# THE INFLUENCE OF CONNECTIVES ON READING COMPREHENSION: EFL LEARNERS READING AN EXPOSITORY TEXT IN ENGLISH

#### **Fernanda Ramos MACHADO**

Universidade Federal de Santa Catarina - UFSC

Abstract: Drawing on research in the field of reading comprehension, the present study proposes to investigate the effects of connectives on the comprehension of an expository text in English. To do so, three objectives were settled: a) to investigate whether the reading time will be affected by the presence/absence of connectives; b) to investigate whether the recall will be affected by the presence/absence of connectives, and c) to investigate whether comprehension will be affected by the presence/absence of connectives. The data were collected from 16 native speakers of Brazilian Portuguese who were evenly divided in two groups: the original text group and the manipulated text group. Firstly, they read a text in English in which reading time was measured. Secondly, they wrote, in Portuguese, a recall protocol stating as much as they could remember from that text. Finally, they answered comprehension questions, in Portuguese, about that text. The analysis consisted of interpretation and constructions of meanings from the data collected. Results suggest that even though the use of connectives did not affect the reading time of the text, in general, the presence of connectives positively influences reading comprehension.

**Keywords**: Connectives. Reading Time. Recall. Reading Comprehension.

# A INFLUÊNCIA DE CONECTORES NA COMPREENSÃO LEITORA: APRENDIZES DE INGLÊS COMO LÍNGUA ESTRANGEIRA LENDO UM TEXTO EXPOSITIVO EM INGLÊS

**Resumo:** Baseado em pesquisas no campo da compreensão da leitura, o presente estudo se propõe a investigar os efeitos de conectores na compreensão de um texto expositivo em inglês. Para tanto, três objetivos foram estabelecidos: a) investigar se o tempo de leitura será afetado pela presença / ausência de conectores; b) investigar se o *recall* será afetado pela presença / ausência de conectores, e c) investigar se a compreensão será afetada pela presença / ausência de conectores. Os dados foram coletados de 16 falantes nativos do português brasileiro, que foram

divididos em dois grupos: o grupo do texto original e o grupo do texto manipulado. Primeiramente, os participantes leram um texto em Inglês, onde o tempo de leitura foi medido. Em seguida, eles escreveram um texto (*recall protocol*) em português apresentando tudo que eles conseguiam se recordar do texto. Por fim, eles responderam em português algumas perguntas de compreensão do texto.. A análise consistiu da interpretação e construção de significados a partir dos dados coletados. Os resultados sugerem que, embora o uso de conectores não tenha afetado o tempo de leitura do texto, em geral, a presença de conectores influencia positivamente a compreensão leitora.

Palavras-chave: Conectores. Tempo de Leitura. Recall. Compreensão Leitora.

# LOS EFECTO S DE LAS CONJUNCIONES EM LA COMPRENSIÓN DE LA LECTURA: ESTUDIANTES DE INGLÉS COMO LENGUA EXTRANJERA LEYENDO UN TEXTO EXPOSITIVO EN LENGUA INGLESA.

Resumen: Teniendo en cuenta la investigación en el campo de la comprensión de la lectura, el presente estudio pretende investigar los efectos de las conjunciones en la comprensión de un texto expositivo en lengua inglesa. Para ello se establecen tres objetivos: a) investigar en qué medida la presencia/ausencia de conjunciones afecta al tiempo de lectura; b) investigar cómo afecta la presencia/ausencia de conjunciones en el *recall* y c) investigar el efecto de la presencia/ausencia de conjunciones sobre la comprensión del texto leído. Se reunieron datos de 16 individuos de lengua nativa portugués brasileño, que fueron separados en dos grupos: un grupo con el texto original y otro grupo con el texto manipulado. Primero, se procedió a medir el tiempo de lectura del texto en inglés. Segundo, se les pidió que escribieran en portugués una redacción incluyendo tanta información como les fuera posible recordar sobre el texto leído. Finalmente, se les pidió que respondieran a preguntas de comprensión sobre texto citado, formuladas en portugués. El análisis se basó en la interpretación y la elaboración de significados a partir de los datos reunidos. Los resultados sugieren que, aunque el uso de conjunciones no afecta al tiempo de lectura, en general, la presencia de ellos favorece de forma positiva la comprensión de la lectura.

Palabras clabe: Conjunciones. Tiempo de Lectura. Recall. Comprensión de la Lectura

#### **INTRODUCTION**

Research on reading comprehension has claimed that the comprehension of a text involves the reader's construction of a coherent mental representation of it at both the sentence

level and at the level of the text as a whole (KINTSCH & VAN DIJK, 1978; MURRAY, 1995; O'BRIEN & MYERS, 1999). Literature on the use of connectives has not yet reached a consensus as to what extent they facilitate the construction of these mental representations of texts (MURRAY, 1995; SANDERS & NOORDMAN, 2000; DEGAND & SANDERS, 2002; ANATH, 2005, MARTINS ET AT, 2006;). In this sense, the objective of the present study is to verify whether the presence or absence of connectives affects the comprehension of an expository text in English read by non-native speakers of this language.

#### 1. REVIEW OF THE LITERATURE

One of the most influential studies in the area of text comprehension is that of Kintsch and van Dijk's *Toward a model of text comprehension and production* (1978). They claim that even though the mental operations involved in text comprehension are very complex, one way of describing them is breaking the comprehension process into smaller parts. Their model accounts for one of these parts, looking at the text as a semantic structure. This semantic structure is composed by semantic units, called propositions, which are organized at two levels. At the first one, the microstructure level, local relations between propositions happen resulting in the *textbase*. At the second one, the macrostructure level, the propositions are related to the topic of the discourse since establishing local relations is not enough for comprehending a text.

The result of these mental operations (micro and macro processes) is a coherent and structured *textbase* organized around a theme. Once the reader connects the textbase to his or her prior domain knowledge, a *situation model* of the text is constructed (FERSTL & KINTSCH, 1999; TAPIERO & OTERO, 1999). So, if the textbase and the situation model are the results of mental operations that happen during the reading comprehension process, by assessing these outcomes formed by the reader we might determine how he or she comprehended the text. One factor that helps the construction of a coherent situation model is the structure of the text itself (ZWAAN & BROWN, 1996). In other words, if the text is well structured and its ideas well

connected, comprehension may be facilitated. Some authors argue that coherence is increased by adding connectives to a text (HALLIDAY & HASAN, 1976; GOLDMAN & MURRAY, 1992; and LEHMAN & SCHRAW, 2002; as cited in MURRAY, 1995; DEGAND AT AL, 1999; DEGAND & SANDERS, 2002). Connectives are "a form of text signal" (MURRAY, 1995, p.107), they indicate different relation between sentences and/or paragraphs. For example, they can indicate addition (in addition, moreover), adversativity (although, however), cause and effect (because, as a result), clarification (in other words, that is), illustration (for example, for instance), among others (SWALES & FEAK, 1994).

As mentioned previously, a consensus has not yet been reached as to what extent connectives assist text comprehension. On the one hand, Spyridakis & Standal (1987, as cited in KAMALSKY ET AL, 2008) state not to have found "any effect of coherence marking on text comprehension questions" (p.324). In more recent research, Murray (1995), Sanders & Noordman (2000) and Martins et al (2006) could not recognize a clear relation between the use of connectives and enhanced text comprehension. On the other hand, there are some authors who found that comprehension was facilitated by increasing text coherence through the use of connectives (DEGAND ET AL, 1999); DEGAND & SANDERS, 2002; LEHMAN & SCHRAW, 2002; KAMALSKY ET AL, 2008).

In a study carried out by Murray (1995), the author assumes that logical connectives may affect local coherence during reading in two different ways. The first refers to the signaling function of connectives, that is, they indicate the link between the forthcoming sentence and what has just been read. As a consequence, the information surrounding the connective would be more easily integrated into the mental representation of the text, this being the second function of connectives: the integrative function. The author carried out a study that investigated the extent to which the functions of connectives (signaling and integrative) would affect local coherence during reading.

Results indicated that the presence of adversative connectives decreased reading time, supporting the assumption that connectives functioning as signals do required less information processing time from readers. However, it was only true for adversative connectives. The reading time for causal connectives slightly increased, which according to some authors such as Lorch, 1989; Trabasso & Sperry, 1985; Trabasso & van den Broek, 1985 (as cited in MURRAY, 1995), may indicate that this type of marker alerts readers to pay more attention to the upcoming sentence, requiring more processing time. Finally, the data showed that reading time was not affected by either the presence or absence of additive connectives. The explanation for that result is that additive markers only signal further elaborations on the information of the sentence just read, which requires neither more nor less processing time from readers. Concerning the function of connectives in helping the construction of a mental representation of the text, results showed that the presence of the three types of connectives investigated did not affect the quality of recall. However, when these results were analyzed together with the reading time, the author interpreted that adversative connectives seemed to facilitate the integration of information to the mental representation of the text.

In another study, Sanders & Noordman (2000) argue that literature about the influence of connectives on text comprehension have been focusing mostly on the reading of narrative texts, thus offering a limited contribution to the area since, compared to the reading of expository texts, the former "have a very peculiar structure, which is not very complex and quite stereotypical" and "rely on a large amount of experiental background world knowledge to flesh out the meaning representation" (p.39) while the latter "readers rely less on their knowledge of stereotypical stories" and "better reflect the influence of text characteristics to guide the construction of a meaning representation" (p.39). For this reasons, their study focuses on expository texts and aims at investigating whether the type of coherence relation (causal versus additive/contrastive) plays a role in text processing and the way in which linguistic marking influences processing.

Results show that the type of coherence relation does play a role in text processing being that texts presenting problem-solution relations (causal) were faster processed and better recalled than list relation (additive) ones, thus supporting the idea that some coherence relations structure texts more strongly than others. According to the authors, this finding points to the relevance of coherence relations in the construction of a cognitive text representation. Concerning the study's second aim, results show that linguistic marking contributes to faster text processing, but not to recall. The authors add to this finding by stating that "coherence relations are an indissoluble part of the cognitive representation itself, whereas linguistic markers like connectives and signaling phrases are merely expressions of these relations, which guide the reader in selecting the right coherence relation" (p.55). In any case, there is still no evidence on the exact role of connectives in text comprehension.

Among the authors who found that the use of connectives facilitated text comprehension are Degand & Sanders (2002). In their study, they argue that the lack of consensus in the literature on the effect that linguistic markers have on text comprehension is due to some problems in conducting the studies. The first one concerns the definition of the linguistic marker category under investigation, in which a conflation of two different types of signaling (importance signals and relational signals) seemed to be occurring. The authors present findings from some studies showing that each signal influenced text processing in different ways, being that importance signals lead to slower text processing and better recall and relational signals lead to faster text processing but evident influence on recall. The second problem regards experimental texts construction, in which connectives were simply incorporated between sentences regardless of their relational coherence. The third is related to experimental methods which might not be sensitive enough to the effects of connectives and, finally, the fourth problem had to do with the fact the studies have not been taking into consideration the characteristics of the readers, such as their content domain and goals for reading.

In an attempt to overcome these problems that lead to lack of consensus in the literature,

Degand & Sanders' study aims at investigating the impact of connectives on expository text

comprehension in L1 and L2<sup>1</sup>, and they do that by "testing the hypothesis that relational markers

do influence the reader's representation after reading, provided that the experimental set-up

succeeds in avoiding research problems like the ones mentioned" (p.745) and exploring how causal

connectives or causal signaling phrases interacts with linguistic knowledge and language

proficiency. Results show that both causal connectives and causal signaling phrases lead to better

answers for the comprehension questions, suggesting that "linguistic markers help readers construct

a coherent cognitive representation of the information in the text"(p.758). In addition, they also

found that both L1 and L2 readers had a better comprehension of the text with connectives than

without them, and that no effect resulted from the interaction between the presence/absence of

connectives and L2 readers' language condition.

This section reviewed some relevant literature for the present study. The next section

describes the study carried out in terms of objectives and method. Then, we discuss the results

from the data collection, and point out some limitations. Finally, we present some final remarks.

2. THE STUDY

Having noticed the important role that connectives can play in facilitating text

comprehension and noticed also the low number of studies addressing this issue in the

context of L2 reading, the present study proposes to investigate the effects of connectives on

the construction of the textbase and the situation model of a text in a foreign language

(English).

Some researchers in the field of reading comprehension argue that because we have

limited capacity, the construction of the situation model of an L2 text places a heavier burden

<sup>1</sup> L1 refers to mother tongue (Dutch) and L2 refers to foreign language (French).

75

Disponível em: www.unitau.br/caminhosla

on readers than when the text is in the L1. This is so because lexical access and syntactic

processing (more basic cognitive processes) are more resource consuming on the L2 for less

fluent learners (ZWAAN & BROWN, 1996). In our work, we opted for looking at advanced EFL

learners for the reason that despite being expected to have few problems with lexis and

syntax and therefore being able to devote more cognitive resources to the processing of

function words, such as connectives; still, they might not have sufficiently high L2

competence level and thus go through some difficulties in processing a text in English.

3. **OBJECTIVES AND HYPOTHESES** 

The general objective of the present study is to assess the influence of connectives in the

comprehension of an expository text in English read by native speakers of Brazilian Portuguese.

The three specific objectives of the study are to:

a) Investigate whether the reading time will be affected by the presence/absence

of connectives;

b) Investigate whether the recall will be affected by the presence/absence of

connectives, and c) Investigate whether comprehension will be affected by the

presence/absence of connectives.

Based on the literature reviewed in section 2, the rationale for the first hypothesis is that

connectives function as text signals and therefore they will facilitate the comprehension processes

leading to a decrease in reading time (MURRAY, 1995). The rationale for the second hypothesis is

that the use of connectives facilitates the construction of the mental representation of the text

(DEGAND & SANDERS, 2002) and therefore the recall would be more accurate for texts with

connectives. Finally, the rationale for the third hypothesis is that connectives increase the

coherence of a text, which in turn is said to facilitate the integration of new information to the

textbase and situation model (LEHMAN & SCHRAW, 2002; DEGAND & SANDERS, 2002; MURRAY,

1995). Since textbase and situation model are the representations of the text built by the reader,

by assessing the textbase and the situation model it is possible to see how much of the text the

reader comprehended.

Having stated the rationale, the hypotheses are:

1) The presence of connectives will reduce the EFL learners' reading time of an

expository text in English;

2) The presence of connectives will lead to EFL learners' greater recall of an

expository text in English;

3) The presence of connectives will lead to EFL learners' better comprehension of

an expository text in English.

4. METHOD

Sixteen native speakers of Brazilian Portuguese volunteered to take part in this

experiment. The participants were advanced EFL students, of the extra curricular course at

Universidade Federal de Santa Catarina and were randomly assigned to make part of either the

original text group and the manipulated text group.

Materials consisted of two expository texts, a recall protocol and a comprehension

questionnaire. Regarding the texts, there was the original text (OT) and the manipulated version of

the same text (MT) (see appendix 1 and 2). The OT was extracted from an English academic writing

book for graduate students (SWALES & FEAK, 1994). It served the purpose of this study because it

contained connectives (more specifically additive, adversative and causal connectives). The

manipulated version of the text is different from the original one for the fact that the connectives

were removed. Some linguistics adaptations were necessary to maintain the relational coherence

in the manipulated text.

The whole experiment was carried out in two groups: the original text group with 8

participants and the manipulated text group with other 8 participants. In the beginning of the

session, one of the researchers explained to the participants that they would firstly read a text in

English. Secondly, they would write, in Portuguese, as much as they could remember from that

text (recall protocol). Finally, they would answer comprehension questions, in Portuguese, about

that text.

The reading time was measured with a chronometer and participants were instructed to

read the text continuously and only once. They were asked to raise their hands as soon as they

had finished their readings, so then the chronometer would also stop. After finishing reading, they

were handed out a paper for the recall protocol. Once participants finished their recall protocol

they were handed out the comprehension questions. (See appendix 3 and 4).

5. RESULTS AND DISCUSSION

**SCORES** 

In order to evaluate the recall protocol, we broke down the text into eight main ideas,

which we called propositions (see table 1). We used this set of propositions as a checklist to

analyze the recall protocol. A protocol statement scored as correct was one that had an

approximate meaning to that of the proposition.

The criteria used for analyzing the answers for the comprehension questions were: a) for

the first question, an answer scored one point if it contained a similar idea to that of proposition 2.

The same criterion was used for propositions 3, 4 and 5 of Table 1, b) for the second question, an

answer scored a point if it contained a similar meaning to that of proposition 6 of Table 1, and c) for the third question, an answer scored a point if it contained a message similar to that of proposition 8.

Table 1: Main ideas of the text

#### **Propositions**

- 1 Definition for meetings tourism
- 2 Advantage: financial rewards
- 3 Advantage: an increase in the number of job opportunities
- 4 Advantage: revitalization of the city
- 5 Tourists might come back
- 6 Disadvantages: meetings tourism is not risk-free
- 7 Despite the disadvantages, meetings tourism might be a good alternative
- 8 Meetings tourism might be a good alternative

#### TIME

Concerning the reading time, no significant difference was found. Both the natural group (who received the original text - OT) and the control group (who received the manipulated text - MT) spent approximately the same amount of time to read (2 to 3 minutes). This result does not corroborate the first hypothesis that predicted that the presence of connectives in the text would decrease reading time. It is important to point out that we looked at the reading time of the whole text, differently from Murray (1995) who looked at reading time for each pair of sentences separately.

#### RECALL

The results for the recall protocols are presented in table 2. Participants who read the original texts produced greater recalls, that is, most readers (6 readers) remembered most propositions of the text (4 propositions or more), whereas only 4 participants who read the manipulated text remembered 4 propositions or more. Altogether, the participants who read the

original text scored 36 points, as opposed to the other group that scored 25 points. These results corroborate the second hypothesis that predicted that the presence of connectives would lead to greater recall.

Table 2: Scores for Recall Protocols

Propositions		Participant's Scores															
	Origi	nal T	ext C	ondit	ion				Manipulated Text Condition								
	P1*	P2	Р3	P4	P5	P6	P7	P8	Р9	P10	P11	P12	P13	P14	P15	P16	
1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	
2	1	1	1	1	1	0	1	1	0	1	0	1	1	1	0	0	
3	1	1	1	1	1	0	1	0	1	0	0	1	1	1	0	0	
4	1	1	1	1	1	0	1	0	1	0	0	1	0	1	0	0	
5	1	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	
6	1	1	0	1	1	0	1	0	1	1	0	0	0	0	0	0	
7	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	

<sup>\*</sup> P1 corresponds to participant 1, P2 corresponds to participant 2 and so on.

A closer look at the data shows that 6 participants in the original text condition remembered all of the three propositions 2, 3 and 4, whereas only 2 participant s from the other group included them on their recalls. Also, 5 of the participants from the OT condition remembered proposition 6, whereas only 2 participants from the other group mentioned such information on their recalls. Finally, 4 participants from the OT condition included the seventh proposition in their recalls whereas none of the participants from the other group mentioned that information. For the participant to score a point for proposition 7, he/ she should necessarily include the idea of adversativity expressed by the conjunction "despite". An excerpt of a reader who included the seventh proposition is: "Although this kind of tourism offers a number of advantages, it doesn't mean that this business is risk-free; still, it is a good alternative for cities

with industries not yet developed."<sup>2</sup> In general, the propositions introduced by either additive (2, 3 and 4) or adversative (6 and 7) connectives were remembered better by participants who undertook the original text condition than by the group of participants that undertook the manipulated text condition. These results contribute with more evidence concerning the positive influence of connectives on the recall of information of a text.

Another interesting finding is that participants from the MT condition remembered more the proposition 2, 3 and 4 than the proposition 6 and 7. From that we can argue that the absence of adversative connectives impeded participants to recall information introduced by such connectives (proposition 6 and 7). On the other hand, the absence of additive connectives did not have such a big impact on recall. Therefore, we can argue that adversative connectives are more influential in the construction of the mental representation of the text than additive connectives, which is in accordance with the results found by Murray (1995).

#### **COMPREHENSION QUESTIONS**

The results for the comprehension questions are presented in table 3. All together, participants from the OT condition scored more points (23) in the comprehension question task than the participants from the MT condition (16). This result corroborated the third hypothesis in that the presence of connectives leads to a better comprehension of a text in English read by non-native speakers of this language. The results for the comprehension questions also replicate the findings from the recall protocol in that the proposition introduced by an adversative connective (proposition 6) was less recalled in the condition where connectives were absent. This can be verified on the numbers presented in table 3: five participants from the OT condition group included proposition 6 in their answers, whereas only 2 participants from the MT condition group

<sup>2</sup> Our translation: "Embora este tipo de turismo apresente uma série de vantagens, não quer dizer que não haja risco no negócio, e nem por isto deixa de ser uma boa alternativa para cidades com uma indústria ainda não desenvolvida".

included this information in their answers. These findings suggest that the absence of adversative connectives reduces comprehension.

The same is true for causal connectives. While in the OT condition group 2 participants comprehended the causal relation established by the connective that introduced proposition 8, none of the eight participants from the MT condition group could establish this relation.

Table 3: Scores for Comprehension Questions

Propositions		Participant's Scores																
	Original Text Condition									Manipulated Text Condition								
	P1	P2	P3	P4	P5	P6	P7	P8	Р9	P10	P11	P12	P13	P14	P15	P16		
2	1	1	1	1	1	0	1	0	0	1	1	1	0	1	0	0		
3	0	1	1	1	0	0	1	1	1	0	0	1	1	1	0	0		
4	1	1	1	1	0	0	1	0	1	0	0	1	1	1	0	0		
5	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0		
6	1	1	1	1	0	0	1	0	0	0	0	1	0	0	0	1		
8	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0		

Somewhat different results arose for the presence/absence of additive connectives. All together, participants from both OT and MT text condition scored similar number of points (16 and 12 points respectively), suggesting that the presence/absence of additive connectives did not strongly influence the readers' construction of a textbase and situation model of the text. However, it is important to emphasize that whereas 4 participants from the OT condition mentioned in their answer all the three advantages of meetings tourism (propositions 2, 3 and 4) introduced by additive connectives, only 2 participants from the other group did so. These findings suggest that the presence of additive connectives somehow positively did influence the comprehension of the text.

6. LIMITATIONS

We acknowledge that this study present some limitations. One of them concerns the small

sample of 16 participants. Besides that, the small range of connectives investigated could be

enlarged so that the results could be generalized. Finally, it would be interesting for future

research to test the effect of the use of connectives in text comprehension in different types of

texts.

**FINAL REMARKS** 

Even though the study presents some limitations, we believe that our study can contribute

to the body of research on the role of connectives for foreign language reading comprehension as,

to the best of our knowledge, investigation addressing the effects of connectives on expository

texts in English read by non-native speakers is still scarce (GEVA, 1992; DEGAND ET AL, 2002; and

ZADEH, 2006). The results discussed in section 4 suggest that the use of connectives did not affect

the reading time of the text. Furthermore, it was found that causal and adversative connectives

affected more the recall and the comprehension of the text than additive connectives. In general,

the presence of connectives positively influences the construction of the readers' textbase and the

situation model. More research is needed to be carried out to address the importance of

connectives for text comprehension and text production.

**REFERENCES** 

BEN-ANATH, D. (2005). The Role of Connectives in Text Comprehension. Columbia University

Working Papers in TESOL and Applied Linguistics. 5(2): 1-27.

DEGAND, L., LEFEVRE, N., & BESTGEN, Y. (1999). The impact of connectives and anaphoric

expressions on expository discourse comprehension. Document Design, 1, 39-51.

DEGAND, L., & SANDERS, T. (2002). The impact of relational markers on expository text

comprehension in L1 and L2. Reading and Writing, 15, 739–757.

83

Disponível em: www.unitau.br/caminhosla

MARTINS, D., KIGIEL, D., JHEAN-LAROSE, S. (2006). Influence of Expertise, Coherence, and Causal Connectives on Comprehension and Recall of an Expository Text, *Current psychology letters*, 20, Vol. 3

FERSTL, E.C. & KINTSCH, W. (1999). Learning from text: Structural knowledge assessment in the study of discourse comprehension. In H. Van Oostendorp & S.R. Goldman (Eds.), *The construction of mental representations during reading*. New Jersey, USA: LEA.

GEVA, E. (1992). The Role of Conjunctions in L2 Text Comprehension. *TESOL Quarterly*. 26(4): 731-747.

KINTSCH, W. & VAN DIJK, T.A. (1978). Towards a model of text comprehension and production. *Psychological Review, 85,* 263-294.

KAMALSKI, J., SANDERS, T., & LENTZ, L. (2008). Coherence marking, prior knowledge and comprehension of informative and persuasive texts: Sorting things out. *Discourse Processes, 45,* 323–345.

LEHMAN, S. & SCHRAW, G. (2002). Effects of coherence and relevance on shallow and deep text processing. *Journal of Educational Psychology*, *94*(4), 738-750.

MURRAY, J.D. (1995). Logical connectives and local coherence. In R.F. Lorch & E.J. O'Brien (Eds), *Sources of coherence in reading*. New Jersey, USA: LEA.

O'BRIEN, E.J. & MAYERS, J.L. (1999). Text comprehension: A view from the bottom up. In S. R. Goldman, A.C. Graesser & P. Van den Broek (Eds.), *Narrative comprehension, causality, and coherence: Essays in honor of Tom Trabasso.* New Jersey, USA: LEA.

SANDERS, T. & NOORDMAN, L. (2000). The role of coherence relations and their linguistic markers in text processing. *Discourse Processes*, 29: 37-60.

SWALES, J. M. & FEAK, C. B. (1994). *Academic writing for graduate students: A course for non-native speakers of English.* Ann Arbor: The Michigan University Press.

TAPIERO, I. & OTERO, J. (1999). Distinguishing between textbase and situation model in the processing of inconsistent information: Elaboration versus tagging. In H. Van Oostendorp & S.R. Goldman (Eds.), *The construction of mental representations during reading*. New Jersey, USA: LEA.

ZADEH, A.E. (2006). The role of textual signals in L2 text comprehension. ESP Malaysia, 12, 1-18

ZWAAN, R.A. & BROWN, C.M. (1996). The influence of language proficiency and comprehension skill on situation-model construction. *Discourse Processes*, *21*, 289-327.

#### Fernanda Ramos MACHADO

Possui licenciatura em Letras-Inglês pela UFSC (2006), mestrado em Letras/Inglês e Literatura Correspondente com área de concentração em Linguística Aplicada (UFSC, 2009) e formação complementar na University of Bristol, na Inglaterra, onde estudou durante um ano acadêmico. Atualmente é professora substituta do Departamento de Língua e Literatura Estrangeiras da UFSC e tutora do curso de Licenciatura em Letras-Inglês e Literaturas de Língua Inglesa - modalidade à distância — também da UFSC. Tem experiência na área de Linguística Aplicada, com ênfase na pesquisa sobre a utilização de tecnologias de informação e comunicação (TIC) para o ensino e aprendizagem de língua estrangeira.

#### **APPENDIXES**

#### **APPENDIX 1 (ORIGINAL TEXT)**

#### Instrumento de Pesquisa

Gostaríamos de lhe convidar a participar de um projeto de pesquisa sobre leitura em língua estrangeira. Ao final da pesquisa, os resultados do estudo serão tornados públicos, mas sua identidade será totalmente preservada e não será incluída nenhuma informação que possa identificá-lo (a). Somente as pesquisadoras deste projeto terão acesso aos dados coletados.

Se você concorda em participar deste projeto, por favor, siga as instruções da atividade.

Instruções: Leia o texto abaixo sobre "meetings tourism" (viagens de negócios, ou a congressos, associadas a turismo).

#### **Meetings Tourism**

According to Bradley et al., meetings tourism refers to "travel associated with attendance at a corporate or association meeting, conference, convention, or exhibitions, or congress or public or trade exhibitions". The meetings tourism market has become increasingly important to cities that once depended on heavy industry for their economic strength. Interest in meetings tourism has grown for three main reasons. First, the average meetings tourist spends two to three times more money than the typical leisure tourist does. If city hosts a "mega" meeting of tens of thousands of participants, the financial rewards can be considerable. Also, meetings tourism can create jobs in a local economy. For example, the meeting facilities require workers, while other jobs may be created in hotels, restaurants, and other entertainment facilities. In addition, meetings tourism may lead to cities receiving a "facelift" with landscapes being improved and city centers being revitalized, which may in turn improve civic pride. City improvements may also encourage meetings tourist to return to a host city at a future date for business, pleasure, or even a change in residence.

Despite these important advantages, investment in meetings tourism is not risk-free. Investment in facilities may impose a long-term financial burden on cities that must face competition from many other cities in the market. Thus, cities may invest heavily in meetings facilities, but may not reap the expected benefit. In spite of the potential concerns, a good

meetings tourism strategy has the potential to revive a destabilized post-industrial city. As a result, this industry will likely continue to grow.

#### **APPENDIX 2 (MANIPULATED TEXT)**

Instrumento de Pesquisa

Gostaríamos de lhe convidar a participar de um projeto de pesquisa sobre leitura em língua estrangeira. Ao final da pesquisa, os resultados do estudo serão tornados públicos, mas sua identidade será totalmente preservada e não será incluída nenhuma informação que possa identificá-lo (a). Somente as pesquisadoras deste projeto terão acesso aos dados coletados.

Se você concorda em participar deste projeto, por favor, siga as instruções da atividade.

Instruções: Leia o texto abaixo sobre "meetings tourism" (viagens de negócios, ou a congressos, associadas a turismo).

#### **Meetings Tourism**

According to Bradley et al., meetings tourism refers to "travel associated with attendance at a corporate or association meeting, conference, convention, or exhibitions, or congress or public or trade exhibitions". The meetings tourism market has become increasingly important to cities that once depended on heavy industry for their economic strength. Interest in meetings tourism has grown for three main reasons. First, the average meetings tourist spends two to three times more money than the typical leisure tourist does. If city hosts a "mega" meeting of tens of thousands of participants, the financial rewards can be considerable. Meetings tourism can create jobs in a local economy. For example, the meeting facilities require workers, while other jobs may be created in hotels, restaurants, and other entertainment facilities. Meetings tourism may lead to cities receiving a "facelift" with landscapes being improved and city centers being revitalized, which may in turn improve civic pride. City improvements may encourage meetings tourist to return to a host city at a future date for business, pleasure, or even a change in residence.

Investment in meetings tourism is not risk-free. Investment in facilities may impose a long-term financial burden on cities that must face competition from many other cities in the market. Cities may also invest heavily in meetings facilities, but may not reap the expected benefit. A good meetings tourism strategy has the potential to revive a destabilized post-industrial city. This industry will likely continue to grow.

### **APPENDIX 3 (RECALL PROTOCOL)**

Instruções: Escreva, em formato de texto, tudo o que você puder lembrar sobre o texto que você acabou de ler. Inclua o máximo de detalhes que puder lembrar. Escreva EM PORTUGUÊS.

# **APPENDIX 4 (COMPREHENSION QUESTIONS)**

Instruções: Responda as perguntas abaixo baseado no que você compreendeu do texto "Meetings tourism". Responda EM PORTUGUÊS.

- 1) Quais são as vantagens do turismo de negócios para as cidades que recebem este tipo de visitante?
- 2) Quais são as desvantagens do turismo de negócios para as cidades que recebem este tipo de visitante?
- 3) Por que é provável que o turismo de negócios continue crescendo?