REVISING THE INFLUENCE OF CONJUNCTIONS IN L2 READING COMPREHENSION

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RESUMO: Este artigo baseia-se em estudo sobre o impacto das conjunções na compreensão leitora e nos processos de resumo, à luz do modelo de representação textual (Kintsch & van Dijk, 1978) e da Teoria da Coesão (Halliday & Hasan, 1976). A falta de consenso em relação ao papel das conjunções na compreensão leitora justifica este estudo. Os dados são provenientes de participantes cursando Letras – Secretariado Executivo em Inglês (Universidade Federal de Santa Catarina). As tarefas do estudo incluíram resumo, compreensão leitora, preenchimento de lacunas e questionário retrospectivo. Os resultados gerais confirmam os efeitos benéficos das conjunções na compreensão leitora.

PALAVRAS-CHAVE: conjunções; compreensão leitora; resumos.

ABSTRACT: *This article is based on a study investigating the impact of conjunctions on reading comprehension and summarization processes in Second Language under the light of the textbase model (Kintsch & van Dijk, 1978), and Theory of Cohesion (Halliday & Hasan, 1976). The lack of consensus regarding conjunctions in reading comprehension justifies this study. Data were collected from participants attending the fourth semester in Letras - Secretariado Executivo em Inglês (Universidade Federal de Santa Catarina). The study tasks comprised summarization, reading comprehension, gap-filling and a retrospective questionnaire. Overall results confirmed beneficial effects of conjunctions on reading comprehension.*

Keywords: conjunctions; reading comprehension; summaries.

0. Introduction

The notion of the complexity involved in reading comprehension is well-accepted in fields of knowledge such as language, cognition and applied linguistics, to name a few. Briefly speaking, reading comprehension involves the construction of meaning from text, which occurs from the interaction of reader and text (Aebersold & Field, 1997; Carrell et al., 1998; Davies, 1995; Kintsch & van Dijk, 1978; Tomitch, 1993, 2003; van Dijk & Kintsch, 1983). That interaction in itself is complex, as readers, texts and reading interactions are inherently variable and intricate.

Therefore, research in reading comprehension may be narrowed down to a focus on reader or text. Having said that, Davies has indicated that there is a need for studies in the field that deal with text intricacies (1995). Considering this need, cohesion was a specific textual aspect that had caught the attention of the authors of this article. Initially, we drew on the classic theory of cohesion to both define and classify the mechanisms of cohesion. Firstly, we present the definition of cohesion according to Halliday & Hasan (1976:4), which guided this study, as stated below:

> The concept of cohesion is a semantic one; it refers to relations of meaning that exist within the text, and that define it as text… Cohesion occurs where the INTERPRETATION of some element in the discourse is dependent on that of another. The one PRESUPPOSES the other, in the sense that it cannot be effectively decoded except by recourse to it. When this happens, a relation of cohesion is set up, and the two elements, the presupposing and the presupposed, are thereby at least potentially integrated into a text.

Acknowledging the semantic nature of cohesion is particularly important for the understanding of the role of conjunctions, because it justifies the concept of conjunctions as being not purely grammatical, but also as possessing underlying meanings. Furthermore, conjunctions are likely to facilitate comprehension since they signal the relationship between textual elements and make their underlying relations explicit (Halliday & Hasan, 1976; Murray, 1995; Winfield, 2010).

In order to analyze the impact of conjunctions, we have relied on a classification by Halliday and Hasan (1976) – (refer to Appendix 1), since it offers a typology as well as a description of their external and internal meanings. Moreover, it is important to mention that we have decided to examine two types of conjunctions in text comprehension: the causal and the adversative types. Previous research showed that causal types deserved more investigation and that adversative ones had stronger impact in comprehension (Murray, 1995), which led us to

attempt to confirm the impact of the latter and further examine the former.

Furthermore, several studies corroborated the facilitative effect of conjunctions on reading comprehension (Chapman, 1983; Sanders & Leo 2000; Scherer & Tomitch, 2008), while other study findings did not confirm that effect (Geva, 1986; Irwin, 1982). In order to add to this discussion, the authors of the present article proposed the research questions below for the study hereby reported:

1. Does the omission of adversative and causal conjunctions from the source text affect the identification of the controlling idea, central ideas and secondary ideas expressed in the summarized text?

2. Does the omission of adversative and causal conjunctions hinder L2 readers' comprehension according to the readers' answers to comprehension questions?

3. Do results from participants' gap-filling task with conjunctions have any relationship with the participants' performance in the summary task and in the answers to reading comprehension questions?

4. How does the omission of conjunctions affect the production of summaries by the participants in terms of number and type of conjunctions used in the summaries?

In addition to relying on the theory of cohesion to define and describe the construct, we drew on theories from the field of discourse processing, which were reviewed in order to answer the abovementioned research questions and explain a great part of this study's findings. These theories entailed the *textbase model* (Kintsch & van Dijk, 1978) and the *situation model* (van Dijk & Kintsch, 1983).

The *textbase model* conceptualized the summarizing process involved in comprehension. It proposed that readers organize the content of the text read into a hierarchically organized set of idea units from the surface of the text. To be able to abstract a *textbase* model from a written text, readers would apply three mechanisms, which Kintsch & van Dijk denominated the three macro-rules: deletion of repeated or unnecessary information, superordination of propositions into a more general idea unit, and the construction of a topic sentence that would express the main idea of the text (1978). Based on this model, we assume that the process of establishing coherence from reading a text would involve the readers' construction of a *textbase*, which, in turn, requires the reader's recognition of cohesive ties in text.

The conceptualizations of the *textbase model* were further developed by van Dijk and Kintsch into the *situation model* (1983), whereby inferential processes are emphasized as regards readers' strategies in constructing a coherent and meaningful mental representation of the text read. More specifically, as readers process through a text, there is a need for integration of information obtained from text, which involves connecting textually explicit and implicit information, in other words, inferencing (Kintsch & van Dijk, 1978; Tomitch, 2003; van Dijk & Kintsch, 1983). In order to connect textually explicit information and implicit information, readers use textual elements, as well as the propositions acquired in the comprehension process and integrate them with their prior knowledge in order to construct a coherent representation of the text.

The conceptualization of the *textbase* and the *situation models* were elaborated considering L1 reading. Nevertheless, their theories seem to hold as regards L2 comprehension processes (Carrell et al., 1998; Koch 1997; Scherer & Tomitch, 2008; Tomitch, 2003; Winfield, 2010). Having said that, L2 readers may experience added processing demands, for instance, when dealing with unknown words, or lacking cultural references to deal with certain texts in L2 (Eskey, 1998).

Previous studies suggest that being able to use discourse markers is a beneficial reading strategy for both L1 and L2 readers (Murray, 1995; Scherer & Tomitch, 2008), but the field still lacks consensus over that effect (Geva, 1986; Irwin, 1982). In addition to the need to find out about the influence of conjunctions in reading comprehension in more detail, there is a need for more studies with L2 readers. We therefore consider that the topic deserves revision, and with these considerations in mind, we proposed the study being reported.

The aforementioned study focused on the influence of cohesion and the ways comprehension may be achieved in L2 reading comprehension of expository texts, by considering whether the omission of adversative and causal conjunctions would influence the readers' comprehension and perception of the text. We collected and analyzed readers' summary writing performed subsequent to reading one expository text presented in two versions, version NC with their conjunction omitted and version C with these discourse markers left unchanged.

1. Method

Participants: 12 Brazilian undergraduate students from the fourth semester of the *Letras -Secretariado Executivo* course at *Universidade Federal de Santa Catharina, UFSC,* Brazil. Participants were equally divided into a control group and an experimental group.

Instruments: the instruments used for this study consisted of:

- A text entitled '*Getting to the airport*' was presented in two versions C – text with conjunctions (Appendix 2), and NC – text without conjunctions. In this version, all the adversative and causal conjunctions were omitted from the text (Appendix 3).
- A summary task
- A reading comprehension task
- A gap-filling task
- A retrospective questionnaire

Procedures: prior to this study's data collection, two pilot studies were conducted in order to guarantee the instruments' validity (Winfield, 2010). Participants were divided into two groups, one group read text version C and the other read text version NC. Subsequently, the summary task took place, with participants summarizing the text in their L2. It should be noted that participants had no access to the text during the summarization task, so that they would avoid copying sentences from the surface of the text, instead of summarizing it. Upon completion of the summary tasks, participants were handed the text back and they proceeded with the reading comprehension task. A gap-filling task was completed after that, and the aim of the activity was to check whether participants' previous knowledge of conjunctions influenced results. At the end of the data collection procedures, the participants received a retrospective questionnaire in their L1 (for further information on this study's instruments, please refer to Winfield, 2010).

1.1 Data analysis

Rating and analysis of the summary and the reading comprehension tasks were based on a model of analysis for the summary task and parameters for the reading comprehension questions, illustrated by tables 1 and 2 below, respectively:

Ideas	Propositions
CRI	The differences between early-airport people and late airport people.
CI1	The **advantages** and **disadvantages/consequences** of being an early-airport person or a late-airport person.
CI2	There should be **justice** for the early x late people.
SI1	Early-airport people suffer from **illnesses** and **nervousness**, as well as abuse such as being called **cowards**.

SI2	Having to waiting for their **luggage**, and not getting the seat they want.
SI3	The author **accidently changed from being an early-airport person to being a late-airport person.**

Table 1. Model of analysis for the summary task
Note: CRI = Controlling IdeaSI = Secondary Idea CI = Central Idea

Five raters were invited to produce the abovementioned model of analysis for the summary task, four of them were Brazilian graduate students who were studying for an MA in Applied Linguistics and one of them was an Education Studies graduate, who was a native speaker of English.

Questions	Answers
What kind of people does the text talk about in relation to arriving at the airport to catch a plane?	*The people who arrive early at the airport AND those who arrive late*
What kind of person is the author?	*The author was an early-airport person, but he changed.*
What are the main advantages late-airport people have over early-airport people?	*The late-airport people are not physically or emotionally affected, in other words, they do not suffer anxiety-related sickness and get their luggage first.*
In the first paragraph, why does the author consider the world to be 'unjust'?	*Because early-airport people should get rewards, like getting their luggage first or getting the best seat; instead, they suffer.*
According to the text, how would a late-airport person react in case they missed a flight?	*They would probably shrug; in fact the late-airport person would not care about it.*
Why does the author think that there is a conspiracy against early-airport people?	*Because early-airport people make an effort about arriving early and do not get the seat they want because somebody else had booked that seat in advance.*
How did the author explain his lateness when a passenger confronted him with the following statement: *"You should get to the airport earlier..."*? Was his answer precise? Please justify your answer.	*No, he just said that he was early and then he wasn't. His answer was not precise, because he did not explain the reasons for his lateness.*
How come the author arrived late at the airport? Wasn't he an early-airport person? Explain the reason for his arriving late.	*He was not late. He arrived so early for his 9:15 flight that the check-in assistant offered him a seat in an earlier flight about to leave- the 7:15, and he*

> *accepted it. All of a sudden he was a 'late person'.*

Table 2: Parameters for the analysis for the reading comprehension questions

From the five raters who took part in the summary task, four raters were invited to produce the abovementioned model of analysis for the answers to comprehension questions, three of them were Brazilian graduate students who were studying for an MA in Applied Linguistics and one of them was an Education Studies graduate, who was a native speaker of English.

2. Results and discussion

Overall results seem to confirm the positive influence of conjunctions, confirming previous findings in the field (Chapman 1983; Sanders & Leo, 2000; Murray, 1995; Scherer & Tomitch, 2008).

2.1 Research questions 1 and 2

Research questions 1 and 2 were related to the participants' performance in the summary task and the reading comprehension task. In order to analyze the results from the summarization task and the answers to reading comprehension questions, both quantitative and qualitative data were analyzed.

In quantitative terms, the signaling potential seems to be confirmed as the graph below shows:
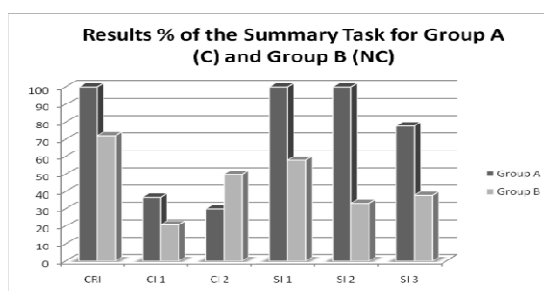
Graph 1: Results of the summary task for group A (C) and B (NC) in percentage terms

CRI = Controlling Idea   SI = Secondary Idea   CI = Central Idea

As far as the summary task was concerned, differences between Group A and Group B were sharper for the Controlling Idea (CRI) and the secondary ideas (SI1, SI2, and SI3) than for the central ideas. The total score for Group A was 76 points (63%), while for Group B (NC) it was 52.5 points (43.75%). In order to examine the results for each idea type in more detail, the following table is presented:

IDEAS	GROUP A (C) %	GROUP B (NC)%
CRI	100	72
CI1	37	21
CI2	30	50
SI1	100	58
SI2	100	33
SI3	78	38
TOTAL	63	43.75

Table 3: Results of the summary task for group A (C) and group B (NC) in percentages

Note: CRI = Controlling Idea   P = Participant
CI = Central Idea   SI = Secondary Idea

As far as the Controlling Idea was concerned, participants in Group A (C) achieved 100% identification of CRI. On the other hand, Group B (NC) achieved 72%; therefore, it is fair to say that participants who read the text with conjunctions, that is to say, Group A(C) were more successful at identifying the controlling idea of the text.

Moving on to the central ideas, data show that there was some difficulty in terms of their identification, since Group A (C) scores were 37% for CI1, whereas for Group B (NC) scores were 21% for that central idea. Contrary to this study's expectations, results for CI2 showed an advantage for Group B (NC), whose participants achieved 50% successful comprehension, outperforming Group A (C), whose participants scored 30% for that central idea.

Considering the secondary ideas (SI1, SI2 and SI3 above), results was definitely more impressive for Group A (C) than for Group B (NC). As regards SI1, participants in Group A (C) scored 100%, as against 58% for Group B (NC). Even better results were found for SI2, with 100% scores for Group A (C), in contrast to 33% in Group B (NC).

Finally, for SI3, again Group A (C) outperformed Group B (NC), the former achieving 78%, while the latter achieved 38%. All in all, results from the summary task deserve further discussion in qualitative terms. With a view to examining the impact of the omission of the conjunctions as in text version NC, which was read by participants in group B, data from participant 7 is presented as follows:

P7 - The text was about people who plans [sic] every detail in life to avoid making a mistake and those who procrastinate every single thing they can.

This was the participants attempt at reconstructing the controlling idea, which has been proposed in the model of analysis as: "The differences between early-airport people and late airport people". If we compare data from participant 7 to CRI in the model of analysis, we could argue that the participant did not manage to identify CRI, since her reconstruction of the CRI does not conform to the text read. Rather, the participant resorted to an elaboration, generating non-plausible inferences, using information that was not present in the text "*about people who plans [sic] every detail in life to avoid making a mistake and those who procrastinate every single thing they can*". This difficulty may have been exacerbated by the omission of the conjunction from that text version (NC).

Considering CI1 "*The advantages and disadvantages/consequences of being an early-airport person or a late-airport person*", it is possible to say that the identification of this idea implies the recognition of a contrasting relation between two types of people, thus the absence of the adversative conjunctions could have prevented, or at least complicated the identification of the contrasting types of people. Conversely, the presence of adversative conjunctions could have positively contributed to the identification of CI1. Contrary to participants who read the text with no conjunctions, (text version NC); participants in Group A (C) were able to identify CI1 in a satisfactory manner, as data below show:

Group A (C):
P1 – The author of the text starts by discussing the 'real' advantages of going to the airport early. He states that there is no advantage to those who plan early… As an argument to the disadvantages of arriving early, he mentions the fact the late-airport person will be the last ones to check in the luggage.
P6 – The text shows negative and positive points of being the late type and the early type.

Besides demonstrating that participants were able to successfully apprehend CI1, it is possible to observe that the propositions produced in group A (C) were more concise, and involved superordination, which are characteristic of summaries (Kintsch & van Dijk, 1978; Koerich & Dellagnello, 2008). On the other hand, participants in group B (NC), produced more fragmentary and list-like summaries as data below suggest:

Group B (NC)
P8 – People who get early at the airports should get a reward…while the ones who get there when they [sic] pilot is

about to turn on the plane end up getting the best advantages and fly with no concern at all.
P12 – The author's describe some situations that happened to him, he was a [sic] early-people

As far as CI2 is concerned, results did not confirm these researchers' assumptions that conjunctions have a signaling and facilitating potential, as Group B (NC) achieved 50% successful comprehension, outperforming Group A (C), whose results were 30%. It is possible that participants generated inferences that enabled them to apprehend CI2 "There should be **justice** for the early x late people", somehow compensating for the lack of textual signals, namely adversative and causal conjunctions (Kintsch & van Dijk, 1978).

Having said that, results for secondary ideas 1, 2, and 3 (SI1, SI2, SI3) appeared to confirm the facilitative effect of conjunctions in summarization practice. For SI1, group A (C) results were 100% in contrast to 58% for group B. In addition, results for SI2 were 100% for group A (C), whereas Group B results were 33% correct.

Qualitative analysis of SI2 indicate that conjunctions may have added emphasis to the their succeeding sections (Allison, 1991; Zadeh, 2006), which in the case of the text used in this study expressed SI2, as illustrated in the text extracts below:

As a matter of fact, I was an early-airport person for years. My **luggage** will get on the plane first, I told myself. Indeed it will. Which makes it the last luggage they take off the plane when you land. You know who really gets his luggage first? The late-airport person, who walks into the airport three minutes before the plane takes off.
Though if I get there real, real early, I told my old coward self, I will get the best **seat**. Well, just try to show up early and get the best seat. Well, just try to show up early and get the seat you want. Go ahead and try. No matter how early I showed up, I was always told that someone called two or three years ahead of me and asked for that **seat**. I figured it was a conspiracy. I figured there was someone in America who called every airline every day and said: "Is that coward Simon flying somewhere today?" If he is, give me his seat."

Moving on to SI3, "The author **accidently changed from being an early-airport person to being a late-airport person",** it is worth mentioning that this secondary idea demanded inferential comprehension, because it expressed ideas that were not explicit in the text, but were present in an indirect manner. Nevertheless, SI3

expressed information that was vital in the construction of the text, that is to say, "the accidental change". Actually, this accidental change is the underlying theme for the text (for more details refer to Appendix 2). A closer look at participants' reconstruction of SI3 is therefore proposed, by using data from Table 4 below:
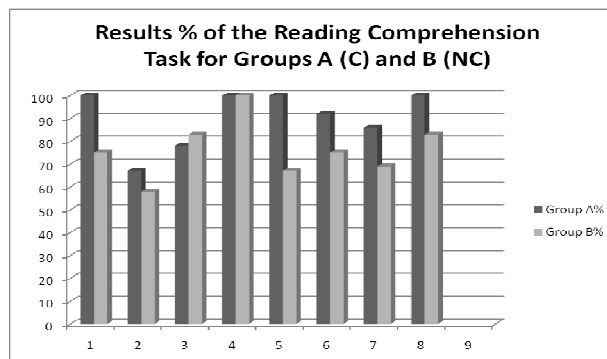
Group A (C)	Group B (NC)
Also, he tells that one day, he arrived early at the airport and went to buy a ticket to [sic] 9 a.m. NY and the salesperson offered a ticket to [sic] 7:05 a.m. and it was 7 a.m. He accepted and when he went into the plane the 'aeromoça' said [sic] him that he should arrive early to the airport. And he arrived. (P.1)	… when he got so early in the airport that he had enough time to get the previous fly [sic] and a woman complained he was late.(P.8)
Nevertheless, he concludes his point on the advantages of being a late-airport person telling a story that happened to him when he arrived so early to his 9 o'clock flight, leaving a few minutes after the time he had arrived. Suddenly, he became the late-airport person. (P.2)	… He describes the most embarised [sic] situation that he past [sic] for been [sic] a early-person, he came to the airport two hours earlier, and the 'balconista' said that if he run he can get the flight earlier. He was so embarised to tell her that he just like to get earlier that he took the plane, and get [sic] late. (P.12)
The problem is when someone arrives so early that he or she can be place [sic] in a earlier plane, so this person could be considered a late passenger. (P.3)	
Once I got too early in [sic] the airport and became myself a late-airport people [sic]. (P.5)	

Table 4: Qualitative data referring to SI3 from group A (C) and group B (NC)

Examining Table 4, it would be fair to say that participants 2 and 3 in Group A were able to bring aforementioned underlying theme to their summaries. They seemed to have integrated information from the surface of the text and generate inferences to link them in a logical and text restricted manner (Kintsch and van Dijk 1978). Consequently, we would like to propose that there was in fact, a signaling effect of adversative and causal conjunctions according to our study results, which, in turn, corroborate Murray's findings (1995).

In addition to a summary task, this study included a reading comprehension task, which was aimed at confirming results from the

summary task. The graph presented below holds information that confirms results from the summary task:

Graph 2: Results of the reading comprehension task for group A (C) and B (NC) in percentage terms

Overall, it is possible to notice that differences between Group A (C) and Group B (NC) were more significant regarding comprehension questions 1, 5, and 6.

Question 1 *"What kind of people does the text talk about in relation to arriving at the airport to catch a plane?"* is a textually explicit question, since the answer to this question can be found in the surface of the text, as shown in the following text extract:

> After years of study, I have determined there are only two types of people in this world: those who get to the airport early and those who walk in the plane as it is about to take off.

In order to offer more detailed information of results for the reading comprehension questions, Table 5 below is presented:

Question	MAV	Group A%	Group B%
1	1	100	75
2	3	67	58
3	3	78	83
4	2	100	100
5	1	100	67
6	1	92	75
7	3	86	69
8	4	100	83
TOTAL	18		
MTS	108	88	76

Table 5: Overall results of the reading comprehension task for group A (C) and group B (NC)

MTS = Max. Total Score   MAV = Maximum Attributed Value GTS = Group Total Score

Despite being present in the surface of the text, answer for question 1 (NC) were 75% correct in Group B. In contrast, participants in Group A (C) scored 100%. Subsequently, question 2, *"What kind of person is the author?"* is an inferential question. In order to answer question 2 correctly, readers needed to realize that the author used to be an early-airport person who accidently became a late-airport person.

This understanding demanded that the readers identified a contradiction that was partly expressed in the text, and partly expressed implicitly, therefore readers needed to maintain a certain distance from the text, so as to reach a conclusion that there had been a change in the author's behavior as far as airport arriving is concerned (Tomitch, 2000). Table 6 below contains excerpts from Text A (C – with conjunctions); it offers evidence of the aforementioned **contradictory information** that is signaled by the conjunctions:

Lines 16 – 17	**As a matter of fact**, I was an early-airport person for years.
Lines 32 – 41	Well, it's only 7 a.m., and the 7:05 a.m. flight has not left yet. **If you hurry**, you can make it." I was too embarrassed to say that I arrived at airports early <u>so</u> I wouldn't have to hurry. **Instead**, I ran down the corridor to the plane. I climbed on board, out of breath, red-faced, and tripped over a woman's legs to get to the last unoccupied seat. The woman I stepped over was no coward. She had the courage to complain. "You should get to the airport earlier!" she snapped at me. "I was here early," I said weakly. "**But then somehow** I wasn't anymore.

Table 6: Text excerpts – version with conjunctions
Note: The conjunctions are presented in bold and underlined in this table for better visualization.

As far as question 2 is concerned, *"What kind of person is the author?",* group A (C) scored 58%, while group B (NC) scored 52%, showing an advantage for the group that read the text with conjunctions. In order to facilitate reading, we underlined the adversative and causal conjunctions in the text excerpt above. The theory of cohesion has valuable contributions to explain semantic relations provided by conjunctions; in particular we would like to draw

attention to the semantic value of the conjunction in line 16, "as a matter of fact" which, according to Halliday and Hasan, has an 'avowal' value (1976).

In the text excerpt above, it is possible to see that the conjunction "as a matter of fact" precedes a clause that offers relevant information, "I was an early-airport person for years". In this clause the author tells the reader that he *was* an early-airport person, but question 2 asks what kind of person the author *is*. It is our belief that a skilled reader would be able to detect this distinction, and that the adversative conjunction would exert a signaling effect in this case (de Beaugrande & Dressler, 1981; Halliday & Hasan, 1976; Koch, 1989; Murray; 1995; Scherer & Tomitch, 2008).

In addition to the aforementioned results, qualitative data below indicate that the signaling effect of conjunctions, with data from participants 5 and 6 showing that these participants were able to detect the change in the author's behavior:

P.5: The author used to be an early-airport people.
P.6: The author is the type of person who is always too early in the airport, but faced the experience of being the late-airport person.

Results for question 3, "*What are the main advantages late-airport people have over early-airport people?* show that group B (NC) outperformed group A (C) by one point. These results do not confirm this study's assumption that conjunctions have a signaling effect.

Tracing a parallel between question 3 and previously discussed CI, it is possible to see that both required readers to recognize secondary ideas and connect them, grouping them into two categories: advantages and disadvantages, demanding superdordination or summarization (Kintsch & van Dijk, 1978). It is possible that the question prompted participants to generate inferences that ended up compensating for the information that was missing from the surface of the text.

Moreover, it is possible to consider that question 3 provided the two superordination categories: advantages and disadvantages; and it seems that providing the categories facilitated superordination. As far as question 3 is concerned, the explanation for the discrepancy is provided, yet the corroboration of the facilitative effect of conjunctions is not, since both groups had access to the favorable conditions present in question 3. Therefore, both groups had an advantage as regards superordination, but only group A (C) had an advantage provided by the presence of the conjunctions, yet results did not reflect the latter advantage.

As regards question 4, "*Why does the author consider the world to be 'unjust?",* the answer to this question is present in the text, and it

demands that readers locate the relevant information in the text (Tumolo, 2005). In addition to that, the question required readers to reach a logical conclusion about the information, which involves processing information from the surface of the text, and inference generation. However, results for both groups were quantitatively equal, contradicting our assumption as regards the facilitative effect of conjunctions

Once more, the question itself may have influenced results, as it posits a "why question", leading the participants to establish a causal relation in order to answer it. When establishing a causal relation, the participants may have generated inferences that compensated for the disruptions in the text (Kintsch & van Dijk, 1978). Data from participants' answers to question 4 indicate inference generation motivated by a "why question", which is particularly observable due to the presence of the causal conjunction "because" in the participants' answers, as can be seen below:

P1: Because the late-airport people are not punish [sic] concern their action.

P2: Because considering he is an early-airport person, who plans everything in advance, he sees no advantages being granted to people like him.

P3: Because early-airport people are not rewarded.

P4: Because the early-airport people would get rewards for doing the right thing and the late-airport people would be punished.

P5: Because the early-airport people should get rewards and the late-airport people should be   punished. But the earlier people get sick and are anxious the late people have good health.

P6: Early-airport people do the right thing and do not get any kind of rewards. Late-airport people are never punished.

P7: Because it seems to ignore those who do the right thing and reward those who don't.

P8: Because the people who get late in the airport end up with the best advantages while the early ones suffer with anxiety and other problems.

P9: Because there are no advantages of getting early in the airport and should have.

P10: Because there is no justice for the people who get late at the airport, in his opinion, this type of people should be punished

P11: Because the later airport people doesn't are [sic] punished and the early have ulcers, heart attacks.

P12: That who gets late never be punished.

Moving on to question 5, *"According to the text, how would a late-airport person react in case they missed a flight?"* participants in Group A (C) achieved 100%, while participants in Group B (NC) achieved 66.66%. Quantitative results for question 6 were similar to those for question 5, with group A (C) outperforming group B (NC). In order to answer question 6, a reader needs to establish a conditional relation, however, participants in Group B (NC) read the text in which the conditional relation was disturbed at the level of the sentence by the omission of the conjunction "if", probably impairing readers' processing of the text. From our observation of the texts used as instruments in this study, the omission of the conjunction "if" renders the text ungrammatical and almost incomprehensible as the excerpts below indicate:

"I told my old coward self that I get there real, real early, I will get the best seat."
"We miss this one, there's always another plane in an hour," he said, signaling for two more drinks.
"To Recife, Brazil?" I said. "There isn't another flight for a week."
"I have a theory", he said. "You miss your flight - God didn't want you to go."

It is noteworthy that, when we manipulated text version NC, we omitted causal and adversative conjunctions from the text, and we decided not to replace them with any other textual devices so as to truly test the effect of these cohesive devices. Result from the participants' answers to questions 5 and 6 seem to point out that the omission of causal conjunctions affected reading processes.

In sum, quantitative and qualitative analysis point to the fact that answers to the reading comprehension questions from Group A (C) were significantly distinct from those of Group (NC), therefore pointing to an advantage for the group that read the text with conjunctions.

2.2 Research questions 3 and 4

Research question 3 was designed to check the participants' previous knowledge of conjunctions and how that related to the participants performance in the summary task and the reading comprehension task. It would seem fair to assume that participants who performed better at the gap-filling task with conjunctions would also have better results in the summary and reading comprehension tasks. Incidentally, this assumption did not prove to be true in this study, since Group B (NC) had slightly better results in the gap-filling task. This reinforces the suggestion that conjunctions facilitate reading

comprehension. Moreover, we would suggest that the presence of these cohesive devices may have added relevance to the central ideas in the text (Kintsch & van Dijk, 1978; Zadeh, 2006). Table 7 presents information on the gap-filling task:

Group	Percentage
GTS for Group A	66%
GTS for Group B	73%

Table 7: Results from the gap-filling task with conjunctions in percentage terms

GTS = Group Total Score

Further information about participants' reading processes were intended by Research question 4, which was devised to give researchers access to the participants' impressions over the tasks they performed for this study. Two specific items of the questionnaire were quantitatively measured; they were the items that checked participants' familiarity with the topic of the text, and their perception of difficulty as regards the text. These results are illustrated in Table 8 as follows:

GAS	GROUP A	GROUP B
Reference to text difficulty	19	14
Level of familiarity	21	19

Table 8: Quantitative data from the retrospective questionnaire regarding text difficulty and familiarity for group A (C) and group B (NC) adapted from Tomitch (2003).

GAS= Group Average Score
Likert scales:
Perception of difficulty: 1 corresponds to very easy and 6 to very difficult.
Level of familiarity: 1 corresponds to very familiar and 6 to very unfamiliar.

Compared to results from the summary task and the reading comprehension questions, results from the retrospective questionnaire are unexpected, as participants in Group A (C) expressed higher scores than Group B (NC) for reference to text difficulty. This suggests participants in Group B (NC) may have not noticed the deletion of the adversative and causal conjunctions, possibly generating inferences to compensate for that disruption (Stanovich, 1981 as cited in Winfield, 2010).

2.3 Adversative and causal conjunctions in the reading-writing interface

Even though this study's main focus was on comprehension processes, we did consider that summary tasks "touch" a fine line in which reading progresses to writing, in other words, a point in which

comprehension and production processes overlap. Therefore, the summaries produced by the participants in Groups A (C)and B (NC) were analyzed in terms of number and type of conjunctions produced. In fact, it was our intention to verify whether the absence of conjunctions in text version NC, read and summarized by participants in Group B, affected the cohesiveness of the summaries produced as regards the use of conjunctions. Table 9 below exhibits these results:

Conjunction type	Group A (C)	Group B (NC)
Additive	13	9
Causal	13	10
Temporal	8	9
Adversative	8	5
Totals	42	34

Table 9: Number of conjunctions present in the summaries produced by participants in group A (C) and group B (NC)

Quantitative data above corroborate Murray's findings about the highly restricting nature of adversative conjunctions, in the sense that they have a strong influence on the integration of the sentences these conjunctions precede. What is more, integration seems to have a relationship with by sentence expectancy, as the following quote indicates (Murray, 1995:120):

> Adversative connectives are highly constrained. They specify solely that the subsequent text is likely to contrast or limit the scope of the content of the preceding text. The content of the immediately preceding sentence combines with these constraints to create the expectancy that the subsequent sentence is likely to contrast with the preceding sentence.

It seems fair to say that the restricting nature of adversative conjunctions is understandable given the expectancies that they allow. Moreover, expectancy may control inference, which, in the case of summarization practice, affects both comprehension and production. For it is through inference generation that readers recover the underlying relations among sentence, what Halliday and Hasan refer to as 'cohesive force' (Halliday & Hasan, 1976).

3. Conclusion

We developed this study under a cognitive perspective, but it also considered contributions from the theory of cohesion (Halliday & Hasan, 1976) to conceptualize, categorize and enable us to explore the meanings of cohesive devices such as conjunctions. This study's findings appear to confirm the restrictive nature of adversative conjunctions, and

corroborate the facilitative effect of causal and adversative types. We hope the intricacies of the specific roles of conjunctions in reading and summary practice hereby discussed contribute to successful L2 reading in the Brazilian academic context.

Finally, it is important for us to point out the limitations to this study. For a start, the study counted on 12 participants, which means that this study's results cannot be generalized. Also, this study would have benefited from an L2 proficiency test. Finally, in the analysis of causal conjunctions we could have explored their hypothetical meanings further.

Appendix 1

Summary of conjunctive relations (adapted from Halliday & Hasan, 1976, p. 242)

Types of Conjunctive Relations	External/Internal	Internal (unless otherwise specified)		
Additive	**Additive, simple** Additive: *and, and also* Negative: *nor, and…not* Alternative: *or, or else*	**Complex, emphatic** Additive: *furthermore, in addition, besides* Alternative: *alternatively* Complex, de-emphatic, afterthought: *incidentally, by the way*	**Apposition** Expository: *that is, I mean, in other words* Exemplificatory: *for instance, thus*	**Comparison** Similar*: likewise, similarly, in the same way* Dissimilar: *on the other hand, by contrast*
Adversative	**Adversative proper** Simple: *yet, though, only* Containing 'and': *but* Emphatic: *however, nevertheless, despite this*	**Contrastive** Avowal: *in fact, actually, as a matter of fact* **Contrastive (external)** Simple: *but, and* Emphatic: *however, on the other hand, at the same time*	**Correction** Of meaning: *instead, rather, on the contrary* Of wording: *at least, I mean*	**Dismissal** Closed: *in any case, in either case,* [1]*no matter* Open-ended*: in any case, anyhow, at any rate,* [2]*however it is* [3]*somehow,* [4]*but then*
Causal	**Causal, general** Simple: *so, then, hence, therefore* Emphatic: *consequently, because of this* **Causal, specific:** Reason: *for this reason, on account of this* Result: *as a result, in consequence*	**Reversed causal** Simple: *for, because* **Causal, specific:** Reason: *it follows, on this basis* Result:	**Conditional(also external)** Simple: *then* Emphatic: *in that case, in such an event, that being so* Generalized: *under the circumstances* Reversed polarity: *otherwise, under*	**Respective** Direct: *in this respect, in this regard, with reference to this* Reversed polarity: *otherwise, in other respects,*

	Purpose: *for this purpose, with this in mind*	*arising out of this* Purpose: *to this enc*	*other circumstances*	*aside from this*
Temporal	**Temporal, simple (external only)** Sequential: *then, next, after that* Simultaneous: *just then, at the same time* Preceding: *previously, before that* **Conclusive** Simple: *finally, at last* **Correlative forms** Sequential: *first…then* Conclusive: *at first… in the end*	**Complex (external only)** Immediate: *at once, thereupon* Interrupted: *soon, after a time* Repetitive: *next time, on another occasion* Specific: *next day, an hour later* Durative: *meanwhile* Terminal: *until then* Punctiliar: *at this moment*	**Internal temporal** Sequential: *then, next, secondly* Conclusive: *finally, in conclusion* **Correlative forms** Sequential: *first…next* Conclusive:*…finally*	**'Here and now'** Past: *up to now, hitherto* Present: *at this point, here* Future: *from now on, henceforward* **Summary** Summarizing: *to sum up, in short, briefly* Resumptive: *to resume, to return to the point*

1, 2, 3, and 4: these conjunctions were proposed by Winfield (2010) as these conjunctions were present in the text used in the aforementioned research. This is the reason why it is stated in the title of Table 2 that the original framework had been adapted.

Appendix 2

Name: _____ Timing: _____ minutes

Instruction: You are going to read a text and summarize it in English. After that you will answer comprehension questions.
Reminder: You won't have access to the text during the summary task.

Getting to the airport C[1]

After years of study, I have determined there are only two types of people in this world: those who get to the airport early and those who walk in the plane as it is about to take off.

If there were any justice in this world, the early-airport people would get rewards for doing the right thing. And the late-airport people would be punished. But there is no justice in this world. The early-airport people get ulcers, heart attacks and are anxious. The late-airport people do not show any sign of concern when they are flying.

I once found myself in an airport bar with a man on the same flight as me. Our flight had been called three times, but he insisted we stay for another round.

"If we miss this one, there's always another plane in an hour," he said, signaling for two more drinks.

"To Recife, Brazil?" I said. "There isn't another flight for a week."

"I have a theory", he said. "If you miss your flight, it's because God didn't want you to go."

This is clearly a guy who is never going to get an ulcer. Early-airport people suffer another abuse. They are called exactly what they are: cowards. I know. As a matter of fact, I was an early-airport person for years. My luggage will get on the plane first, I told myself. Indeed it will. Which makes it the last luggage they take off the plane when you land. You know who really gets his luggage first? The late-airport person, who walks into the airport three minutes before the plane takes off.

The pilot is practically in the air when these people are still paying off the taxi. Then they make a big fuss at the gate in order to get their

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[1] In this study, C stands for text with causal and adversative conjunctions and NC means text with no adversative or causal conjunctions. It is important to point out that in the versions received by the participants the texts were not labelled C or NC so that participants were not influenced by these labels.

luggage first off the plane, but it is probably sitting on top of our luggage, crushing our shirts.

Though if I get there real, real early, I told my old coward self, I will get the best seat. Well, just try to show up early and get the best seat. Well, just try to show up early and get the seat you want. Go ahead and try. No matter how early I showed up, I was always told that someone called two or three years ahead of me and asked for that seat. I figured it was a conspiracy. I figured there was someone in America who called every airline every day and said: "Is that coward Simon flying somewhere today?" If he is, give me his seat."

The ultimate embarrassment of the early-airport person happened to me a few years ago when I was flying from London – Heathrow to JFK-New York. When I got to the ticket counter, the person there said: "Sir, you have a seat on the 9:15 a.m. flight to New York, is that right?"

"Yes," I said.

"Well, it's only 7 a.m., and the 7:05 a.m. flight has not left yet. If you hurry, you can make it."

I was too embarrassed to say that I arrived at airports early so I wouldn't have to hurry. Instead, I ran down the corridor to the plane. I climbed on board, out of breath, red-faced, and tripped over a woman's legs to get to the last unoccupied seat. The woman I stepped over was no coward. She had the courage to complain.

"You should get to the airport earlier!" she snapped at me.

"I was here early," I said weakly. "But then somehow I wasn't anymore."

After a lifetime of arguing over whether I really have to pack 24 hours in advance and set the alarm clock four hours ahead, I have learned one fact about early-airport people and the late-airport people: they always marry each other.

Adapted from: Genuine Articles: Authentic reading texts for intermediate students of American English. (Walter, 1986).

Appendix 3
Name: _____Timing: _____ minutes

Instruction: You are going to read a text and summarize it in English. After that you will answer comprehension questions.
Reminder: You won't have access to the text during the summary task.

<u>Getting to the airport</u> NC

After years of study, I have determined there are only two types of people in this world: those who get to the airport early and those who walk in the plane as it is about to take off.

There was any justice in this world, the early-airport people would get rewards for doing the right thing. And the late-airport people would be punished. There is no justice in this world. The early-airport people get ulcers, heart attacks and are anxious. The late-airport people do not show any sign of concern when they are flying.

I once found myself in an airport bar with a man on the same flight as me. Our flight had been called three times, he insisted we stay for another round.

"We miss this one, there's always another plane in an hour," he said, signaling for two more drinks.

"To Recife, Brazil?" I said. "There isn't another flight for a week."

"I have a theory", he said. "You miss your flight - God didn't want you to go."

This is clearly a guy who is never going to get an ulcer. Early-airport people suffer another abuse. They are called exactly what they are: cowards. I know.

I was an early-airport person for years. My luggage will get on the plane first, I told myself. It will. Which makes it the last luggage they take off the plane when you land. You know who really gets his luggage first? The late-airport person, who walks into the airport three minutes, the plane takes off. The pilot is practically in the air when these people are still paying off the taxi. They make a big fuss at the gate in order to get their luggage first off the plane, it is probably sitting on top of our luggage, crushing our shirts.

I told my old coward self that I get there real, real early, I will get the best seat. Just try to show up early and get the best seat. Just try to show up early and get the seat you want. Go ahead and try. How early I showed up, I was always told that someone called two or three years ahead of me and asked for that seat. I figured it was a conspiracy. I figured there was someone in America who called every airline every

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"Yes," I said.

"Well, it's only 7 a.m., and the 7:05 a.m. flight has not left yet. You hurry, you can make it."

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Adapted from: Genuine Articles: Authentic reading texts for intermediate students of American English. (Walter, 1986).

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