Reading comprehension in English at the Brazilian national high school exam (ENEM): Unveiling inferential processes

Compreensão leitora em inglês no ENEM: desvelando processos de inferência

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ABSTRACT - While the role of inferencing has been widely acknowledged as key to reading comprehension, little has been done to approach these issues in teaching and assessing second-language reading comprehension in the Brazilian educational system. With this in mind, this research paper sets out to investigate the types of inferences that might be required for test takers to answer questions in the most important Brazilian university entrance exam, ENEM *(Exame Nacional do Ensino Médio)*. This exam is taken by Brazilian students at the end of secondary school in order to assess their performance according to the school curriculum. The students' grades can be used not only for scholarships, but also as a resource for applying for more than 500 Brazilian universities. In order to analyze the ENEM tests, we formulated a framework based on the extensive work of Kintsch and van Dijk and on the model of fluent reading comprehension established by Gagné and colleagues. The framework considered three main types of inferences: bridging, elaborative, and summarizing. The results show that test takers might have to draw more elaborative inferences, meaning they might need a significant amount of background knowledge in order to select the correct alternatives. Summarizing, inferences were also significant, which means the test takers might have to build a complete mental representation of the text, i.e., to integrate world knowledge with the ideas expressed in the text in order to construct meaning. Overall, the results are in consonance with the literature on inferencing, meaning that it does have an essential role in text comprehension. In conclusion, there should be teaching and assessing programs in place designed around tackling these issues.

Keywords: reading, inferencing, assessment, ENEM.

RESUMO - Na área de compreensão de leitura, sabe-se do papel fundamental das inferências para a construção de sentido de textos, entretanto, pouco se sabe sobre a relação das inferências no ensino e a avaliação da compreensão de leitura de inglês como segunda língua no sistema educacional brasileiro. Dessa forma, este artigo tem por objetivo investigar os tipos de inferências necessárias para que estudantes brasileiros possam responder à prova de inglês do maior exame de admissão em universidades brasileiras, o ENEM – Exame Nacional do Ensino Médio. Ao final do ensino médio, os alunos brasileiros realizam a prova como meio de avaliar suas competências de acordo com o currículo escolar. As notas dos alunos podem ser utilizadas para acesso à educação superior, bolsas de estudos e financiamento estudantil. Para que as inferências nas provas do ENEM fossem analisadas, os pesquisadores utilizaram uma abordagem baseada no trabalho de Kintsch e van Dijk, além do modelo de compreensão de leitura elaborado por Gagné e colaboradores. A abordagem de análise considera os três tipos principais de inferências, a saber, integração, resumo e elaboração. Os resultados mostram que os estudantes podem utilizar mais inferências de elaboração, ou seja, os estudantes necessitam de um nível significativo de conhecimento prévio para selecionar a alternativa correta nas questões de compreensão de textos. Além do mais, constatou-se que inferências de resumo podem ser utilizadas de forma significativa, para que, dessa forma, os estudantes possam construir uma representação mental do conteúdo do texto, a partir da união de conhecimento prévio com as ideias expressas nos textos. Em linhas gerais, esta pesquisa está de acordo com a literatura na área de inferências. Por conseguinte, deveria haver programas de ensino e avaliação que abordassem essas questões.

Palavras-chave: leitura, inferências, ENEM.

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Introduction

The importance of making inferences for reading comprehension is widely recognized in the field. Some authors say that inferences are the most important aspect of reading comprehension, as reported by Chikalanga (1992). Indeed, the meanings intended by the writer are not always written out, and readers often have to add what is implicit in the text. This addition of information is based on the reader's background knowledge. With this in mind, it is relevant to mention that several models of reading comprehension have presented inferential comprehension as a part of the process. Gagné *et al.* (1993) have built a model of fluent reading comprehension to try to explain the cognitive processes involved in reading. In their model, inferential comprehension is subdivided into integration, summarization and elaboration, as will be described later.

Currently, the most important national exam for admission into Brazilian universities is the National High School Exam, or *Exame Nacional do Ensino Médio (ENEM)*. Since its reformulation in 2009, the exam includes a section aimed at assessing reading skills in a foreign language, namely English and Spanish. Although the ENEM English reading test has already been analyzed (Rauber, 2012; Avelar, 2015), the role of inferential comprehension in this exam still requires further research. With that in mind, we sought to investigate which types of inferences have been required in the past editions of the test. We established a framework of analysis based on the extensive work of Kintsch and van Dijk (1978) and van Dijk and Kintsch (1983) on discourse comprehension, which foresees readers having to provide the missing links during the act of comprehension. We also based our framework on the reading comprehension model proposed by Gagné *et al.* (1993), where inferential comprehension is one of the highest levels in text processing, meaning that more cognitive resources are needed for comprehension.

We start by reviewing and comparing the relevant literature on literal and inferential comprehension, with a brief description of the concepts of inference and assessment. We then present our framework of analysis, followed by the results and discussion. Lastly, we conclude our investigation and propose relevant paths for future research.

Literature review

Literal and inferential comprehension: A comparison of two models

Reading models are classified into process models and componential models. Process models are an "at-tempt to describe the process of reading as a cognitive activity" (Bilikozen and Akyel, 2014, p. 264), while the componential models focus on the types of components involved in reading (Urquhart and Weir, 1998). Since our focus in this paper was to analyze the literal and inferential processes at the most popular university entrance exam in Brazil, known as ENEM*,* it was relevant to identify the componential models that might be present in the tests, particularly the literal comprehension and inferential comprehension processes as defined by Gagné *et al.* (1993).

According to Gagné *et al.* (1993), fluent reading comprehension involves one's conceptual understanding along with several component processes associated with the reader's procedural knowledge. The authors define conceptual understanding as one's knowledge about letters, phonemes, morphemes, words, ideas, schemas, and topics. Meanwhile, procedural knowledge is defined as one's knowledge on how to read. In order to analyze two of these processes, we have decided to operationalize our definitions. Still according to Gagné *et al.* (1993), the meanings of words are accessed in memory (decoding), and these meanings are later used to form propositions[2], resulting in literal comprehension. The authors call it literal comprehension because its "function is to derive literal meaning from print" (Gagné *et al.,* 1993, p. 272). Kintsch and Rawson (2007) would call this process semantic analysis, since it is through the combination of activated word meanings that idea units (propositions) arise.

As for inferential comprehension, Gagné *et al.* (1993, p. 275) highlight the importance of "going beyond the information literally stated in the text", which enhances the reader's comprehension of the text. Three subprocesses are involved in inferential comprehension: integration, summarization, and elaboration. It is interesting to state here that Gagné *et al.*'s (1993) model might be related to van Dijk and Kintsch's (1983) text representation model, as we will try to show below.

Kintsch and van Dijk (1978, p. 367) state that the meaning of a text derives from "a structured list of propositions". These propositions are organized *in the textbase* in the order they appear in the text itself, and therefore must be coherent. In order to achieve coherence, there must be referential coherence, or bridging inferences, according to the authors' definition. Bridging inferences are necessary for filling in the gaps and making the text coherent. Moreover, a *textbase* is constructed "by processing information from the surface of the text into propositions and integrating them" (Winfield, 2014, p. 31-32). In other words, the creating a *textbase* involves the integrating propositions, which is only possible through the generation of bridging inferences. This process could be equated to Gagné *et al.*'s

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[2] According to van Dijk and Kintsch (1983, p. 112), proposition is "a propositional unit, corresponding to the meaning of a sentence in linguistic theory, and to the conceptual representation of a sentence in a cognitive model of language comprehension". Put another way, propositions are idea units (Kintsch and Rawson, 2007).

subprocess of integration, in which readers are able to join propositions together in order to create a representation of ideas in the text (Gagné *et al.*, 1993).

Another subcomponent of the inferential comprehension process proposed by Gagné *et al.* (1993) is known as summarization. Being able to summarize is crucial for building a *macrostructure* of the text (Kintsch and van Dijk, 1978; van Dijk and Kintsch, 1983). The *macrostructure* contains the gist of the text, that is, its main idea(s), according to Kintsch and van Dijk (1978). Again, it is possible to draw a similarity between Kintsch and Van Dijk's (1978) model and Gagné *et al.*'s (1993). The latter characterizes summarization as a process involving the extraction of the main idea(s) from the text and highlights the importance of inferencing for summarization. According to Kintsch and Van Dijk's (1978) and Gagné *et al.*'s (1993), generating inferences allows for connecting the pieces of information in the text.

Lastly, Gagné *et al.* mention elaboration as a subprocess of inferential comprehension. The authors point out that, while integration and summarization are responsible for the construction of "a coherent meaning representation" (1993, p. 278), elaboration adds the reader's background knowledge into this the meaning representation in order to elaborate on what has been read. For Van Dijk and Kintsch (1983, p. 51), elaborative inferences are those "which occur when the reader uses his/her knowledge about the topic under discussion to fill in additional detail not mentioned in the text, or to establish connections between what is being read and related items of knowledge". As highlighted by these authors, not all elaborative inferences are beneficial to comprehension and retention; sometimes readers draw them in order to "cover up an inability to recall details of the original text" (1983, p. 52), which may hinder comprehension.

In light of the above, this paper aims to verify the types of inferences that might be necessary for answering the questions of ENEM.

On inferences

In the field of reading comprehension studies, it is widely accepted that the comprehension of a text involves several levels of processing, such as *textbase, microstructure, macrostructure,* and *situation model* (Kintsch and Rawson, 2007), to name a few. Kintsch and van Dijk (1978) endorse that the mental representation built from a text by the reader is organized into a *microstructure* and a *macrostructure*. The former would be "the structure of the individual propositions and their relations" (Kintsch and van Dijk, 1978, p. 365), i.e., the sequence of ideas and the relations among these ideas. By processing the individual propositions and their relations, the reader would arrive at a *textbase* representation of the text. For the authors, the *textbase* is made of

coherent, structured propositions. The macrostructure, on the other hand, is the reduction of the text into its main idea(s). Van Dijk and Kintsch (1983, p. 63) explain that "whereas the *textbase* represents the meaning of a text in all its detail, the macrostructure is concerned only with the essential points of a text". Finally, the situation model is built by the combination of one's background knowledge with the information contained in the text, represented in the macrostructure constructed by the reader when processing the text.

In general terms, when reading, the readers processes only the linguistic surface, while semantic analysis will determine the meaning of the text through the formation of idea units or propositions. In order to construct the microstructure of the text, inferences are necessary to form a coherent microstructure (Alptekin and Erçetin, 2011; Kinstch and van Dijk, 1978; Kinstch and Rawson, 2007). The microstrucure is not "loose in itself"; it must belong into to higher-order units, namely the macrostructure of the text. Both the microstructure and the macrostructure form the *textbase* representation, which contains the meaning itself. However, it is known that the text alone does not carry meaning (Carrell and Eisterhold, 1983); a reader is necessary for comprehension to take place. Readers bring their background knowledge and expectations to the reading event, which will enable them to form a situational model, that is, a mental representation of the text. Constructing a situational model is only possible when the reader integrates their background knowledge and expectations with the information provided by the text (Kintsch and Rawson, 2007).

With this in mind, Kintsch and Rawson (2007) point out that inferences are important for building the *textbase* and *situation models*; since most of the texts are not exclusively explicit, the reader has the role of "filling in the gaps". King (2007) made a very interesting distinction between literal and inferential comprehension. For this her, literal comprehension could be called "shallow comprehension", while inferential comprehension would be the "deep comprehension". While literal comprehension "reflects a minimally coherent mental representation", inferential comprehension is a "highly coherent, richly integrated, plausible representation" (King, 2007, p. 268). More precisely, with inferential comprehension, the reader is able to extract meaning from print and integrate it with her/his own background knowledge in order to have a deeper comprehension of the text (Chikalanga, 1992).

However, several teaching programs do not focus on students' attention to the implicit information in the text. Chikalanga (1992) postulated that many teachers ask inferential questions without considering the implications generated by their questions. In fact, this issue could be studied within to the field of assessment, which will be discussed in the next topic.

Assessment in second language teaching and ENEM

Assessments are present in many spheres of the 21st century. Our globalized world has brought about a higher demand for individuals who are able to communicate in a second language. In this sense, assessing the level of proficiency of second language learners is of particular importance in our current society.

In education, assessment involves all the resources used by teachers to help students learn and measure their progress (Black and Wiliam, 2010). Tests are a form of assessment commonly used to assess one's command of a second language. They are an important instrument for evidence-based decision-making, mainly for three purposes: selection, certification, and education. Selection and certification tests are not dependent on educational processes and provide information about the test takers' skills or abilities, whereas tests with educational purposes can be relevant for pedagogical choices (Tumolo, 2005). Language assessment has also been distinguished in terms of two key purposes: achievement and proficiency. While achievement tests have the goal of measuring the learning outcome of a given course, proficiency tests aim to measure the general level of command of a language and are not necessarily connected to a teaching sequence (Hamp-Lyons, 2016).

ENEM is the Brazilian National High School Exam. It is a non-mandatory, standardized national exam whose purpose is to assess students' performance at the end of high school. It was created in 1998, but second-language questions were introduced only in 2010. The examinee can choose to read texts in either English or Spanish, but the questions are all in Portuguese. The second-language exams are made up of five questions. In each question, there is a reading excerpt followed by the question and five alternatives, out of which only one is correct. Considering the assessment purposes mentioned previously, ENEM can be classified as a selection exam, as its results are one of the main criteria for students to be accepted into public universities in Brazil. It can also be understood as an achievement test since it evaluates the learning outcomes of high school. Since the language questions of ENEM work exclusively with reading comprehension, the exam cannot be considered as a measurement of the students' general command of either English or Spanish, and therefore it is not a type of proficiency test.

Since ENEM adopts the multiple-choice model, it is relevant to mention Pearson and Johnson's (1978) taxonomy of reading questions. According to these authors, *textually explicit* questions are designed to measure readers' literal comprehension. Therefore, the answers to this type of question are explicitly stated in the text. On the other hand, *textually implicit* and *scriptally implicit* questions are designed to measure readers' inferential comprehension. Chikalanga (1992, p. 700) explains the differences between *textually* and *scriptally implicit* questions: when the question *textually implicit*, it means that the answer to the question is in the text but not as obvious as in the *textually explicit* ones; *scriptally implicit* questions are "the question is derived from the text but the response is not", meaning that the reader is expected to rely on her/his background knowledge to answer it.

Different text genres have been used as sources for ENEM reading excerpts: newspapers, websites, blogs, poems, lyrics, comics, internet commentaries, among others [D2]. Rather than analyzing the grammar of the excerpts, exam takers are required to demonstrate if they have understood their gist and the meaning of specific sentences. Moreover, they may be required to understand propositions which were based on the reading passage but were not literally within it. This is in accordance with the OCNEM (*Orientações Curriculares para o Ensino Médio* [Curriculum Guidelines for High School]) for languages, which postulates that reading skills in a second language should also include developing the ability to construct meaning from information that is not in the text (OCNEM, 2006, our translation). In this sense, inferential comprehension of texts is an important aspect of second-language instruction in Brazilian high schools. With this in mind, this paper seeks to analyze the types of inferences which were part of the English language test of ENEM.

Methods

Considering the crucial role that inferences have in reading comprehension (Chikalanga, 1992), university entrance exams, particularly ENEM, often have questions asking students to infer meaning from context. In order to analyze the tests, we have selected two reading models and adapted them according to the needs of this study, which is to verify which types of inferences are present in ENEM and their relationship (if any) with the questions (the assessment section).

Based on Gagné *et al.* (1993), our analysis will compare which types of subprocesses can be seen in the questions, that is, either literal comprehension or inferential comprehension. Since Gagné *et al.* considered Kintsch and van Dijk's model in their own model, we have decided to integrate both.

It is important to point out that, even though inferential comprehension is highly important to achieve good scores in ENEM's English test, test takers can also use other strategies to do so, such as eliminating unlikely sentences. Nonetheless, considering the scope of our study, we will only consider the role of inferential comprehension in the process of answering the questions.

For this article, we selected the English language tests from 2014 and 2015 because they were the two latest versions of ENEM available at the time. We worked exclusively with the English language tests.

Table 1. Framework for analyzing inferencing in tests.

What type of inferences are there? Bridging, elaborative and/or summarization? If so, what role do they play in reading comprehension?
Bridging inferences (based on Kintsch and van Dijk, 1978; Gagné *et al.,* 1993) - Are they necessary for a coherentunderstanding of the question?
Elaborative inferences (based on Kintsch and van Dijk, 1978; Gagné *et al.*, 1993) - Are elaborative inferences necessary to answer the question?
Summarization inferences (based on Gagné *et al.*, 1993) - Does the question allow the reader to answer it based on her/his summarization (gist)?

Results

ENEM 2014

The first question of the 2014 test is about helping people in need. The question, however, is not concerned with the macrostructure of the text, since it literally asked test takers what was Kate Watts' interest in the website. In order to answer it, test takers need to "derive literal meaning from print" (Gagné *et al.*, 1993, p. 272).

Question 92/2014, in contrast, demands test takers to construct the main idea of the text: a variation of the English language that allows international communication. Once this main idea has been established, the correct alternative should be easier to identify. Both questions 91 and 92 can be seen in Figures 1 and 2, respectively.

The first inference found in question 93/2014 (Figure 3) is of the bridging type. The first paragraph is about Charles Wee's trajectory as a famous architect. In the second line, the pronoun "he" refers to Wee when describing his boredom in designing skyscrapers. In the fourth paragraph, the pronoun "it" refers to the tower which will be built.

The pronoun "which", in the third line, refers to the buildings he has designed. Farther from the referent, there are pronouns in the second (his) and third (he) paragraphs. It is only in the last (fifth) paragraph that the author names the author. It is interesting to point out here that readers are expected to maintain the referent activated in working memory in order to resolve the anaphor, in this case, Charles Wee (Kintsch and Rawson, 2007). However, the same authors claim that the repetition of noun anaphora might slow down the processing of this referent (2007), which may be a limitation for comprehending the text, considering that the referent is in the first paragraph and there are pronouns referring back to Wee in the first, second and third paragraphs.

Figure 1. Question 91/2014.

Source: Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (2016).

QUESTÃO 92

If You Can't Master English, Try Globish

PARIS — It happens all the time: during an airport delay the man to the left, a Korean perhaps, starts talking to the man opposite, who might be Colombian, and soon they are chatting away in what seems to be English. But the native English speaker sitting between them cannot understand a word.

They don't know it, but the Korean and the Colombian are speaking Globish, the latest addition to the 6,800 languages that are said to be spoken across the world. Not that its inventor, Jean-Paul Nerrière, considers it a proper language.

"It is not a language, it is a tool," he says. "A language is the vehicle of a culture. Globish doesn't want to be that at all. It is a means of communication."

Nerrière doesn't see Globish in the same light as utopian efforts such as Kosmos, Volapuk, Novial or staunch Esperanto. Nor should it be confused with barbaric Algol (for Algorithmic language). It is a sort of English lite: a means of simplifying the language and giving it rules so it can be understood by all.

BLUME, M. Disponível em: www.nytimes.com. Acesso em: 28 out. 2013 (fragmento).

Considerando as ideias apresentadas no texto, o *Globish* (*Global English*) é uma variedade da língua inglesa que

Ⓐ tem *status* de língua por refletir uma cultura global.

Ⓑ facilita o entendimento entre o falante nativo e o não nativo.

Ⓒ tem as mesmas características de projetos utópicos como o esperanto.

Ⓓ altera a estrutura do idioma para possibilitar a comunicação internacional.

Ⓔ apresenta padrões de fala idênticos aos da variedade usada pelos falantes nativos.

Figure 2. Question 92/2014.

Source: Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (2016).

The question, on the other hand, requires test takers to identify the topic of the text by reading the titles and subtitles. As we have already mentioned, Kintsch and Rawson (2007) mention that the theme of the text might be explicitly mentioned by the title, also known as a *signaling device,* which is the present case here. Generally, the reader has to summarize to form the title of any text. In this case, the reader might build a macrostructure of the text by reading only the title and subtitle, and then read the whole text in order to confirm her/his expectation and to verify whether her/his macrostructure was correct.

The song "Masters of War", by Bob Dylan, is the reference text for question 94/2014 (Figure 4). Written in 1963, at the peak of the Cold War, it criticizes the "master of war" who "hide behind desks". The question asks test takers to choose the alternative that describes what the song is protesting about. The correct alternative, letter C, states that the lyrics criticize the "system which recruits soldiers to wars motivated by economic reasons". As this information is not literally stated in the lyrics, the test taker would have to infer it, which would demand background knowledge on the subject. For this particular question, the textual evidence for the "economic reasons" behind wars would come from the words "desks" and "build". However, the textual evidence provided would not be enough to understand the ideas of protest evoked by the song. Background knowledge on the Cold War era and on the anti-war movements at that time in the U.S. would certainly aid the test taker in creating a macrostructure of the song. For Winfield (2014), elaborative inferences are not mandatory for the construction of a coherent situation model. Nevertheless, for this particular question, we believe that the lack of background knowledge on the topic would severely hinder the construction of a situation model, since there is very little textual evidence.

Robert Frost's famous poem "The Road Not Taken" is the selected reading for question 95/2014 (Figure 5). The excerpt selected is only three verses long — not surprisingly, the most famous verses of the poem. The question says that "considering that life is often made into a metaphorized as a trip, the verses indicate that". The correct alternative says that the author "celebrates the fact that he was daring in the choice he made". Such interpretation could be derived from the second verse of the excerpt, which reads "I took the one less traveled by". In this interpretation, taking the difficult road instead of the easy one is believed to be an act of individual bravery. According to Orr (2015), "most readers consider The Road Not Taken to be a paean to triumphant self-assertion, but the literal meaning of the poem's own lines seems completely at odds with this interpretation". Orr calls the reader's attention to a less famous part of the poem:

Then took the other, as just as fair
And having perhaps the better claim,
Because it was grassy and wanted wear;
Though as for that, the passing there
Had worn them really about the same

This stanza tells us that, in the end, both roads were equally travelled. According to Orr, the last verses say that the choice made by the poem's narrator made "all the difference" because this is the type of claim people make when they want to comfort themselves for their choices (Orr, 2015). Orr is not the only one to understand the poem like this. In fact, the interpretation suggested by *ENEM* 2015 is a common misinterpretation of the poem (Smallwood, 2015). With this in mind, a test taker familiar with the poem (that is, with background knowledge on the poem) but whose interpretation of the poem diverged from that of the test would probably have difficulties to

Figure 3. Question 93/2014.

answer the question. Tomitch (2003) differentiates between plausible and non-plausible elaborative inferences. Considering the question under analysis, test takers may create plausible inferences that are not among the available alternatives.

ENEM 2015[3]

In the reference text of question 91/2015-2 (Figure 6), the reader can find the humor in the joke by drawing an inference. When asked who the owner of that property was, the man promptly replied "I am". Then, the farmer who was getting rid of his animals asked him which horse he wanted, the black or the brown one. When the man made his decision, the man's wife disagreed and ordered him to choose the brown one. In the joke, if a man were the head of a household, the farmer would give a horse, but if it were a woman, it would be a cow. Because the couple ended up with a cow, the reader can infer that, since the

Figure 4. Question 94/2014.

Figure 5. Question 95/2014.

woman interfered in the conversation, she would always be responsible for the decision-making around the house and therefore is the "head of the household". Readers integrate their background knowledge that, according to popular beliefs, a household must have a "head", to make sense of why the couple received a cow after all.

Question 92/2015-2 (Figure 7) is about the New Year's celebration in Scotland. It is plausible to say that

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[3] In 2015, there were two editions of the test. Due to space constraints, we decided to analyze the second test, which is the most recent one.

QUESTÃO 91

Horse or cow

Prior to taking retirement and selling off his land, a farmer needed to get rid of all the animals he owned, so he decided to call on every house in his village. At houses where the man was the boss, he gave a horse; at houses where the woman was the boss, he gave a dairy cow.

Approaching one cottage, he saw a couple gardening and called out, 'Who's the boss around here?'

'I am,' said the man.

The farmer said: 'I have a black horse and a brown horse. Which one would you like?'

The man thought for a minute and said, 'The black one.'

'No, no, get the brown one,' said his wife.

The farmer said, 'Here's your cow.'

TIBBALLS, G. The book of senior jokes. Great Britain: Michael O'Mara, 2009 (adaptado).

O texto relata o caso de um fazendeiro prestes a se aposentar e vender sua fazenda. O aspecto cômico desse texto provém da

Ⓐ constatação pelo fazendeiro da razão de sua aposentadoria.

Ⓑ opinião dos vizinhos referente à forma de se livrar dos animais.

Ⓒ percepção do fazendeiro quanto à relação de poder entre o casal.

Ⓓ agressividade da esposa relacionada a um questionamento inocente.

Ⓔ indecisão dos cônjuges quanto à melhor escolha a ser feita no momento.

Figure 6. Question 91/2015-2.

Source: Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (2016).

QUESTÃO 92

First Footing

One of the major Hogmanay customs was "first-footing". Shortly after "the bells" — the stroke of midnight when public clocks would chime to signal the start of the new year —, neighbours would visit one another's houses to wish each other a good new year. This visiting was known as "first-footing", and the luckiest first-foot into any house was a tall, dark and handsome man — perhaps as a reward to the woman who traditionally had spent the previous day scrubbing her house (another Hogmanay ritual). Women or red heads, however, were always considered bad luck as first-foots.

First-foots brought symbolic gifts to "handsel" the house: coal for the fire, to ensure that the house would be warm and safe, and shortbread or black bun (a type of fruit cake) to symbolise that the household would never go hungry that year.

First-footing has faded in recent years, particularly with the growth of the major street celebrations in Edinburgh and Glasgow, although not the Scots love of a good party, of which there are plenty on the night!

Disponível em: www.visitscotland.com. Acesso em: 23 nov. 2011.

A partir da leitura do texto sobre a comemoração do Ano-novo na Escócia, observa-se que, com o tempo, aspectos da cultura de um povo podem ser

Ⓐ passados para outros povos.

Ⓑ substituídos por outras práticas.

Ⓒ reforçados pelas novas gerações.

Ⓓ valorizados pelas tradições locais.

Ⓔ representados por festas populares.

Figure 7. Question 92/2015-2.

Source: Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (2016).

if test takers summarize the text, they will create a mental model showing that changes have taken place in recent years in Scotland. The last paragraph reads "first-footing has faded in recent years", which signals that celebrations

QUESTÃO 93

36 hours in Buenos Aires

Contemporary Argentine history is a roller coaster of financial booms and cracks, set to gripping political soap operas. But through all the highs and lows, one thing has remained constant: Buenos Aires's graceful elegance and cosmopolitan cool. This attractive city continues to draw food lovers, design buffs and party people with its riotous night life, fashion-forward styling and a favorable exchange rate. Even with the uncertain economy, the creative energy and enterprising spirit of Porteños, as residents are called, prevail — just look to the growing ranks of art spaces, boutiques, restaurants and hotels.

SINGER, P. Disponível em: www.nytimes.com. Acesso em: 30 jul. 2012.

Nesse artigo de jornal, Buenos Aires é apresentada como a capital argentina, que

Ⓐ foi objeto de novelas televisivas baseadas em sua vida noturna e artística.

Ⓑ manteve sua elegância e espírito cosmopolita, apesar das crises econômicas.

Ⓒ teve sua energia e aspecto empreendedor ofuscados pela incerteza da economia.

Ⓓ foi marcada historicamente por uma vida financeira estável, com repercussão na arte.

Ⓔ parou de atrair apreciadores da gastronomia, devido ao alto valor de sua moeda.

Figure 8. Question 93/2015-2.

Source: Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (2016).

are now different in the country. Therefore, summarizing the text would guide the test takers to choose the correct alternative, letter B.

Question 93/2015-2 (Figure 8), in contrast, refers to the cosmopolitan spirit that thrives in the city of Buenos Aires in spite of the financial crisis it has faced in recent years. The correct answer may be chosen from the literal comprehension of the first lines of the text and the contrastive sentence, which would set the tone for the main idea of the text: "but through all the highs and lows, one thing has remained constant: Buenos Aires's graceful elegance and cosmopolitan cool". Even though readers do need background knowledge to access the meaning of the text (Carrell and Eisterhold, 1983), according to our framework of analysis, elaborative inferences do not seem to be necessary for selecting the correct alternative.

Again, literal comprehension may be employed in order to select the correct alternative. Question 94/2015-2 (Figure 9) asks test takers to read a graph with the annual gas emissions by industry. In order to answer this, the test taker needs to be able to read the graph and relate its language (English) to the language in the alternatives (Portuguese). ENEM considered that the correct alternative was letter E, in which *power stations* were the equivalent of *usinas elétricas*. The same would happen in question 95/2015-2 (Figure 10), where the test taker is asked what the purpose of the advertisement is. The purpose is literally stated in the text.

QUESTÃO 94

**Annual Greenhouse Gas Emissions by Sector**
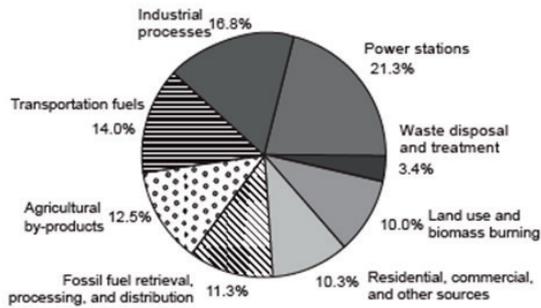
A emissão de gases tóxicos na atmosfera traz diversas consequências para nosso planeta. De acordo com o gráfico, retirado do texto *Global warming is an international issue*, observa-se que

Ⓐ as queimadas poluem um pouco mais do que os combustíveis usados nos meios de transporte.

Ⓑ as residências e comércios são os menores emissores de gases de efeito estufa na atmosfera.

Ⓒ o processo de tratamento de água contribui para a emissão de gases poluentes no planeta.

Ⓓ os combustíveis utilizados nos meios de transportes poluem mais do que as indústrias.

Ⓔ os maiores emissores de gases de efeito estufa na atmosfera são as usinas elétricas.

Figure 9. Question 94/2015-2.

QUESTÃO 95

A third of the food we buy in the UK ends up being thrown away

Sad, isn't it?
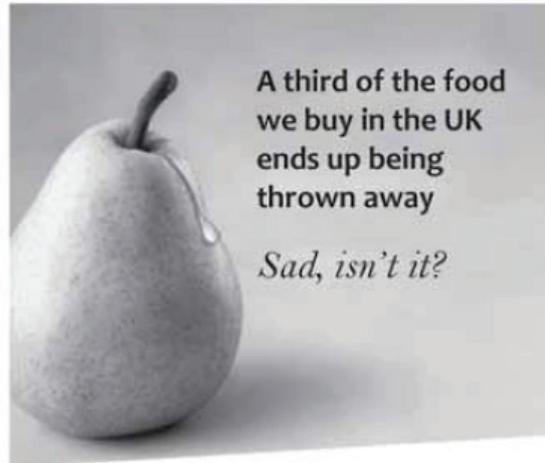
Uma campanha pode ter por objetivo conscientizar a população sobre determinada questão social. Na campanha realizada no Reino Unido, a frase "A third of the food we buy in the UK ends up being thrown away" foi utilizada para enfatizar o(a)

Ⓐ desigualdade social.

Ⓑ escassez de plantações.

Ⓒ reeducação alimentar.

Ⓓ desperdício de comida.

Ⓔ custo dos alimentos.

Figure 10. Question 95/2015-2.
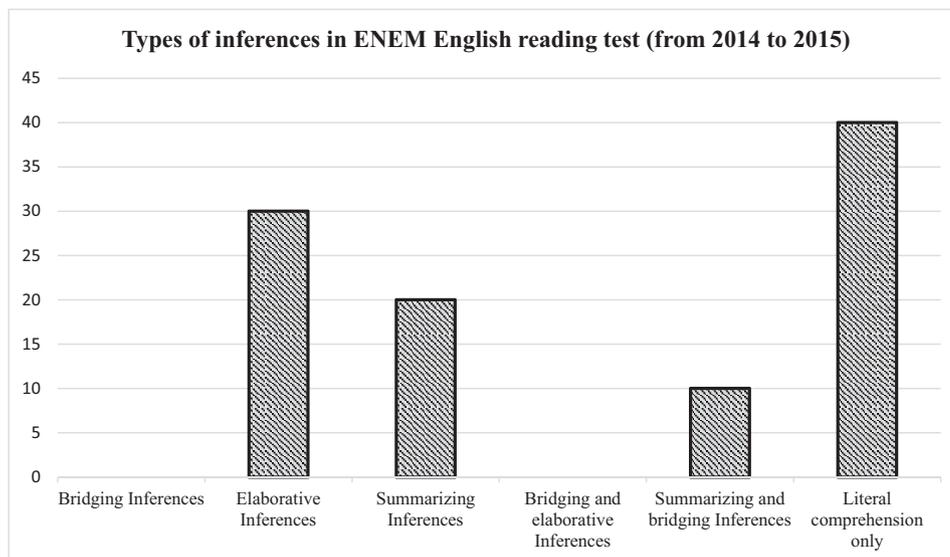
Graph 1. Types of inferences in ENEM English reading test (from 2014 to 2015).

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Discussion

For this study, a total of 10 questions were analyzed according to the criteria from our framework. The results are displayed in the graph below, considering bridging, elaborative and summarizing as separate types of inferencing. We observed more than one type in some questions, while others demanded literal comprehension only.

As shown in Graph 1, we considered that none of the questions required bridging inferences, while 30% demanded elaborative inferences, and 20% asked for summarizing inferences. We understood that one of the questions involved both summarizing and bridging inferences. Finally, we found that literal comprehension would be enough for 40% of the questions analyzed. If we considered all types of inferences as one group, they would amount for 60% of the questions.

Considering these results, we understand that inferential comprehension plays a key role in answering the English reading comprehension questions from *ENEM*. Elaborative inferences were the most required type, followed by summarizing ones. Our tentative explanation as for why these two types were the most frequent is related to the guidelines of the exam. Among other items, they point out that test takers should "associate words and expressions from a foreign-language text to its theme" (Matrizes de Referência do Ensino Médio, 2016, p. 1). In this regard, the test guidelines instruct the test taker that they might have to integrate both textual evidence and her/his knowledge of the theme, that is, to her/his background knowledge.

Our results suggest that being able to integrate textual evidence with schema knowledge leads to a more accurate understanding of most of the questions. Nevertheless, they also show that 40% of the analyzed questions required just a literal comprehension of the text. Thus, not all questions from the exam allow test takers to use their background knowledge in their favor.

All in all, the reading comprehension questions of the test require test takers to know the linguistic code, that is, the English language, and also to work in both low and high levels of processing.

Conclusion

This piece of research has corroborated the claim that inferences play an important role in reading comprehension. The major findings show that elaborating on and summarizing the text are key features for successful reading comprehension. We suggest that, by drawing inferences, test takers are likely to obtain better scores in the English tests of ENEM, since Gagné *et al.* (1993) claim that successful reading comprehension includes conceptual understanding of both lower-level (decoding and literal comprehension) and higher-level (inferential comprehension and comprehension monitoring) reading processes.

Regarding the 40% figure related to literal comprehension, we believe that performing at a lower-level might enable readers to automatize these lower-level skills, bearing in mind that lower-level and higher-level component processes provide an overall picture of how learners read (Grabe, 2009). It is necessary to mention that teachers have a fundamental role in teaching grammar and vocabulary (literal comprehension skills of parsing and lexical access, respectively), so that learners can devote more attentional resources to higher-level processes of inferential comprehension (Alptekin and Erçetin, 2011).

As for inferential comprehension, it is our understanding that ENEM test takers are expected to integrate their background knowledge to the textual evidence. In this sense, the exam assesses not only the test takers' knowledge of the linguistic code, but also their ability to use their linguistic and background knowledge to comprehend a variety of text types. Considering this finding, we believe that language teachers in Brazil should provide a wide range of reading comprehension activities and tests that foster students' ability to infer meanings, a vital skill for understanding texts inside and outside the school context. Narrowing down reading comprehension to literal comprehension is likely to leave students unprepared not only for taking ENEM, but also for real-life situations in which inferring is necessary.

Furthermore, because world knowledge plays such an important role in inferential comprehension, it is also necessary to find ways to encourage the development of this kind of knowledge. Considering this, we believe that interdisciplinarity can be a useful resource for providing readers with world knowledge. In this sense, it is of utmost importance that language teachers interact with teachers of other school subjects such as math, science, history, geography, and others, so that they can build projects together and help students construct content knowledge in both L1 (first language) and L2 (second/foreign language).

We used the 2014-2015 editions of ENEM in our analysis. However, since it is an annual exam, we believe it is important to analyze the subsequent versions of the exam to verify how much inferencing is required in the English language test. Finally, we consider that further studies are needed on English language tests in Brazil.

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