because it follows the noun+adjective order in BP, and fluent speakers will judge both sentences as grammatical because the English order is adjective+noun. If they do not choose a) or b), we hypothesize that monolinguals will answer letter c), and bilinguals will answer letter d).

### 2.4 Participants

Initially, 30 participants answered the questionnaire. Participants who had experience with teaching languages (either a foreign or their native language) were excluded. Of the remaining, only participants who had fluent English and declared to use it on a daily basis were included in the Fluent English Speakers group, and for the control group participants who declared having basic or no knowledge of English were included. The final sample for this study is presented in

Table 1. Fluent English Speakers mean age of acquisition of English was 8 years old. All participants have already completed at least high school, but have not yet completed their undergraduate education.

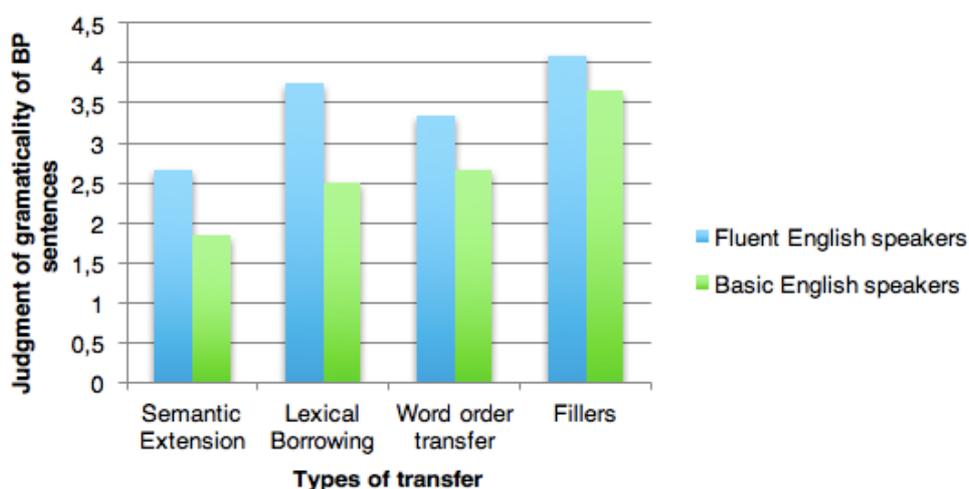
Group	n	Mean age
Fluent English Speakers	4	25,75
Basic English Speakers	4	33,75

**Table 1.** Participants characteristics

It is important to highlight that all participants declared having at least basic or intermediate knowledge of another language such as French, Italian, German and others. This is a phenomenon already mentioned, that everyday it gets more difficult to find pure monolinguals in the world. None of the participants declared being advanced or fluent speakers of these languages.

### 3. Results and discussion

Results show that in the judgment of grammaticality of sentences, English fluent speakers tend to judge sentences as more grammatical, even the fillers, when compared to the less proficient speakers. As for the types of transfer, Graph 1 summarizes the answers. The higher the score, the more grammatical the participants judged the sentences. So, as one can infer from these results, fluent speakers tended to have higher scores in all types of transfer: semantic extension, lexical borrowing and word order transfer.



**Graph 1.** Mean types of transfer for each group

This preliminary results agree with the findings of Pavlenko & Jarvis (2002) in terms of semantic extension, and lexical borrowing. It is interesting to observe that fluent speakers judged as more grammatical all sentences in all categories of transfer, including the fillers, which do not contain possible transfers. Cook (2003) discusses the existence of three kinds of models regarding vocabulary, a separation, an integration and an interconnected model. In the light of these results, we can think of the integration and/or interconnected model, but not the separation model. This is because if there really existed two separated places for both languages in the mind, we should not expect transfer because when one is activated the other is left aside (like a switch, perhaps). However, the semantic extension and lexical borrowing transfer reflect that it seems languages are all integrated and even when we are using one of them, it is competing with the another. Thus, speaking in one language is also trying to avoid another, and, as illustrated in these results, the more proficient the speaker, more transfer he/she might experience from the second language. Corroborating the Revised Hierarchical Model (KROLL, & STEWART, 1994), which deals mostly with semantics, the more fluent a speaker is, the more integrated conceptual systems are, the strength between L1 and L2 is stronger in both ways, and the greatest the possibility of interference of one language on another, in either direction. However, Pavlenko (2009) proposes a model that may explain transfer more efficiently, the Modified Hierarchical Model. The model intends to account for the phenomenon of conceptual transfer, which is similar to semantic extension. It assumes that conceptual representations are only partially shared between two languages, and are completely language specific, which is the same as saying that words are not equivalent between two languages; a great example is “Tive que *salvar* muito dinheiro para viajar ano passado” in which the meaning of the verb *to save* has been transferred to the lexicon in BP.

The lexical and the semantic system are believed to be different systems, therefore we might expect lexical borrowing but not semantic extension or vice-versa. However, they are interconnected systems, thus, in order to have access to meanings of words, one has to have access to the word itself. In the lexical borrowing case, what happened is that an English lexical item was used in a BP sentence and apparently accepted by all the participants. This result could be due

to the high similarity between words, which itself can also be a condition for lexical borrowing, and lack of attention of the participants. If it were only a lack of attention to the orthographic form, perhaps both groups would have had a similar judgment to the sentence. However, it was most accepted by the more proficient speakers and this can be an indication of a possible interference of the English orthographic system into the BP orthographic system. In this case, the knowledge of the orthographic form of the English word interfered with the judgment of the BP sentence.

Concerning the word order transfer, specifically adjective placement, we found transfer from English to BP. Fluent speakers understood the sentence in BP ordered according to the most common English word order as more grammatical when compared to the judgment of the less proficient speakers. In this case, the English fluent speakers transferred the adjective+noun order in English to BP. This way, the word order transfer may also corroborate the unstable nature of native speaking.

The results obtained for the sentences *Este homem querido* and *Este querido homem* were inconclusive and further research is needed. Two fluent English speakers answered that both are equally acceptable because they have different meanings, and the other two answered that both are equally acceptable because they have the same meaning. The answers of two of the basic English speakers partially corroborate our prediction in which they evaluated the sentence *Este homem querido* as more grammatical. It was expected this kind of answer once the sentence follows the noun+adjective most common order in BP. However, the other two participants answered that both sentences are equally acceptable because they have the same meaning, the opposite of what was expected. Further research must be done in order to achieve more conclusive results on this kind of task.

#### 4. Conclusions

This study investigated the occurrence of bidirectional transfer between English and Brazilian Portuguese. Fluent and basic speakers of English were compared when performing grammaticality judgments of BP sentences. The preliminary results indicated that the most proficient speakers tended to judge

sentences as more grammatical, presenting semantic extension, lexical borrowing and word order transfer. The bidirectional transfer found in this study may be an indication of the integration of linguistic systems when speakers have advanced linguistic knowledge of the languages being tested.

Even though this was a pilot study with some limitations such as a small number of participants and stimuli, and lack of statistical analysis, these results may shed some light on the fact that languages in the mind are in constant process of change, be them native or later learned ones. In the sample analyzed in this study, all participants live in Brazil but use English on a regular basis, thus, it can be argued also that the regular use of two or more languages might trigger integrated systems and, as a consequence of that, bidirectional transfer. Further studies could elucidate the effect of variables such as frequency and context of use, age of acquisition, and cultural identification on the occurrence of bidirectional transfer between languages. Also, further research must be done including more participants, more tasks and deeper analyses in order to reach more consistent conclusions.

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**RESUMO:** A maior parte dos estudos em aquisição de linguagem concentra-se no fenômeno de transferência linguística da primeira língua (L1), ou de uma das línguas previamente aprendidas, para uma segunda língua (L2), ou língua adicional. Poucos estudos referem-se à transferência sob uma perspectiva diferente: transferência da L2 para a L1, e isso pode dever-se ao fato de que se acredita que, uma vez que a L1 é adquirida, ela é estável e não sofrerá interferência de outras línguas aprendidas em outros estágios da vida. Desta forma, este *squib* tem o objetivo de apresentar um estudo piloto que investiga a transferência da L2 para a L1. Mais especificamente, queremos saber se um nível mais avançado de conhecimento de uma L2 interfere no julgamento de gramaticalidade na L1. O grupo de participantes fluentes é formado por falantes de português brasileiro (PB) e fluentes em Inglês, e são convidados a responder a um questionário de auto avaliação de sua proficiência e uso da língua inglesa, e a julgar a gramaticalidade de sentenças apresentadas na sua L1 (PB). Um grupo controle de falantes de PB com Inglês básico também foi incluído no estudo com o objetivo de comparar o desempenho entre grupos. A transferência de línguas das duas vias também é chamada de transferência bidirecional e os resultados serão explorados com base nesse conceito.

**KEY WORDS:** transfer; grammaticality; SLA; bidirectional transfer

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