Teaching Explicit Reading Strategies and Students' Reading Development

Johanna Paola Avila Trujillo

Submitted in partial fulfillment of the requirements

for the degree of MASTER OF ARTS IN ENGLISH LANGUAGE TEACHING of

Universidad del Norte, 2017

Barranquilla, Atlántico

Colombia

Acknowledgements

First of all, I would like to thank God for having me guided and given me strength through the way. I would also like to express gratitude to my parents Yasmira Trujillo and Jose Avila, and to my husband Luis Alberto Coneo for providing me with unfailing support and continuous encouragement.

I would also like to express my sincere gratitude to my advisor Prof. Lourdes Rey Paba for the continuous support of my Master's study and related research, for her patience, motivation, and immense knowledge. Her guidance helped me in all the time of research and writing of this thesis. I could not have imagined having a better advisor and mentor for my Master's study.

Last but not least, I would like to thank all my professors and colleagues for their moral support and great motivation to carry out this study.

Author

Johanna Avila.

Abstract

University students need to develop critical reading comprehension skills to better comprehend and analyze texts related to their field of study, be able to exchange knowledge, participate actively in the academic community, and be competitive in the workforce.

Understanding specialized texts is essential for developing academic life skills in general as well as in a content based class which require students to be able to make inferences and understand the author's purpose when writing. Therefore, the explicit teaching of these two critical reading strategies is necessary. Many studies have been conducted on the explicit teaching of reading comprehension strategies. However, any has been aimed at determining if their explicit teaching favors the development of students' reading comprehension skills at the university level, EFL or more specifically at the health care field (English content based).

A mixed research on how the explicit teaching of critical reading strategies favors students' development of reading skills has been undertaken through the application of interviews, surveys, test results, participant observations and think-alouds.

Results showed that after explicit instruction students performed better in their reading assessments (pre/posttests, and real course tests). Thus, they indicated that students become more skillful readers by connecting their previous knowledge with text information (making inferences), and by identifying key words that reveal the author's perspective.

Keywords: explicit vs implicit strategy teaching, critical reading strategies, inferences, and author´s purpose.

Acceptance grade

_____

_____

_____

Program Director

_____

Judge

_____

Judge

Barranquilla,

2017

CONTENT

List of Tables

Chapter 1: Introduction

This study intends to analyze how the explicit teaching of critical reading strategies helps Health Sciences students improve their reading comprehension skills in English. Research on this topic in Colombia has focused on explicit teaching of reading strategies at elementary and primary education level as it is mistakenly assumed that undergraduate students have already developed these strategies before entering the university (Erickson, Peters, & Strommer, 2006). Therefore, few studies have explored this topic at university level and there is no evidence of specific studies conducted in English programs addressed to medicine or dentistry students in our country. This research intends to close this gap by providing English teachers some insights on how the explicit teaching of reading strategies may contribute to the development of their students' critical comprehension skills, which in turn will allow them to better understand the articles they need to read in their undergraduate programs.

In terms of the explicit teaching of reading comprehension strategies, many studies have been conducted on the topic (Salataci & Akyel, 2002; Van Keer and Verhaeghe, 2005; Erickson, Peters, & Strommer, 2006; Gómez & Ávila, 2009; Hermida, 2009; Spörer, Brunstein & Kieschke, 2009; Roberts & Klamen, 2010; Plourde, 2011; McNamara, 2007; Vongkrachang & Chinwonno, 2015; Fernández de Morgado, Mayora & St Louis, 2016; Tavakoli & Koosha, 2016). Among the studies that investigated the possible effects of reading instruction on reading in the mother and foreign language learning processes, the work by Salataci and Akyel (2002) was found. Results of this research revealed that strategy instruction seemed to have a positive effect on the development of reading strategies in the

two languages. Likewise, the results indicated that using think-aloud protocols helped evaluate students' comprehension processes and identify strengths and weaknesses. In terms of the effect of different ways of explicit strategy instruction, Spörer, Brunstein & Kieschke (2009) investigated the level of reading comprehension attained by students after using strategies such as reciprocal teaching, pairs, and instructor-guided. The results indicated that the explicit instruction of various reading strategies helped students improve their reading comprehension. Results also showed that learners benefited the most from explicit reading instruction through reciprocal teaching tasks developed in small groups. In terms of specific strategies instruction such as critical reading, a study conducted by Fernández de Morgado, Mayora and St Louis (2016) showed that the relationship between the development of critical reading and reading comprehension strategies of scientific technical texts is proportional. That is that the development of one influences the development of the other.

Regarding the explicit teaching of strategies to improve students' reading comprehension, a study by Gómez and Ávila (2009) showed that after the explicit teaching of strategies, students improved their use in class especially the following: question-answer relationship, reciprocal teaching, summarizing, clarifying and predicting. The authors assumed that this could mean that students' performance in standardized tests would improve as the result of this type of instruction. This goes in line with Hermida's work (2009) who confirmed that by designing and using different strategies, students reach a deeper approach to reading. This study showed that students were able to identify the author's thesis, the main ideas of the text and its purpose as well as explain, argue and construct meaning from academic texts. Similar to this, when working explicitly with self-explanation reading and

appropriate text selection, Roberts & Klamen (2010) found that the majority of the students benefited from the teaching of these two specific strategies.

Also, a study on explicit reading instruction for undergraduates' informational texts comprehension and engagement was developed by Vongkrachang and Chinwonno (2015) as an approach to the Concept-Oriented Reading Instruction (CORI) framework. Results showed that students' reading comprehension of informational texts improved as well as their engagement in reading after having followed some instructional stages (observe and personalize, search and retrieve, comprehend and integrate, and communicate to others. Similarly, Tavakoli and Koosha (2016) investigated the effect of explicit metacognitive strategy instruction on reading comprehension and self-efficacy using the Cognitive Academic Language Learning Approach (CALLA) in the strategy instruction phase. Results revealed that the explicit metacognitive strategy seemed to have provided students with the ability of applying reading strategies to understand the texts.

In the McNamara study (2004) on the explicit instruction of reading strategies, the effect of the Self- Explanation Reading Training (SERT) as well as the explanation of six reading strategies; comprehension, monitoring, paraphrasing, elaboration, logic or common sense, predictions and bridging to college students were examined. Results indicated that after having explained students these strategies and having encouraged them to read a text aloud to explain what it means, low-knowledge students who received training performed as well as high knowledge students. Additionally, it was found that self -explanation in combination with instruction help students to overcome their lack of knowledge.

Van Keer and Verhaeghe (2005) also conducted a study on the effects of explicit reading strategies instruction. This evaluated the efficacy of this practice along with the use

of teacher-led whole-class activities (STRAT), reciprocal same-age (STRAT + SA) peer-tutoring activities, or cross-age peer-tutoring activities (STRAT + CA). Results showed that students' reading comprehension and self- efficacy perception improved significantly in comparison with a control group that did not receive explicit instruction.

Similarly, Plourde (2011) conducted a study that aimed at researching whether the explicit instruction of reading comprehension strategies would make any differences between students' pre- and post-Northwest Evaluation Association (NWEA) reading test scores after having been taught the following reading strategies: questioning to clarify meaning, using background knowledge to make connections, making inferences and drawing conclusions, visualizing or creating mental images from what is being read, determining the most important ideas or themes, synthesizing information, and using "fix-up" strategies such as skipping ahead, rereading, using a dictionary, and reading passage aloud. Results revealed a relevant increase in students' posttest scores after having received the explicit reading strategy instruction.

After the above revision of studies in the field, I consider that conducting a research on how the explicit teaching of reading strategies may contribute to the development of students' critical comprehension skills, so they better understand the texts they need to read in their undergraduate programs. This research intends to do so by responding to the following research questions:

Research Questions

Main

- How does the explicit teaching of critical reading strategies improve English learners' reading comprehension?

Sub-questions

- What do students know about Critical Reading?
- What CR strategies do students demonstrate prior to the implementation?
- To what extent did the teaching of explicit CR strategies taught during the implementation improve their reading comprehension?

General Objective:

- Analyze how the explicit teaching of critical reading strategies helps Health Sciences students improve their reading comprehension skills in English.

Specific Objectives:

- Describe the process of teaching explicitly two critical reading (CR) strategies.
- Identify students' perceptions about CR strategies before the implementation of the explicit teaching.

In order to respond to the main question and sub-questions, the research study will take place in the third level of the English for the Health Sciences (EHS) program in a private university. The participants are 13 Colombian students; 7 women and 6 men whose ages range from eighteen to twenty-three years. They are expected to reach a B.1 level according to the CEFW by the end of the course. It is important to mention that these students are enrolled in different semesters in the Health Sciences School (2nd, 4th, and 10th) because they take a placement test at the beginning that places them in one of the five levels of the program taking into account the English level students have.

This paper is divided in eight chapters. The first one: INTRODUCTION intends to describe the context of the study: the institution, the learners, and it establishes the research questions that will help me address the research problem. Finally, this chapter offers a summary of the other chapters that are part of this study. The second chapter: THEORETICAL FRAMEWORK is aimed at defining key concepts that are needed to respond to the research question. It also presents a synthesis of similar studies conducted in the same research area, their respective interventions and results. Chapter three: METHODOLOGY presents the general approach used to conduct the research study, the data collection instruments and techniques used, and the reasons for choosing them. In addition, it provides a description of the context where this study takes place; the institution, students, and how the curriculum program is currently organized. Finally, it provides a description of ethical considerations that will be considered in order to maintain the participants´ privacy. Chapter four shows THE FINDINGS which refers to the analysis of the data collected in order to draw some inferences from the results, discusses the main reasons why I think the results occurred in the way they did. Chapter five: THE DISCUSSION, and chapter six: THE CONCLUSION, illustrate how this study has responded to the research question and objectives, the possible constraints that this study may have in a future research, and provide a reflection on the research process. Additionally, they establish the significance of this study for the Colombian EFL/ CBI/CLIL context.

Chapter 2: Theoretical Framework

This chapter is aimed at providing the conceptual framework of this study research. Therefore, it reviews key concepts involved in the study that should be the basis for the analysis of the data.

Reading

As the study relates to the development of reading skills through the explicit teaching of reading strategies, it is important to define what reading is. According to Sohail (2015), "reading is a complex and critical skill and involves a dynamic interaction between the reader's contextual knowledge, the evidence gathered by means of the printed language, and the reading framework'' (p. 115). Grabe (2009) complements the above definition by adding that "reading is a strategic process in that a number of the skills and processes are needed on the part of the reader to anticipate text information, select key information, organize and mentally summarize information, monitor comprehension, repair comprehension breakdowns, and match comprehension output to reader goals" (p.15). Additionally, Sheng (2000) argues that "the process of reading deals with language form, while comprehension, the end product, deals with language content'' (p.14). Even though this last concept aims at providing a distinction between reading and comprehension, it is important to keep in mind that reading is an umbrella term that involves a series of complex processes whose ultimate goal is comprehension.

Reading Comprehension

According to Woolley (2011), reading comprehension is the process of understanding what is expressed in a text. That is, the reader should go beyond words and sentences to

make meaning from what is written. To this respect, McNamara (2007) defines comprehension as the ability to go beyond the words, to understand the ideas in a text and the relationships that exist between those ideas (p.3).

In the same line of thought, De Corte et al. (2001) argue that "reading comprehension depends on a wide variety of text-related and student-related factors'' (p. 532). In other words, the comprehension of a text relies on what the reader knows about the topic, his characteristics, and the text's characteristics. In regard to the characteristics of the text, De Corte goes on to say that '"relevant text variables are, for example, the type of text and the amount of new information involved in it, the complexity of the micro and the macrostructure of the text'' (p. 532).

In the same way, Kendeou et al (2014) state that the essence of the reading comprehension process relies on the construction of a mental representation of the text. These authors argue that "this mental representation of the text includes textual information and associated background knowledge interconnected via semantic relations (e.g., causal, referential, and spatial relations)'' (p. 10). They add that the cognitive processes of reading comprehension have two main categories: lower level processes and higher level processes. The former involves "translating the written code into meaningful language units'' while the second one "involves combining these units into a meaningful and coherent mental representation'' (p. 11).

To this same respect, Sohail (2015) states that there are three models of reading in which the bottom- up and top-down processes are already included as well as the metacognitive. For this author, the first process (bottom-up) deals with "the printed form of a text'', the second one (top-down) "enhances the role of background knowledge in addition to

what appears on the printed page'', and the third one (metacognitive) "controls and manipulates the act of comprehending a text and emphasizes on the involvement of the reader's thinking about what he is doing while reading'' (p. 117).

Levels of Reading Comprehension

In order to teach students how to better comprehend what they read, it is necessary to help them develop a variety of levels of comprehension. According to Saadatnia, Ketabi and Tavakoli (2017), the theory of levels of reading comprehension suggests that there is a sequence of three reading comprehension skill levels; literal, inferential and evaluative that increase in difficulty and processing respectively.

In regard to the literal comprehension level, Jude and Ajayi (2012) state that this level requires students to develop the ability of identifying the exact meaning of words at the sentence level, reading for information to understand the main idea of the text, and paraphrasing or summarizing what they comprehend from the passage. To this respect, Goff (2010) suggests that literal comprehension has the following components; context, facts and sequence. As for context, it is defined as the mental image formed by facts, facts are seen as the main information stated across in the text, and sequence is the progression of events in the text.

With regard to inferential comprehension or reading between the lines, Vacca et al. (2009) argue that in this level readers are expected to manipulate information in the text to interpret and draw conclusions about the author's purpose and point of view by synthesizing, generalizing, summarizing, and extrapolating as well as relating the main idea and details. In the same line of thought, Basaraba, Yovanoff, Alonzo and Tindal (2013) state that inferential comprehension requires students to not only have a literal comprehension of the text, but also

to be able to infer meanings, arguments and claims presented across the text by using their prior knowledge to enhance those interpretations.

As for evaluative comprehension, Basaraba, Yovanoff, Alonzo and Tindal (2013) defined it as an “extension of the knowledge, skills, and strategies required of literal and inferential comprehension tasks” (p. 356). That is, this level of reading comprehension goes beyond recognizing words and understanding something that is not explicit in the text to analyze in depth the information that is presented in the passage. According to Vacca et al., (2009) when readers achieve the evaluative comprehension level, they make connections between what they read to what they previously know through a series of skills such as divergent thinking, critical analysis, synthesis and evaluation.

Consequently, these levels of reading comprehension need to be cultivated in students so that they can develop a deeper understanding of what they read. This can be done by considering the advantages and disadvantages of the implicit and explicit teaching of reading strategies which are described in the section below.

Implicit vs explicit teaching of reading

Johnston (1985) stated that “the goal of comprehension instruction should be to improve readers' ability to comprehend" (p.635). In order to achieve this, there are different ways in which reading comprehension instruction can be implemented. In this part, I will be describing the explicit and implicit teaching of reading.

Before mentioning the characteristics, and the implications of the implicit and explicit teaching of reading, it is essential to first define what implicit and explicit instruction mean. According to Jenkins (2012), "by explicit instruction, we mean teaching where the instructor clearly outlines what the learning goals are for students, and offers clear, unambiguous

explanations of the skills and information structures they are presenting'' (p.1). Likewise, Archer and Hughes (2011) explain that "explicit instruction is characterized by a series of supports or scaffolds through which students are guided in the learning process with clear statements about the purpose and rationale for learning the new skill, clear explanations and demonstrations of the instructional target, and supported practice with feedback until independent mastery has been achieved" (p. 1).

As for implicit instruction, Jenkins (2012) argues that it takes place when "the instructor does not outline such goals or makes such explanation overtly, but rather simply" (p.1). As Almasi (2003) states, it is an approach that equips and empowers learners to engage in reading on their own. Likewise, Rupley, Blair, & Nichols (2009) state that "directly/explicitly teaching reading means imparting new information to students through meaningful teacher–student interactions and teacher guidance of student learning" (p. 126).

In terms of benefits, explicit teaching of reading, according to Kazemi, Hosseini & Kohandani (2013), can help learners become "expert readers and comprehenders of whole text" through monitoring their own comprehension. In addition, these authors state that "the development of reading comprehension for EFL students is highly dependent of learning what strategies are, how, when, and where to use particular strategies, as well as how to evaluate their use" (p. 2339).

In regard to the benefits of implicit teaching of reading, recent research has demonstrated that this type of instruction is not as beneficial as explicit instruction even if some researchers in favor of implicit learning argue that explicit teaching of second language learning strategies is not necessary as learners have the capability of using them consciously (Griffiths, 2004). On the contrary, "research consistently shows that one of the most

important purposes of instruction should be to raise learners' awareness of strategies and then allow each to select appropriate strategies" (Anderson, 2005, p. 763). Likewise, Manchón (2008) states that "[and thus] effective strategy instruction should be part of instructed language learning" (p.225)

In spite of all of the above, Gasparini (2004) claims that implicit learning compensates the predominance of explicit teaching frameworks as it promotes more effective learning environments only by using few educational mechanisms to help students manipulate their knowledge. In addition, this author suggests that it is better to lead students through an implicit exploratory phase before they actually get to reflect intentionally which makes part of the explicit deductive thinking mode. He also argues that implicit learning is a collaborative process since students work in learning communities that allow them to contribute and construct knowledge together.

In terms of disadvantages of explicit instruction, Gasparini (2004) argues that since explicit learning is related to deductive thinking which involves a small number of relationships, it may be replaced by rules so that students can assimilate them. That is, this type of instruction makes teachers oversimplify concepts so that learners can easily grasp them. This in turn, gives teachers the control of the lesson and does not allow students to interact actively. In other words, explicit teaching does not favor collaborative learning.

As for the disadvantages of implicit instruction is concerned, Anderson (2005) states that when students are not taught learning strategies, those low- achieving language learners tend to use the same strategies over and over again which does not allow them to make meaningful progress in their tasks. To this respect, Rubin et al (2007) affirm that "unless learners select strategies in the service of some task, skill, and goal, they will not easily find

the most appropriate strategies and be successful." (p. 142). It is important then to have a clear understanding of what reading strategies are.

Reading Strategies

As reading comprehension is a complex process, the use of reading strategies is necessary for students to understand the meaning of texts. According to Mcnamara (2007), "a reading comprehension strategy is a cognitive or behavioral action that is enacted under particular contextual conditions, with the goal of improving some aspect of comprehension" (p. 6). That is, students use reading strategies consciously as techniques that help them to better understand a text. To this respect, Koda (2005) argues that reading strategies have three main characteristics: they are "deliberate, goal/problem-oriented, and reader-initiated/controlled" (p. 205). As for the types of reading strategies, Grabe (2009) proposes the following twenty major ones (p. 218- 219)

A. Empirically validated reading comprehension strategies

1. Activating prior knowledge
2. Answering questions and Elaborative Interrogations
3. Constructing mental images
4. Forming questions
5. Making associations (mnemonic support)
6. Monitoring
7. Previewing
8. Summarization
9. Text-structure awareness and story grammars
10. Using graphic organizers

B. Indirectly supported reading strategies used in validated multiple-strategy instruction

11. Clarifying
12. Establishing goals for reading
13. Inferencing (using context)
14. (Mental) translating
15. Paraphrasing
16. Predicting
17. Rereading
18. Reading aloud (for modeling, for fluency)
19. Synthesizing information
20. Taking notes

It is important to mention that the teaching of these strategies depends significantly on the effectiveness of the strategic reading instruction provided by the teacher. For this study, I will focus on two critical reading strategies; making inferences and author's purpose as students need to learn to draw conclusions from the texts they read as well as interpret the author's primary and secondary purpose.

Critical Reading

Critical reading is an essential skill that students need to develop in order to be competitive in the workforce. However, the teaching of this skill is usually overlooked in elementary and secondary education, not to mention in college education as it is assumed that by the time students enter the university, they should have already mastered the reading skill (Bosley, 2008, p. 286). This situation might cause students to have reading comprehension issues as they may lack the skills necessary to understand well what they read or to analyze

critically whether the information given is true. To illustrate this, a study conducted by the American Institutes for Research, Bosley (2008) stated that "50 % of students at 4-years college lacked the skills to function at a proficient level of literacy" (p. 285). To this respect, Smith (2004) argues that students do not consider reading as a tool for intellectual stimulation.

As college students are often exposed to reading large amounts of texts as part of their learning process, it is necessary to help them to develop this skill. This, in turn, will make them develop their critical thinking which according to Pirozzi (2003) means that learners need it to be able to discover motivations and evaluate arguments, to consider and judge not only different choices in regard to products, commercials, and advertisement, but also government policies. Critical thinking is a core component of university education across the Western world (Moore, 2013) and it is a skill that allows evaluating information and ideas in order to decide what to accept and believe (Kurland, 2000). In reading, critical thinking and reading contribute to students learning to analyze objectively the texts by drawing their own conclusions, instead of believing in anything they read.

According to McDonald (2004), critical reading is different to the "typical approaches to reading such as information processing or personal response" (p. 18). It is different because it includes the analysis and evaluation of texts while keeping a view towards the improvement of thought and one's subsequent actions (Paul & Elder, 2008) as well as becoming effective readers. As Hall (2004) states, effective readers may be able to evaluate their own practices, working to develop their critical reading skills autonomously.

As a result of the above mentioned, reading is a good way to activate students' critical thinking. This may include the ability to create accurate interpretations, evaluate the author's

point of view, recognize the problem being discussed, identify concepts in the text, as well as the assumptions underlying someone's position (Haromi, 2014).

In like manner, Garrigus (2002) points out two levels of critical reading proficiency (CRP); the basic, and the high-level critical reading skills. The former includes "finding the main ideas in paragraphs, identifying ideas patterns of organization, recognizing transitions that signal relationships among pattern elements and supporting details etc." (p. 16) whereas, the second ones include "drawing inferences, distinguishing facts and opinions, synthesizing two or more sentences to formulate divided main ideas etc." (p. 16).

Making Inferences

One of the most important high-level critical reading skills that university students are expected to develop is making inferences. As Nassaji (2004) states, this strategy is one of the core cognitive processes in reading comprehension. When making inferences, a reader uses different skills to draw conclusions about something that is not presented explicitly in the text. In order to make inferences, the reader has to judge, speculate and connect the information provided with his background knowledge. Therefore, O'Brien, Cook, & Lorch, (2015) conclude that "inference making is the process of integrating information within text and between the text and one's general knowledge of the topic" (p. 32).

Background knowledge plays an important role in making inferences as it allows readers to make sense of the reading through their life's experiences. To this respect, Kurland (2000) states that when the readers connect the hints given in the text with their experiences, it is unlikely that they misunderstand the intended message. Likewise, Mikulecky and Jeffries (2004) argue that not only readers are able to relate their cognitive skills to their background knowledge by making inferences, but also by applying other reading strategies.

In the same line of thought, Flemming (2002) describes inferences as "the conclusion a reader draws about what is unsaid based on what is actually said" (p. 205). Similarly, Kispal (2008) argues that when readers go beyond what is written and what they can understand literally, then inferencing appears. Another important definition is given by Facione (2010), who states that when making inferences, a reader is able to determine the necessary elements to draw logical deductions and hypotheses, to recognize the important information and to understand the "principles, statements, evidences, opinions, descriptions, questions and other ways of representation" (p. 6).

As making inferences is an essential skill that all students should develop, especially those at university level, it is important for them to know that this critical reading skill is, in turn, divided into several categories according to the existing literature on this topic. The first division is that between the logical and functional inferences (Lee, 2013). According to this author, the first one refers to the types of inferences that are drawn from textual information, that is, from the relationships within the lines, whereas, the second one refers to those inferences that are drawn from having a conscious interplay with texts. Lee's study also suggested that each subcategory is divided into some other inference types; bridging, casual bridging and elaborative *(logical inferences*), and explanation, predictions, and associations (*functional inferences*).

Another important concept to study has to do with the interdependence between inferences and vocabulary. Calvo (2004) indicates that while reading, vocabulary background knowledge has a positive, direct, and specific impact on inferences. This author goes on to consider that the availability of this vocabulary knowledge allows the reader to search and

choose for words that are relevant in the context of the text, which, in turn, “represents an emerging inference even though not yet completed” (p. 63).

It is not only important for students to know what to make an inference is, or the different types of inferences that exist, but also it is essential that they receive instruction on how to make them. Lee (2013) proposes five points to teach how to make inferences; first, students need to be told what the content is, that is, the reading strategy they will learn (making inferences). Second, the teacher explains to the students the task on hand trying to catch their attention. Third, the teacher models how to apply this strategy and to have students apply it too. To do so, Lee suggests demonstrating Think-alouds, which is a way to report whatever is in one's mind while reading, so that students can learn how to make meaning from texts. Next, the teacher shows students the two categories for making inferences (logical & functional inferences), and finally, students monitor their own learning. Lee’s recommendations will be followed in this research study.

Author’s Purpose

The second critical reading strategy that I will work with is author’s purpose. As critical reading intends to have the reader recognize elements that are not explicitly found in a text, Kurland (2000) proposes that the learner may benefit from receiving explicit teaching of how to explore the purpose of the author in order to understand the tone and persuasive elements existing in the text and recognizing bias. This is supported by Elder & Paul (2007) who state that critical reading involves, among other strategies the ability to

> assess the author’s purpose, ...see significant implications of the advocated position, identify, understand, and evaluate the assumptions underlying someone’s position, ..., reasonably assess the credibility of an author, accurately grasp the point of view of

the author, empathetically reason within the point of view of the author …'' (in Huijie, 2010, p. 47).

Recognizing the author's purpose, according to Story and Sneddon (2008), helps learners understand the choices they "make as writers and the strategies they apply for particular and intended impact on the reader" (p. 40). That is, students' reading comprehension may benefit from interpreting what is behind the tenses, the kind of language features, and the storyline the author uses, as well as decipher the message that the author is trying to convey. These authors also added that teaching author's craft implies giving students the opportunity of developing strategies to understand the impact the writer has on them as a reader. They also argue that the teaching of this skill can be applied to any type of text, and students of any age. They propose some approaches to teaching author's craft in middle school classrooms. The first approach includes the explicit teaching of this skill through a '*Workshop model'* which guarantees an explicit mini lesson where the teacher shows how to deconstruct a text to analyze and comprehend the features and structures the author has used. Then, students examine a piece of text trying to follow this model and get together to share their findings. The second approach called '*Whole class novels and texts'* aims at teaching students "how to identify, develop, and practice specific skills and strategies" (p. 41). The authors suggest using different strategies such as reading observation records, reading interviews, and students' reflection on how they see themselves as readers, to be able to determine which book can fit their interests, and how to address and support their reading needs.

The third approach is the *'Independent reading and the Reading Riddick'* which is a model that students use to report in a friendlier way what they have understood from the text,

instead of using a book report. In this model students use Bloom's taxonomy "from the base order thinking level of knowledge, comprehension and application to the higher order thinking levels of analysis, synthesis, and evaluation (p. 43)." Another important characteristic of this model is "the categories of character development, setting and plot, text conflict, and author's craft and style" (p. 43). According to the authors, this model gives students a framework for thinking development which allows them to be able to progress their thinking to higher levels. Then, it is essential the explicit teaching of Bloom's taxonomy so that they can apply it to themselves as readers.

As it was already mentioned, the success of learning the two critical reading comprehension strategies mentioned above is closely related to their explicit teaching. However, it is important to mention that student motivation plays an important role when it comes to learning. Therefore, the concept of motivation in regard to grades and students' performance is described below.

Motivation

Student motivation for learning is one of the main factor that influences their academic achievements either positively or negatively (Tucker et al., 2002). Motivation has been considered as one of the factors that influences the learning of a second language (Gardner & Lambert, 1972; Oxford, 1996). According to Dörnyei (2001a), motivation gives the strength to start learning an L2, and support the later learning process. Academic motivation is reflected in student's academic behaviors and is essential for their academic success (Moore, 2007b; Romer, 1993).

However, motivation can be influenced by other factors involved in the teaching and learning situation. For example, grades and general point average can become a source of

motivation to succeed. This is supported by Evans (1976) who said that "student motivation can be influenced by grades" (p. 40). This may imply that students' academic performance depends on whether the tasks or tests they usually engage on in their academic settings are gradable or not. To this respect, it is important to mention that normative evaluations are related to performance concerns (Butler 1987, 2006; Elliot, 1999; Elliot & Moller, 2003; Harter, 1978), and that students presuppose the acceptance of pre-task performance- oriented goals (Butler, 2006).

As for the performance- oriented goals is concerned, these are divided in two kinds: performance-approach goals, and performance-avoidance goals (Elliot, 1999; Elliot & Church, 1997). The former has to do with trying to exceed others, whereas the second one refers to the aspiration to avoid performing more poorly than others (Darnon, Harackiewicz, Butera, Mugny, & Quiamzade, 2007). According to Elliot & Moller (2003), performance-approach goals have been positively related to student's performance, challenge construal and self-esteem. On the other hand, performance-avoidance goals have been related to anxiety, hopelessness and shame (Pekrun, Ellion, & Maier, 2006).

These two performance-oriented goals are closely related to the relationship between grades and students' performance. This can be observed when students face a graded evaluation compared to a non-graded evaluation. In this case, they may experience higher levels of performance-avoidance than performance approach goals (Pulfrey, Buchs, & Butera, 2011). This might suggest that students do not care about the grades they get in their tasks or tests when these are not graded. To this same respect, Harackiewicz, Manderlink, & Sansone (1992) state that when a grade is linked to performance, performance evaluation provokes motivational and emotional consequences in the students before engaging in a task.

In the same line, Elliot and Moller (2003) argue that it is “the normative evaluation structures in the school and classroom environment that tend to evoke performance- approach goals” (p. 346).

Chapter 3: Methodology

Educational research is a complex process which main aim is to help solve problems regarding education, which involves important considerations in order to be developed. Creswell, (2012) states that research is important for three reasons; it adds or contributes to enrich knowledge about certain issues, it helps improve the educators' practice as they may establish connections with others by sharing ideas and experiences which may result in a better learning for kids, and it also contributes to keep "policy makers" informed on current educational problems, so that they can help overcome them by looking for solutions. It is important to mention that in educational research there are two major approaches to research; the qualitative and the quantitative one which are briefly described below.

Qualitative Research

Creswell (2003) states the following:

> a qualitative approach is one in which the inquirer often makes knowledge claims based primarily on constructivist perspectives (i.e., the multiple meanings of individual experiences, meanings socially and historically constructed. with an intent of developing a theory or pattern) or advocacy/participatory perspectives (i.e., political, issue-oriented, collaborative. or change oriented) or both. (p. 18)

That is, qualitative research is mainly focused on investigating issues that affect a particular person or group of people in order to help him /them improve or solve a particular situation.

Another important definition of this type of research is given by Denzin and Lincoln (2005) who state that it is a situated activity that locates the observer in the world. That is,

these authors consider it as a set of interpretive, material practices that makes the world visible. Additionally, as these authors explain,

> These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them. (p. 3)

Given these points, it is clear that the main characteristic of the qualitative research is its social nature and the impact that this inquiry has over the society.

Quantitative Research

According to Williams (2007), "quantitative research involves a numeric or statistical approach to research design" (p. 66). To this same respect, Creswell (2003) states that this research implicates the gathering of data in order to quantify the information by giving it a statistical treatment so that it can be supported or refuted.

In quantitative research, the investigator identifies a research problem based on trends in the field or on the need to explain why something occurs. According to Creswell (2012), "describing a trend means that the research problem can be answered best by a study in which the researcher seeks to establish the overall tendency of responses from individuals and to note how this tendency varies among people" (p. 13).

Qualitative vs Quantitative Research

Qualitative and quantitative research approaches have some similarities and also some differences. They are similar in that both of them use the same data collection

approaches such as interviews, and observations. As far as the differences are concerned, the quantitative research relies on statistics which are not used in the qualitative research as this one relies on words, and other type of codes like images.

According to Dawson (2002), "qualitative research explores attitudes, behaviour and experiences through such methods as interviews or focus groups. It attempts to get an in-depth opinion from participants'' (p.14). Whereas, according to him; "quantitative research generates statistics through the use of large-scale survey research, using methods such as questionnaires or structured interviews" (p. 15). This is supported by Kothari (2004) who argues that "quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomena, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behaviour (i.e., why people think or do certain things)" (p. 3).

It is important to keep in mind that neither approach is the best, they just have some differences that serve different purposes. Therefore, I consider conducting my research as a combination of both approaches or mixed methods would be useful. According to Creswell (2012), "mixed methods designs are procedures for collecting, analyzing, and mixing both quantitative and qualitative data in a single study or in a multiphase series of studies" (p.22).

Research Designs

The qualitative and quantitative approach have some distinguishing features that can be used ''to collect, analyze, and interpret data using quantitative and qualitative research'' (Creswell 2012, p. 293). These features are known as research designs and the most common ones are:

- The Experimental Designs
- The Correlational Designs
- The Survey Designs
- The Grounded Theory Designs
- The Ethnographic Designs
- The Narrative Research Designs
- The Mixed Methods Designs
- The Action Research Designs

To conduct this study, a combination of the action research and ethnographic designs will be used. These two methodologies are described below.

Action Research Design

Brown and Dowling (2001) defined action research as "a term which is applied to projects in which practitioners seek to effect transformations in their own practices" (p.152). Bryman and Bell (2011) also indicated that this is "an approach in which the action researcher and a client collaborate in the diagnosis of the problem and in the development of a solution based on the diagnosis" (p.414). Dawson (2002) goes beyond these definitions by adding that, in action research the researcher works as a facilitator to help a group of people improve a situation in a specific setting. In sum, Tripp (2005) states that "action research is a form of action inquiry that employs recognised research techniques to inform the action taken to improve practice" (p. 4).

I found myself identified with the action research methodology as I consider it allows me to understand what things need to be done in order to improve certain situations in my context through the implementation of some planned actions and evaluate the effect of these

actions. That is, this approach empowers me to implement actions intended to generate the necessary changes with the participation of all the members of my context in order to make it better.

Ethnographic Design

Creswell (2012) has defined "ethnographic designs are qualitative research procedures for describing, analyzing, and interpreting a culture-sharing group's shared patterns of behavior, beliefs, and language that develop over time" (p. 462).

There are different types of ethnographies. However, Creswell (2012) synthesizes them in three main categories: the realist ethnography, the case study, and the critical ethnography. He also argues that these types of ethnography researches share the followings common characteristics: "cultural themes, a culture-sharing group, shared patterns of behavior, belief, and language, fieldwork, description, themes, and interpretation, context or setting, researcher reflexivity" (p. 468).

This author also states that an ethnography can be conducted when the researcher has "a culture-sharing group to study—one that has been together for some time and has developed shared values, beliefs, and language'' (p. 462). Accordingly, I also feel identified with this type of design as I know the program and the group to be studied, the values, and the methodology of the institution where it is going to be conducted.

Furthermore, I have decided to use this design as it is a method that fits my context well. I can conduct this study by following all its steps effectively as all the conditions are given. Leedy & Ormrod (2001) state that the initial step in the ethnography process is to gain access to a site. Second, the researcher must establish rapport with the participants and build trust. Third, the researcher starts using the big net approach by intermingling with everyone

in order to identify the key informants in the culture (in William, 2007, p.68). To this respect, I can say that I already have access to the group to be studied as I work at the same university, since I know the program and some of them are my students the rapport and trust have been already established, and finally, the third step is to be developed through the two previous ones.

Data Collection in Action Research and Ethnography Designs

This section describes the data collection instruments used in action research and ethnography designs, which in turn, are to be used to conduct this study. Likewise, an explanation of the reasons for choosing them will be provided.

In action research, the data collected is gathered from a variety of instruments for data such as questionnaires, diaries, interviews, case studies, observational data, experimental design, field notes, photography, audio and video recording, sociometry, rating scales, biographies and accounts, documents and records etc. (Cohen, Manion & Morrison, p. 309). Conversely, and according to Williams (2007), in Ethnography designs

"the data is collected from participant observations and from interviewing several key informants. If the interviews are lengthy, the researcher gathers documentation by using audiotapes or videotapes media. The aspects included in ethnography are: the justification for the study, the description of the group and method of study, the evidence to support the researcher's claims, and the findings to the research question. The report should provide evidence of the group's shared culture that developed over time" (p. 68).

Correlational Design

According to Creswell (2012), "correlational designs are procedures in quantitative research in which investigators measure the degree of association (or relation) between two or more variables using the statistical procedure of correlational analysis. This degree of association, expressed as a number, indicates whether the two variables are related or whether one can predict another" (p. 21).

This author goes on to say that you can conduct a correlational design when researchers want to "measure the degree of association (or relation) between two or more variables using the statistical procedure of correlational analysis. This degree of association, expressed as a number, indicates whether the two variables are related or whether one can predict another" (p. 338).

The main two types of correlation designs are: explanation and prediction. Researchers use the former when they are interested in "the extent to which two variables (or more) co-vary, that is, where changes in one variable are reflected in changes in the other" (Creswell, 2012, p. 340). Whereas, researchers use the second one in order to "identify variables that will predict an outcome or criterion. In this form of research, the investigator identifies one or more predictor variable and a criterion (or outcome) variable" (Creswell, 2012, p. 341).

I have decided to use a correlation design in my research as it allows me to compare the results obtained from the pretest and posttest. Additionally, I will be able to compare these results with the ones obtained from the gradable tests.

Bearing in mind the information above, for this study, the data will be gathered through interviews, surveys, test results, participant observations and think-alouds in order to answer the main and secondary questions of this research shown below.

Table 1. Research questions and Data Collection Instruments

Main research question	**Sub-questions**	**Instruments**
How does the explicit teaching of critical reading strategies improve English learners' reading comprehension?	What do students know about Critical Reading?	**Survey**
	What CR strategies do students demonstrate prior to the implementation?	**Observation and tests**
	To what extent did the teaching of explicit CR strategies taught during the implementation improve their reading comprehension?	**Survey & tests results/ think-alouds**

The decision of using the data collection instruments above mentioned is also based on the analysis of the advantages and disadvantages of each instrument that are presented in Table 2.

Table 2. Data Collection Instruments' Advantages & Disadvantages

Data collection instruments	Advantages	Disadvantages
Surveys	''Good for gathering descriptive data Can cover a wide range of topics Are relatively inexpensive to use Can be analyzed using a variety of existing software''(Frechtling,2002, p.57).	''Self-report may lead to biased reporting Data may provide a general picture but lack depth May not provide adequate information on context'' (Frechtling, 2002, p.57).
Test results	''Provide objective information on what the test taker knows and can do Can be constructed to match a given curriculum or set of skills Can be scored in a straightforward manner Are accepted by the public as a credible indicator of learning'' (Frechtling,2002,p. 65).	''May be oversimplified and superficial May be very time consuming May be biased against some groups of test takers May be subject to corruption via coaching or cheating'' (Frechtling,2002,p. 65).
Grade Analysis	"It will minimize misclassification of students on	"The false hope of total objectivity in grading; 2) The

	the basis of marks. 2. It will eliminate unhealthy cut-throat competition among high achievers. 3. It will reduce societal pressure and will provide the learner with more flexibility. 4. It will lead to a focus on a better learning environment" (Bilal, & Gul, 2014).	false hope of total agreement about grading; and 3) The false hope of a one-dimensional student motivation for learning" (Bilal, & Gul, 2014).
Think alouds	''The think aloud method avoids interpretation by the subject and only assumes a very simple verbalization process. The think aloud method treats the verbal protocols, that are accessible To anyone, as data thus creating an objective method'' (Someren, Barnard,	Think-aloud participants may not always report all of the strategies they employ (Salataci & Akyel, 2002). Think aloud can cause an extra cognitive load for participants, as they are already involved in a cognitive activity (Nielsen,

	& Sandberg, 1994, p. 30).	Clemmensen, & Yssing, 2002.)

As stated above, for this study, I have decided to use a mixed approach, in which the methods to be implemented are: action research, ethnography and, correlation analysis. This will be completed through the application of instruments such as interviews, surveys, test results, participant observations and think-alouds. These data collection techniques allow me to gain a critical and objective perspective on how the educational process is being carried out in my context. I have also selected these instruments as they give me the opportunity to have a deeper insight on what both teachers and students perceive in regard to the teaching of reading comprehension. Furthermore, it is important to mention that the use of two quantitative data collection techniques are to be used; surveys and test results as they allow me to identify how much students know before and after having been taught explicitly the two critical reading strategies.

Intervention

The following section aims at describing the context in which the study was conducted, the procedures developed as well as the ethical considerations to bear in mind.

Context description

Universidad Del Norte is a private institution located in Barranquilla, Colombia. Its mission is the integral formation of the person at the level of higher education, and contribution, through its institutional presence in the community, to the harmonious development of the society and the country, especially in the Colombian Caribbean Region.

Its vision states that the University will continue being one of the most important

universities in the country, Latin America and the Caribbean, due to its commitment to the excellence in the training of students, knowledge creation and high impact in the regional, and national development as well as the dialogue with the global society in the continuing search for a better future.

As for participants, this research will focus on medicine students that are part of the level three English for health sciences (EHS) program and whose expected level by the end of the course should be B1. 1. It is important to mention that the EHS program includes both medicine and dentistry students, but there was not any dentistry student enrolled in this course this time. In the same way, it is worth mentioning that the emphasis of the EHS III program is mainly based on reading as students are taught different reading strategies to be able to read longer texts in English from their respective majors. Additionally, students are to develop a reading book club in which they have to read and account the book they prefer among a series of options given by the professor.

As explained before, students will be taught explicitly two reading strategies; making inferences and author's purpose through the implementation of two reading supplements (See appendixes 1 & 2) in the second and fourth weeks of classes during the intensive vacational course which lasts 80 hours, and that is completed in six weeks. It is also important to mention that before exposing students to the explicit instruction of these strategies, a survey and a test will be given to them the first week to determine how much they know about these two reading strategies.

The explicit teaching of the former strategy will include the following steps; first, students will be told what an inference is, and what making inferences mean. Second, I will model an activity to show them how to make inferences by using Think-alouds, which is a

way to report whatever is in one's mind while reading. To this respect, Ericsson & Simon (1993) stated that Think-alouds are an investigation method used to comprehend someone's cognitive processes based on their verbal accounts of their thoughts.

In order to have students verbalize their thoughts, I will explain to them the procedure to make the Think-alouds, and some of the strategies readers can use to make inferences before, during and after reading. Finally, students will reflect on what they have learned through this process.

As for the explicit teaching of the second strategy (author's purpose), I will use the approach *called Workshop model* by Story & Sneddon (2008), which consists on providing an explicit mini-lesson where I will show students how to deconstruct a text to analyze and comprehend the features and structures the author has used. Then, I will have students practice by examining a piece of text trying to follow this model and get together to share their findings.

After having completed each of the two processes abovementioned, a reading test will be applied to students to assess their learning process in regard to the two reading strategies.

Ethical Considerations

In order to guarantee that this study is conducted as ethically as possible, the students interviewed and observed for this study are made aware that their identities and answers would be used confidentially and for research purpose only.

Chapter Four: The Findings

This chapter focuses on showing the results of the data collected in a Health Sciences English course. The aim of this study was to determine whether students' reading comprehension skills improved after they were explicitly taught two critical reading comprehension strategies: making inferences and author's purpose and perspective. This study also involved the grade analysis of two more tests during the intervention in order to corroborate students' progress (see appendixes 5 & 6). Additionally, students took an entrance and an exit survey before and after the intervention to have a better insight on their perceptions about the critical comprehension reading strategies they used when reading a medical text in English (see appendixes 7 & 8). Furthermore, three think-aloud processes were recorded and analyzed to gain some understanding on how students made inferences after the explicit teaching of the two reading strategies (see appendixes 9,10 & 11).

Pretest - Posttest Analysis

As stated above, the study involved a pretest, posttest and two follow-up tests. The pre- and posttest were administered one week before and after the intervention. Follow-up tests were given in between pre- and posttest. That is, after each reading supplement was conducted.

In order to determine to what extent students' critical reading comprehension skills were different before and after the pedagogical intervention, a comparison between the differences of mean measures from reading one and reading two pretest and posttest were analyzed. Descriptive statistics of the reading comprehension pretest and posttest were summarized in table 2 and 3 through the use of the SPSS software. It is important to indicate that these tests were not graded, therefore they did not affect students' results.

Table 3. Comparison between measures of Reading 1 pretest and posttest

	N	Mean	Standard Deviation
Pre-test	9	2,00	1,118
Post-test	9	2,11	1,054
Asymptotic Significance (2 Sided)			,317

Table 3 depicts that the result obtained in the mean posttest score on the first reading comprehension test (M=2,11, SD=1.054) was almost the same as the result obtained on the mean pretest score on the first reading comprehension test (M=2,00 , SD= 1,118). The difference of the mean in both distributions is given by the statistical significance. As this is lower than the level of significance allowed ($p < 0.05$), the existence of statistically significant differences between both tests is not confirmed, given the value of the real significance (,317). That is to say, according to the asymptotic significance there was no relevant improvement on the students' critical reading comprehension skills.

Table 4. Comparison between measures of Reading 2 pretest and posttest

	N	Mean	Standard deviation
Pre-test	9	3,89	1,764
Post-test	9	4,11	2,028
Asymptotic Significance (2 Sided)			,317

Table 4 shows that the result obtained in the mean posttest score on the second reading comprehension test (M=4,11, SD=2,028) was very similar to the result obtained on the mean pretest score (M=3,89, SD=1,764). The asymptotic significance (,317) of reading two pretest and posttest stayed the same as it was in the asymptotic significance of reading one pretest and posttest (,317).

According to these results, there was no significant change evidenced in the student's critical reading comprehension skills. This may be explained by the fact that neither the pretest nor the posttest, as stated above, affected students' grades during the course. It could be assumed that students may have not done their best effort in completing the tests because of that. This might mean that students did not consciously applied the two reading strategies taught during the intervention as they did not receive any grade for them. Similar to Pulfrey, Buchs, & Butera's study (2011), three experiments that were conducted in professional schools revealed that when students expected to get a grade for a task, in comparison when they did not, demonstrated a higher adoption of performance-avoidance which means the aspiration to avoid performing more poorly than others instead of performance-approach that

is related to the aspiration to exceed others (Darnon, Harackiewicz, Butera, Mugny, & Quiamzade, 2007).

Furthermore, it is important to mention that even though the students from this medical course are used to read extensive medical texts as part of their medicine program, the test conditions might not have been the most appropriate as the pretest and posttest were conducted on a Friday evening and Saturday afternoon class respectively which could have altered the results since students are exhausted after long class sessions. Motivation plays an important role in these results.

Grade Analysis

The following tables (5 and 6) describe the grade analysis of the two reading tests administered during the intervention, more specifically after the explicit teaching of the two critical reading strategies. The passing grade established by the University is 3,0 and the maximum grade is 5,0. These results were analyzed by using a Box-and Whisker-plot (Tukey, 1970). A boxplot is a "useful exploratory data technique for representing data visually. Boxplots are useful because the plot depicts the important features of the distribution" (Balnaves, & Caputi, 2001, p. 115). According to these authors, the following distribution explains the values that a boxplot represents:

1. the middle of the distribution (we refer to this value as the median);
2. the smallest (minimum) and largest (maximum) value in the distribution;
3. the number that represents the middle value between the median and the minimum value (we will refer to this value as the first quartile); and
4. the number that represents the middle value of the scores between the median and the maximum value (we will refer to this value as the third quartile)

These authors go on to say that the lines outside the box that correspond to the minimum and maximum values are also known as *whiskers* (p. 116)

Table 5. Grade Analysis Reading Test 1: Making Inferences

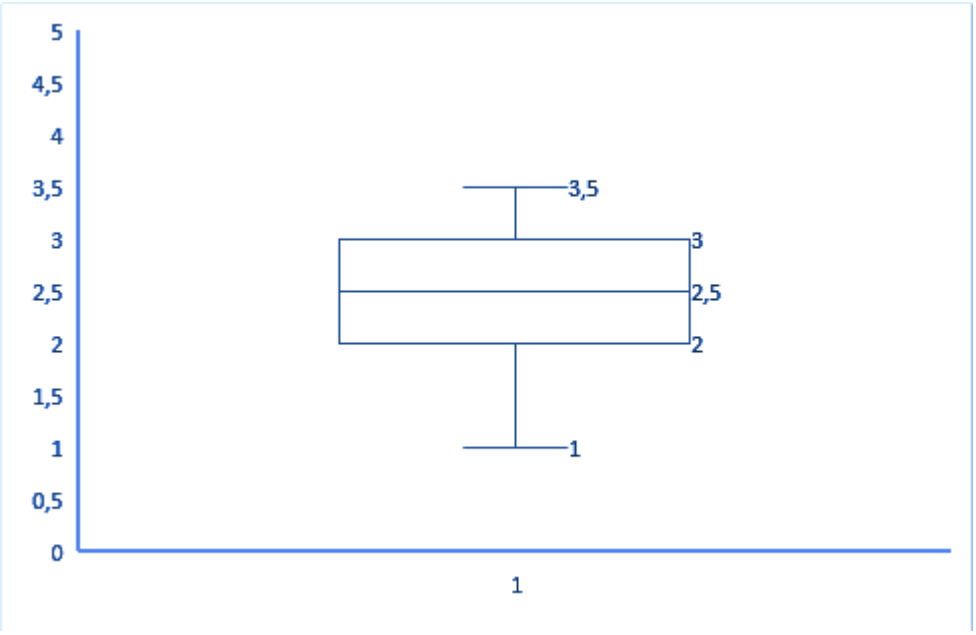


Table 5 illustrates the grade analysis of the making inference reading test through a box and whiskers plot. This test was administered during the intervention and right after the first reading supplement was conducted. As can be seen, 30,77 % of the students scored 2,0 which in turn, was the mean of the reading test score. 23,08 % of the learners scored 2,5 while 15,38 % scored 3,5 ; 15,38 % scored 3,0; 7,69 % got 1,0 and the last 7,69 % scored 1,5. The results indicate that most of the students did not perform well in the test and failed it.

Table 6. Grade Analysis Reading Test 2: Author's purpose & Perspective

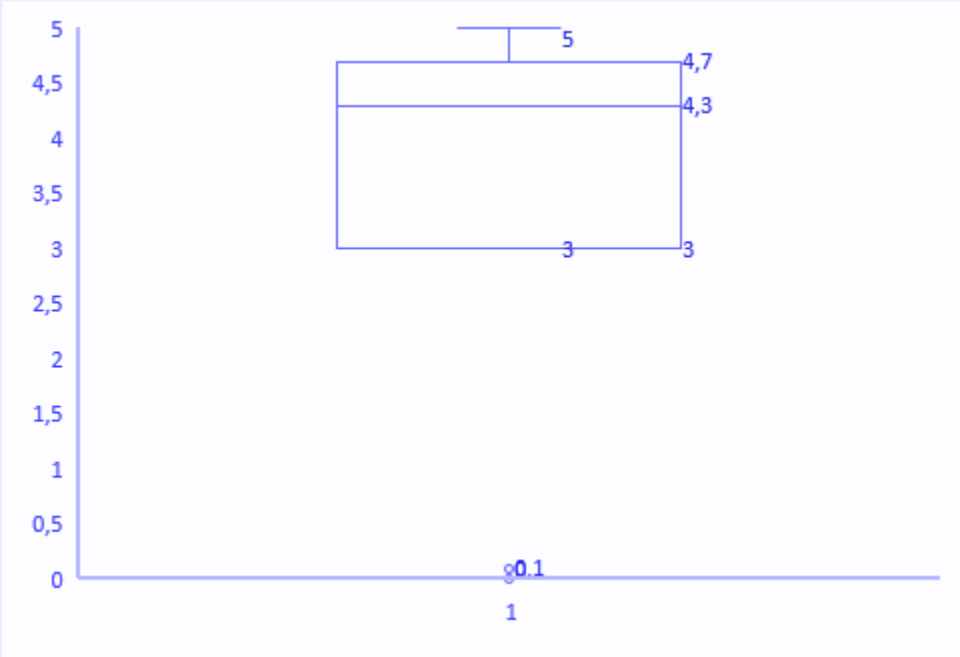


Table 6 presents the grade analysis of the second reading test regarding the identification of the author's purpose and perspective in a text. The results were also analyzed through a Box-and-Whiskers plot (Tukey, 1970) which suggests that students made a significant improvement on this second reading test as most of them scored 4,3 (M=4,3) and no one failed it. As shown in this table, 53,85 % of the students scored 4,3, 15,38 % obtained 4,7, 7,69 % scored 3,0, 7,69 % got 3,3, 7,69 % obtained 3,7 and the last 7,69 % scored 5,0. These results showed that grades increased progressively being the minimum score 3,0 and the maximum score 5,0.

After having analyzed the results drawn from the pretest, posttest and the grade analysis of the two gradable reading tests conducted during the intervention, it can be concluded that even though most of the students did not perform well on the three first tests, there was a relevant improvement on the last one which could be explained because students

were aware that they needed to perform better as the grade obtained added an important percentage to their course grade. These findings suggest one more time that students' motivation and performance improve when they face normative evaluation structures as they induce performance- approach goals (Elliot and Moller, 2003) which may suggest that after having been taught the two critical reading strategies explicitly, students improved their critical reading comprehension.

The Surveys on Reading Comprehension Strategies

To identify participants' perceptions about their use of reading strategies and the role of explicit reading strategy instruction in their learning process, two surveys in Spanish were applied. The first survey was completed the second week of class before the pedagogical intervention and taken by 12 (out of 13) students within an average time of 6 minutes. It consisted of 11 closed-questions in which eight of them were multiple-choice and three were yes-no questions (see Appendix 7). The second survey was completed by 7 (out of 13) students after the pedagogical intervention. It consisted of one closed-question aimed at getting students' perceptions about the effectiveness of the pedagogical intervention (see Appendix 8).

Survey 1

In this paragraph, results obtained from the first survey (see Appendix 7) are described. Findings from the survey are categorized taking into account recurring themes. The emerging categories resulting from the data are: (i) Metacognitive awareness. This refers to students' level of comprehension of own learning processes (Mokhtari & Reichard, 2002). (ii) Reading process. This category relates to students' knowledge about how they interact with the text (Walsh, 2006). (iii) Learning process. This is understood as the way students

prefer to learn reading and (iv) author's purpose. This category relates to the capacity students have of identifying what the author intends with the text. "In understanding an author's purpose and writing style, students can then transfer this understanding of how text works to their own writing" (Story & Sneddon, 2008). Responses referring to the different questions will be indicated by the letter Q and the number of the question. For example, Q1 stands for question 1.

In terms of metacognitive awareness, questions 1,2, 3 and 4 evidence that students are conscious about what is needed to complete their reading process. This can be inferred from their recognition of the importance of planning a reading task (Q1, 91,67%) that according to Pressley and Afflerbach (1995) may indicate that students are in the way to become skilled readers. Q2 and Q4 are closely related to Q1 in the sense that students express their understanding that using reading strategies facilitates their comprehension of texts in general and those of their field. Research supports the importance of a strong relationship between students' metacognitive awareness of the reading process and their development of their reading competencies (Alderson, 1984, Carrell, 1991). When asked about what strategies that they use (Q3), students indicated that the strategy they use the most is deducing the meaning of unknown words according to the text (27,59%). This is followed by identifying main and secondary ideas and details; identifying the author's purpose, inference in general, reading for a gist and omitting irrelevant information. Studies have demonstrated that good readers are more skillful at recognizing words (Snow, Burns & Griffin, 1998). To this same respect, Rupley, Blair, & Nichols (2009) stated that ''the ability to identify words is necessary for comprehension" (p. 131).

In relation to the reading process, results from Q9 shows that students understand what inferencing is as the majority (83%) selected the right definition from the different options offered in the questionnaire. This implies familiarization with the strategy as most of these students were exposed to it in the previous English course (EHS 2). Therefore, it can be seen that they could be skilled readers as they are able to apply their background knowledge. According to McNamara, O'Reilly, & de Vega (2007), skilled readers "activate a rich network of knowledge, even when they try to understand anomalous-unassociated sentences" (p. 242). Student comprehension of what inference is can be seen in Q10, as 50% of students said that they use keywords to answer specific questions from the text. This is coherent with the second two options they selected: keywords that indicate that the question response is about the main idea of the text; and their previous knowledge about the topic. This response may indicate that they feel they have to identify the most important words in a text to understand it (Auerbach & Paxton, 1997). As Garner & Alexander (1989) suggested, readers in developing stages rely mostly on one single criterion: "understanding of individual words" (p. 145).

When surveyed about the learning process that strategy training requires, all students indicated that they want the teachers to explicitly instruct them on how to use strategies to facilitate their reading comprehension (Q5, 100%) so that after this instruction, they can decide by themselves what strategies work better for them as individuals (Q6, 66,6%). Auerbach & Paxton (1997) consider that a combination of direct and indirect reading strategy instruction is positive for improving reading skills in EFL learners. Krashen (2013) argued that the teaching of a strategy to get background knowledge in either the first or second language makes easier the comprehension of contents.

Likewise, Grabe & Stoller (2013), agreed on the importance of becoming proficient on academic reading skills as well as reading strategies to learn information in the content areas. In fact, students acknowledge that when they read a text in English, they can recognize when the author uses factual information (Q7, 33,33%). Successful readers are more efficient at monitoring their comprehension than unsuccessful readers since they are not only more aware of the strategies they use, but also, they use them in a more flexible and efficient way (Pressley, Brown, EL-Dinnary, &, Afflerbach;1995).

About the purpose an author has when writing (Q8), 75% of the students said that authors can have different purposes (persuading, informing, entertaining, describing, evaluating). This may evidence that students are able to make inferences on topics they are not familiarized with because they tend to read scientific and factual texts.

Survey 2

After the intervention (week 6), a survey with one question was given to students in order to know their perceptions on the effectiveness of the pedagogical intervention implemented. Results show that 71,43% percent of the students agreed on the fact that the intervention was of much help and 28, 57% said that it was clear. Based on these results, it can be deducted that the reading comprehension strategies developed during the course helped students become better readers of medical texts written in English.

The Think-Aloud of Reading Comprehension Strategies

Think-aloud data were collected and transcribed (see Appendixes 9, 10 & 11) from three participants who read one different medical text each. The first and the second text made part of the first reading supplement designed to teach students explicitly how to make inferences (see Appendix 1). Whereas, the third one was taken from the second reading supplement designed to teach them explicitly how to identify the author's purpose and point of view (see Appendix 2).

Students were asked to read aloud the texts to verbalize what they were thinking when reading them. Three sample coded transcripts are attached in (Appendix 9, 10 & 11) with coded strategies, denotations explained, students and researcher's comments. The coding scheme related to the strategies for making inferences and identifying author's purpose and point of view are shown in table 5 and 6 respectively.

In Appendix 9, the first student completing the reading think aloud instrument showed that the strategy that he used the most were: Strategy 1 (table 7) (Identify the purpose for reading the text):

> Student 1: Okay, I think that the writer of the text wants to make a resume of all pace of anesthesia (sic). Because he wants in this paragraph, he wants to talk about the steps that you use, for example if he writes you have four steps. For example, the first one is the light doze, the second one is when you, when your brain is going to feel very very sleepy. Oh, the third is when you are unconsciousness and yes and all the thing that the anesthesia she wants to do is to … to your nervous central system is insensitive because your nervous system is that makes that you feel eh… awake.

Other strategies he used were strategy 8 (check on own understanding) as well as Strategy 5 & 11 that were used twice (Str. 5 Retell/summarize what you have understood; Str. 11. Reflect about your comprehension).

> Student 1. ...for example, and say something that for me is important that when you are an anesthesiologist you to suspend the life for hours, for example you can be death for a time, for a short time…. (Strategy 8)

Other strategies used were 3, 6, 9, 10 (See Table 7). These results showed that the student made use of the strategies that he was taught indicating that explicit strategy instruction does help students cope with a reading task (Kazemy, Hosseini & Kohandany, 2013). It also shows that the student has developed metacognitive awareness of what the reading task entails as he checks on own understanding and reflects in his own comprehension (McNamara, 2007).

Table 7. The coding scheme: strategies for making inferencing.

Code	**Strategies for making inferences**	
1	Identify the purpose for reading the text.	**Before reading**
2	Recognize the type of text.	
3	Draw on your background knowledge while you read.	
4	Make predictions as you read.	**During reading**
5	Retell/summarize what you have understood	

6	Ask yourself WH questions about the text (when, why, who, how etc.)	
7	Look for keywords.	
8	Check on your own understanding.	
9	Try to guess the meaning of unknown words.	
10	Try to understand what the local cohesive devices refer to (pronouns, connectives etc.)	
11	Reflect about your comprehension	**After reading**
ø	No strategies used	

In the case of the second student, she mostly used strategy 8 (Check on your own understanding.) followed by strategies 5 and 7 (See table 7) that were used each twice and strategies 3 and 9 that were used once. In this case, and once more, the student relies her reading comprehension on metacognitive awareness. It is also interesting to notice that the student used two strategies related to understanding vocabulary (Str. 5 and 7). This may denote that the students have developed a variety of levels of comprehension (literal and inferential) (Jude & Ajayi, 2012).

In relation to third student, she made most use of strategy 5 (Look for keywords, 7 times) followed by strategy 11 (Reflect about your comprehension, 6 times). With less frequency, she used strategy 3 and 4 (twice), and strategies 8 and 1 (one time). It is necessary

to say that while the student was completing the think aloud, her reflection was done in Spanish (L1) different from the other two students who did in English. This means that this student, although relies more on literal comprehension levels, is moving towards more inferential and evaluative understanding. Using Spanish may be an indicator of her developmental level of reading comprehension.

After having analyzed these three think-alouds, findings show that students do use the strategies that they were taught in class. They show a mixture of literal, inferential and evaluative levels of comprehension resulting from explicit instruction. This may indicate that the explicit teaching of strategies does contribute to students reading comprehension development (Kazemy, Hosseini & Kohandany, 2013). One aspect to highlight is related to students' claim the unknown vocabulary and the complexity of some technical terms affected their comprehension.

Chapter Five: Discussion

The purpose of this chapter is to analyze the results above presented and attempt to interpret and draw some inferences from the data collected. As stated, this study intended to study how the explicit teaching of two critical reading skills helps students in a Health Sciences English program to improve their reading comprehension. As studies in this topic at tertiary level are scarce in Colombia, the findings of this research will be significant for the Colombian EFL/ CBI/CLIL context.

From the results obtained and at a first glance, there was no significant change evidenced in the student's critical reading comprehension skills because the pretest nor the posttest affected students' grades during the course and students may have not done their best effort in completing the tests because of that. This might mean that students did not consciously applied the two reading strategies taught during the intervention as they did not receive any grade for them. In Pulfrey, Buchs, & Butera's study (2011), three experiments that were conducted in professional schools revealed that when students expected to get a grade for a task, in comparison when they did not, demonstrated a higher adoption of performance-avoidance which means the aspiration to avoid performing more poorly than others instead of performance-approach that is related to the aspiration to exceed others (Darnon, Harackiewicz, Butera, Mugny, & Quiamzade, 2007).

However, when students took the graded test, students showed that they were using the strategies taught effectively. This may imply that the explicit teaching of critical reading strategies did favor students' reading skills development and that there is a motivational factor playing a key role in evidencing students' improvement: the grade. When students were aware that the tests were not going to be graded, they did not perform as expected

because they did not have incentives to do so. When they had to take official tests, grades were higher showing clear evidence that students were able to use the strategies taught effectively. Besides, the grade analysis evidenced that students obtained higher grades after the intervention and when the exercises were evaluated. This is supported by Harackiewicz, Manderlink, & Sansone (1992) who considered that when a grade is linked to performance, performance evaluation provokes motivational and emotional consequences in the students before engaging in a task.

A second finding is related to students' development of a metacognitive awareness that was evident when they acknowledge the importance of planning the reading task, recognizing the importance of reading strategies to facilitate the comprehension of texts as well as monitoring their own level of reading comprehension. Successful readers are more efficient at monitoring their comprehension since they are not only more aware of the strategies they use, but also, they use them in a more flexible and efficient way.

After the experience, participant students valued the explicit teaching of reading strategies as they consider this was essential to their reading comprehension development. As Anderson (2005) indicates "research consistently shows that one of the most important purposes of instruction should be to raise learners' awareness of strategies and then allow each to select appropriate strategies" (p. 763). In general terms, they felt that had gained with the intervention and felt more confident for future reading experiences. They also were able to define some of the strategies such as in the case of inferencing and showed that they could identify the author´s purpose when writing a text and were aware of the intentions this person had.

Third, it was interesting to see that students used a mixture of literal, inferential and

evaluative levels of comprehension resulting from explicit instruction. According to Saadatnia, Ketabi and Tavakoli (2017), there are three levels of reading comprehension (literal, inferential and evaluative). Data collected during the intervention, showed that students used a variety of strategies that addressed these different levels. From very literal strategies such as attempting to understand every word in the text to moving to a more inferential type of approach where they try to make meaning of the text by using their own previous knowledge and finally, evaluating their own level of success in comprehending the text, students deployed an interesting range of strategies.

This showed that students were at different levels of their development but were able to acquire the strategies and use them as needed showing flexibility that is one of the characteristics of skillful readers. This result may indicate that the explicit teaching of strategies does contribute to students reading comprehension development (Kazemy, Hosseini & Kohandany, 2013) and that moving from literal to inferential and more evaluative levels of reading comprehension has contributed to students progressing in their reading skills, However and in spite of the metacognitive awareness gained, students were not fully aware they had already moved across these different levels.

In general, it can be concluded that the pedagogical intervention conducted in this study did have a significant impact on the students' reading comprehension skills. This was observed through the effective use students made of the critical reading strategies taught, their awareness of the importance of strategies when facing a reading task, their use of previous knowledge to make sense of the text, and their capacity to monitor their own level of comprehension.

There is also a positive perception of students towards they explicit teaching of

strategies as they are aware they need them and they facilitate their reading comprehension activities. They prefer that the teacher explicitly addresses these strategies in class as they can consciously use them when they consider necessary. After the intervention, students expressed that they felt the strategies taught helped them to comprehend medical texts better. Furthermore, it was interesting to see that students have different levels of reading comprehension but they all use strategies some more sophisticated than others.

As indicated before, university students are expected to have already developed effective reading strategies to face their reading tasks. Studies like this are needed at tertiary level to help students develop their reading comprehension at a critical level. This will contribute to students become aware of their reading needs, as well as the progress they make while being explicitly taught and the realization of the achievements they have made when moving across the different levels of reading comprehension.

Language programs, curriculum and material designers should be aware of this need and work towards professional development programs to help teachers become more aware of their students' needs as well as how to best teach reading strategies. At curricular level, there should also be sessions of the courses devoted to this task in order to provide students with the necessary tools to improve their comprehension helping students to consciously move across the different levels of reading comprehension till they reach the critical level more specifically, strategies such as inferencing and author's purpose.

Chapter Six: Conclusions

Teaching explicit reading skills to university students seems to contribute to developing reading skills positively. Although studies in the field are scarce in Colombia, the present research looked at how this process was carried out in an English for the Health Sciences program. The research question attempted to respond if the explicit teaching of critical reading strategies could improve learners' reading comprehension. Data was collected during the process and relevant results were drawn from these.

This study has shown that teaching these strategies explicitly has helped students not only improve their comprehension but also become more conscious and flexible readers capable to select the appropriate skill, interact with their own knowledge and monitor their level of comprehension. It also showed that in order to evidence progress in the reading comprehension tasks, students require extrinsic motivation factors such as the grade that could be the differentiating element. It also showed that after the implementation, students were positive towards the explicit teaching of strategies and valued highly that the teacher prepared them in this area. They found that the reading strategies from the pedagogical intervention were useful for dealing with the texts they have to read in their medicine program.

Throughout the experience, it was seen that the teaching of explicit reading strategies promoted students' metacognitive awareness on the steps they can follow to better comprehend medical texts and their capacity to make decisions about how best face this task. It was also clear that students were at different levels of reading comprehension and were able to use strategies that fit that level appropriately. Also, it was seen that students, after the

intervention, were able to move across these different levels. However, students were not fully conscious of this.

One of the strategies most used by students was that of connecting their background knowledge with the information from the medical texts. This shows a more critical approach to reading as they try to use their own resources to facilitate the reading task. In relation to the strategies explicitly taught, students were able to identify the author's purpose and perspective. This supports the premise that this is effective for students reading progress

About the limitations of the study, the study was conducted in an intensive course and time always represented a challenge in the collection of data from the students. Also, it could have been interested to have completed the experience with two different groups, an experimental group and a control group to compare results. Also, the lack of similar experiences affected the possibility of establishing comparisons with other contexts.

These results of the research evidence the need to conduct more studies like this in Colombia not only in the mother tongue but also in the foreign language field. It is assumed that university students have already reached a certain level of reading comprehension in their native language and therefore this is transferred to the foreign language. However, reality shows that this is not true, and students require more education in the field, especially, in critical reading. It is hoped that this study contributes to the discussion about reading comprehension development in university students.

References

Alderson, J. C. (1984). *Reading in a foreign language: A reading problem or a language problem*.

Almasi, J. F. (2003). *Teaching strategic processes in reading.* New York, NY: Guilford Press.

Anderson, N. J. (2005). L2 learning strategies. In E. Hinkel. (Ed), *Handbook of research in second language teaching and learning* (pp. 757-771). Mahwah, NJ: Lawrence Erlbaum.

Archer, A. L., & Hughes, C. A. (2011). *Explicit instruction: Effective and efficient teaching*. Guilford Press.

Auerbach, E. R., & Paxton, D. (1997). "It's not the English thing": Bringing reading research into the ESL classroom. *TESOL Quarterly*, 31(2), 237-261.

Balnaves, M., & Caputi, P. (2001). *Introduction to quantitative research methods: An investigative approach.* London: Sage.

Basaraba, D., Yovanoff, P., Alonzo, J., & Tindal, G. (2013). Examining the structure of reading comprehension: Do literal, inferential, and evaluative comprehension truly exist? *Reading and Writing*, 26(3), 349-379.

Berg, B. L. (2007). *Qualitative research methods for the social sciences.* London: Pearson.

Bilal, S., & Gul, A. (2014). Grading and student evaluation: Challenges and consequences. *Excellence International Journal of Scientific Research.* 1. 23-27.

Bosley, L. 2008. "I don't teach reading": Critical reading instruction in composition courses. *Literacy Research and Instruction*, 47 (4) 285–308. doi: 10.1080/19388070802332861

Brown, A., & Dowling, P. (2001). *Doing research/reading research: A mode of interrogation for education*. London: Falmer Press.

Brown, J. D. (2001). *Using surveys in language programs*. Cambridge: Cambridge University Press.

Bryman, A., & Bell, E. (2015). *Business research methods*. Oxford University Press, USA.

Butler, R. (1987). Task-involving and ego-involving properties of evaluation: Effects of different feedback conditions on motivational perceptions, interest, and performance. *Journal of educational psychology*, 79(4), 474.

Butler, R. (2006). Are mastery and ability goals both adaptive? Evaluation, initial goal construction and the quality of task engagement. *British Journal of Educational Psychology*, 76(3), 595-611.

Calvo, M.G. (2004). Relative contribution of vocabulary knowledge and working memory span to elaborative inferences in reading. *Learning and Individual Differences*, 15(1), 53-65.

Carrell, P. L. (1991). Second language reading: Reading ability or language proficiency?. *Applied linguistics*, 12(2), 159-179.

Cohen, L., Manion, L., & Morrison, K. (2007). Research methods in education. (6th Ed.). London: Routledge.

Corte, E., Verschaffel, L., & Ven, A. (2001). Improving text comprehension strategies in upper primary school children: A design experiment. *British Journal of Educational Psychology*, *71*(4), 531-559.

Creswell, J. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches (2nd ed.).* Thousand Oaks, CA: SAGE Publications.

Creswell, J. (2012) *Educational research: planning, conducting, and evaluating quantitative and qualitative research.* Upper Saddle River, NJ: Prentice Hall.

Darnon, C., Harackiewicz, J., Butera, F., Mugny, G., & Quiamzade, A. (2007). Performance-approach and performance-avoidance goals: When uncertainty makes a difference. *Personality and Social Psychology Bulletin*, 33(6), 813-827.

Dawson, C. (2002). *Practical research methods: A user-friendly guide to mastering research techniques and projects*. Oxford: How to books, Ltd.

De Corte, E., Verschaffel, L., & Van De Ven, A. (2001). Improving text comprehension strategies in upper primary school children: A design experiment. *British Journal of Educational Psychology*, 71(4), 531–559.

Denzin, N.K., & Lincoln, Y.S. (2005). Introduction: The discipline and practice of qualitative research. In N.K. Denzin & Y.S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage.

Dörnyei, Z. (2001). *Motivational strategies in the language classroom* (pp. 43-50). Cambridge: Cambridge University Press.

Elder, L., & Paul, R. (2007). Analytic thinking: How to take thinking apart and what to look for when you do. *Foundations for critical thinking.*

Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals. *Educational psychologist*, 34(3), 169-189.

Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of personality and social psychology*, 72(1), 218.

Elliot, A. J., & Moller, A. C. (2003). Performance-approach goals: Good or bad forms of regulation? *International Journal of Educational Research*, *39*(4), 339-356.

Ericsson, K. A., & Simon, H. A. (1993). *Protocol analysis*. Cambridge, MA: MIT press.

Erikson, B. L., Peters, C. B., & Strommer, D. W. (2006*). Teaching first-year college students: Revised and expanded edition of teaching college freshmen.* San Francisco, CA: JosseyBass.

Evans, F. B. (1976). What research says about grading. *Degrading the grading myths: A primer of alternatives to grades and marks,* 30-50.

Facione, P. A. (2010). *Critical thinking: What it is and why it counts*. Retrieved from http://www.insightassessment.com/pdf_files/what&why2006.pdf

Fernández de Morgado, N. Y., Mayora Pernía, C. A., & St Louis, R. (2016). Pensamiento crítico y comprensión de la lectura en un curso de inglés como lengua extranjera. *Íkala, revista de lenguaje y cultura, 21*(1).

Flemming, L. (2002) *Reading for Results*. Boston: Houghton Mifflin Company.

Frechtling, J. (2002). The 2002 User Friendly Handbook for Project Evaluation. The National Science Foundation, Directorate for Education & Human Resources, Division of Research. *Evaluation and Communication.*

Garner, R., & Alexander, P. (1989). Metacognition: Answered and unanswered questions. *Educational psychologist*, *24*(2), 143-158.

Gardner, R., & Lambert, W. (1972). *Attitudes and motivation in second-language learning.* Rowley, Mass: Newbury House.

Garrigus, R. (2002). *Design in reading: An introduction to critical reading*. New York: Longman.

Gasparini, S. (2004). Implicit versus explicit learning: Some implications for L2 teaching. *European Journal of Psychology of Education*, *19*(2), 203-219.

Goff, S. (2010). What are the causes and effects of literal comprehension? Retrieved from http//:www.ehow.com/info_12044849.

Gómez, N., & Ávila, J. (2009). Improving reading comprehension skills through reading strategies used by a group of foreign language learners. *HOW, A Colombian Journal for Teachers of English, 16* 55-70.

Grabe, W. (2009). *Reading in a second language: Moving from theory to practice.* New York, NY: Cambridge University Press.

Grabe, W., & Stoller, F. (2013). *Teaching and researching: Reading*. Routledge.

Griffiths, C. (2004). *Language-learning Strategies: Theory and Research*. AIS St Helens, Centre for Research in International Education.

Hall, N. (2004). *Critical reading Strategies*, 9-11. Retrieved from htttp://writing.umm.edu/home/writin glinks.htm

Harackiewicz, J., Manderlink, G., & Sansone, C. (1992). Competence processes and achievement motivation: Implications for intrinsic motivation. *Achievement and motivation: A social-developmental perspective*, 115-137.

Haromi, F. (2014). Teaching through appraisal: Developing critical reading in Iranian EFL learners. *Procedia-Social and Behavioral Sciences*, *98*, 127-136.

Harter, S. (1978). Pleasure derived from challenge and the effects of receiving grades on children's difficulty level choices. *Child Development*, 788-799.

Hermida, J. (2009). The importance of teaching academic reading skills in first-year university courses. *The International Journal of Research and Review*, 3, 20-30.

Huijie, L. (2010). Developing a hierarchical framework of critical reading proficiency. *Chinese Journal of Applied Linguistics*, 33, 40-54.

Jenkins, Bill. (2012). Implicit vs. explicit instruction: Which is Better for Word Learning? Retrieved from http://www.scilearn.com/blog/implicit-vs-explicit-instruction-word-learning.php 26-12-2013.

Johnston, P. (1985). Teaching students to apply strategies that improve reading comprehension. *The elementary school journal*, *85*(5), 635-645.

Jude, W., & Ajayi, O. (2012). Literal level of student's comprehension in Nigeria: A means for growing a new generation African scholars. *Journal of Education and Practice*, 3(7), 120–129

Kazemi, M., Hosseini, M., & Kohandani, M. (2013). Strategic reading instruction in EFL contexts. *Theory and Practice in Language Studies, 3*(12), 2333.

Kendeou, P., Broek, P., Helder, A., & Karlsson, J. (2014). A cognitive view of reading comprehension: Implications for reading difficulties. *Learning disabilities research & practice*, *29*(1), 10-16.

Kispal, A. (2008). *Effective teaching of inference skills for reading* (Research report DCSF-RR031). Slough: National foundation for Educational Research.

Koda, K. (2005*). Insights into second language reading: A cross-linguistics approach.* New York: Cambridge University Press.

Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International Limited: India.

Krashen, S. (2013). Should we teach strategies. *The Electronic Journal of Foreign Language Teaching*, *10*(1), 35-39.

Kurland, D. (2000b). Critical reading vs critical thinking. Retrieved from http://www.critical-reading.com/

Lee, H. C. (2013). Thinking matters: Inferencing in ESL reading lessons. *TESOL Journal*, 4(4), 717–742.

Leedy, P. & Ormrod, J. (2001). *Practical research: Planning and design* (7th Ed.). Upper Saddle River, NJ: Merrill Prentice Hall. Thousand Oaks, CA: SAGE Publications.

Malcolm, D. (2009). Reading strategy awareness of Arabic-speaking medical students studying in English. *System*, *37*(4), 640-651.

Manchón, R. (2008). Taking strategies to the foreign language classroom: Where are we now in theory and research? *IRAL*, 46, 221–243.

McDonald, L. (2004). Moving from reader response to critical reading: Developing 10–11-year-olds' ability as analytical readers of literary texts. Literacy, 38(1), 17-25 DOI: 10.1111/j.0034-0472.2004.03801004.x

McNamara, D. (2004). SERT: Self-explanation reading training. *Discourse processes*, *38*(1), 1-30.

McNamara, D. (2007). *Reading comprehension strategies: Theories, interventions and technologies*. Mahwah, NJ: Lawrence Erlbaum Associates.

McNamara, D., O'Reilly, T., & de Vega, M. (2007). Comprehension skill, inference making, and the role of knowledge. In F. Schmalhofer & C.A. Perfetti (Eds.), *Higher level language processes in the brain: Inference and comprehension processes* (pp. 233-251). Mahwah, NJ: Erlbaum.

Mikulecky, B., & Jeffries, L. (2004). *Reading power*. United States: Pearson, Longman.

Mokhtari, K., & Reichard, C. A. (2002). Assessing students' metacognitive awareness of reading strategies. *Journal of educational psychology*, *94*(2), 249.

Moore, R., & Jensen, P. (2007b). Do open-book exams impede long-term learning in introductory biology courses?. *Journal of College Science Teaching*, 36(7), 46.

Moore, T. (2013). Critical thinking: Seven definitions in search of a concept. *Studies in Higher Education*, *38*(4), 506-522.

Nasrollahi, M., Krishnasamy, P., & Noor, N. (2015). Process of implementing critical reading strategies in an Iranian EFL classroom: An action research. *International Education Studies*, 8(1), 9-16.

Nassaji, H. (2004). The relationship between depth of vocabulary knowledge and L2 learners' lexical inferencing strategy use and success. *The Canadian Modern Language Review*, 61(1), 107–134.

Nielsen, J., Clemmensen, T., & Yssing, C. (2002, October). Getting access to what goes on in people's heads?: reflections on the think-aloud technique. In *Proceedings of the second Nordic conference on Human-computer interaction* (pp. 101-110). ACM.

O'Brien, E., Cook, A., & Lorch, R. (Eds.). (2015). *Inferences during reading.* Cambridge, United Kingdom: Cambridge University Press.

Oxford, R. (Ed.). (1996). *Language learning motivation: Pathways to the new century* (Vol. 11). Natl Foreign Lg Resource Ctr.

Pekrun, R., Elliot, A., & Maier, M. (2006). Achievement goals and discrete achievement emotions: A theoretical model and prospective test. *Journal of educational Psychology*, 98(3), 583.

Pulfrey, C., Buchs, C., & Butera, F. (2011). Why grades engender performance-avoidance goals: The mediating role of autonomous motivation. *Journal of Educational*

Psychology, 103(3), 683.

Paul, R., & Elder, L. (2008). *The miniature guide to critical thinking concepts and tools*. Dillon Beach, CA: Foundation for Critical Thinking Press.

Pirozzi, R. (2003). *Critical reading, critical thinking* (2nd Ed.). New York. Longman.

Plourde, L. (2011). Increasing reading comprehension through the explicit teaching of reading strategies: Is there a difference among the genders?. *Reading Improvement*, 48(1), 32.

Pressley, M., & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading.* Hillsdale,NJ: Erlbaum.

Pressley, M., Brown, R., El-Dinary, P. B., & Allferbach, P. (1995). The comprehension instruction that students need: Instruction fostering constructively responsive reading. *Learning Disabilities Research & Practice, 10*(4), 215-224.

Roberts, N., & Klamen, D. (2010). The case for teaching explicit reading strategies to medical students. *Medical education*, *44*(4), 328.

Romer, D. (1993). Do students go to class? Should they?. *The Journal of Economic Perspectives*, 7(3), 167-174.

Rubin, J., Chamot, A., Harris, V. & Anderson, N. (2007). Intervening in the use of strategies. In A. D. Cohen & E. Macaro (Eds.), *Language Learner Strategies: 30 Years of Research and Practice* (pp. 141–160). Oxford: Oxford University Press.

Rupley, W., Blair, T., & Nichols, W. (2009). Effective reading instruction for struggling readers: The role of direct/explicit teaching. *Reading & Writing Quarterly*, *25*(2-3), 125-138.

Saadatnia, M., Ketabi, S., & Tavakoli, M. (2017). Levels of reading comprehension across text types: A comparison of literal and inferential comprehension of expository and narrative texts in Iranian EFL learners. *Journal of Psycholinguistic Research*, 1-13.

Salatacı, R., & Akyel, A. (2002). Possible effects of strategy instruction on L1 and L2 reading. *Reading in a Foreign Language*, *14*(1).

Sheng, H. J. (2000). A cognitive model for teaching reading comprehension. *English Teaching forum*, 38 (4), 12-15.

Smith, F. (2004). *Understanding reading* (6th Ed.). Mahwah, NJ: Lawrence Erlbaum.

Snow, C., Burns, M., & Griffin, P. (1998). *Preventing reading difficulties in young children.* Washington, DC: National Research Council.

Sohail, S. (2015). Academic reading strategies used by Leeds Metropolitan University Graduates: A case study. *Journal of Education and Educational Development, 2*(2), 115-133.

Someren, M., Barnard, Y., & Sandberg, J. (1994). *The think aloud method: A practical approach to modelling cognitive processes*. Academic Press.

Spörer, N., Brunstein, J., & Kieschke, U. (2009). Improving students' reading comprehension skills: Effects of strategy instruction and reciprocal teaching. *Learning and Instruction, 19*(3), 272-286.

Story, K., & Sneddon, M. (2008). Teach them how: Analysing author's craft in middle years literacy classrooms. *Practically Primary, 13*(1), 40-45.

Tavakoli, H., & Koosha, M. (2016). The effect of explicit metacognitive strategy instruction on reading comprehension and self-efficacy beliefs: the case of Iranian University

EFL students. *Porta Linguarum: revista internacional de didáctica de las lenguas extranjeras,* (25), 119-133.

Tripp, D. (2005). Action research: A methodological introduction. *Educação e pesquisa*, *31*(3), 443-466.

Tucker, C., Zayco, R., Herman, K., Reinke, W., Trujillo, M., Carraway, K., ... & Ivery, P. (2002). Teacher and child variables as predictors of academic engagement among low- income African American children. *Psychology in the Schools*, *39*(4), 477-488.

Tukey, J. (1970). *New approaches to automatic and semiautomatic indexing and citation index for statistical methodology.* Department of Statistics, Princeton University.

Vacca, J., Vacca, R., Gove, M., Burkey, L., Lenhart, L., & McKeon, C. (2009). *Reading and learning to read* (7th Ed.). Boston: Pearson.

Van Keer, H., & Verhaeghe, J. (2005). Effects of explicit reading strategies instruction and peer tutoring on second and fifth graders' reading comprehension and self-efficacy perceptions. *The Journal of Experimental Education*, 73(4), 291-329. Retrieved from http://www.jstor.org/stable/20157404

Vongkrachang, S., & Chinwonno, A. (2015). CORI: Explicit reading instruction to enhance informational text comprehension and reading engagement for Thai EFL students. *PASAA: Journal of Language Teaching and Learning in Thailand*, *49*, 67-104.

Walsh, M. (2006). The 'textual shift': Examining the reading process with print, visual and multimodal texts. *Australian Journal of Language and Literacy, The, 29(1), 24.*

Williams, C. (2007). *The lived experiences of women in executive positions of the United States federal civil service.* D.M. dissertation, University of Phoenix, United States -- Arizona. Retrieved, from ProQuest Digital Dissertations database. (Publication No.

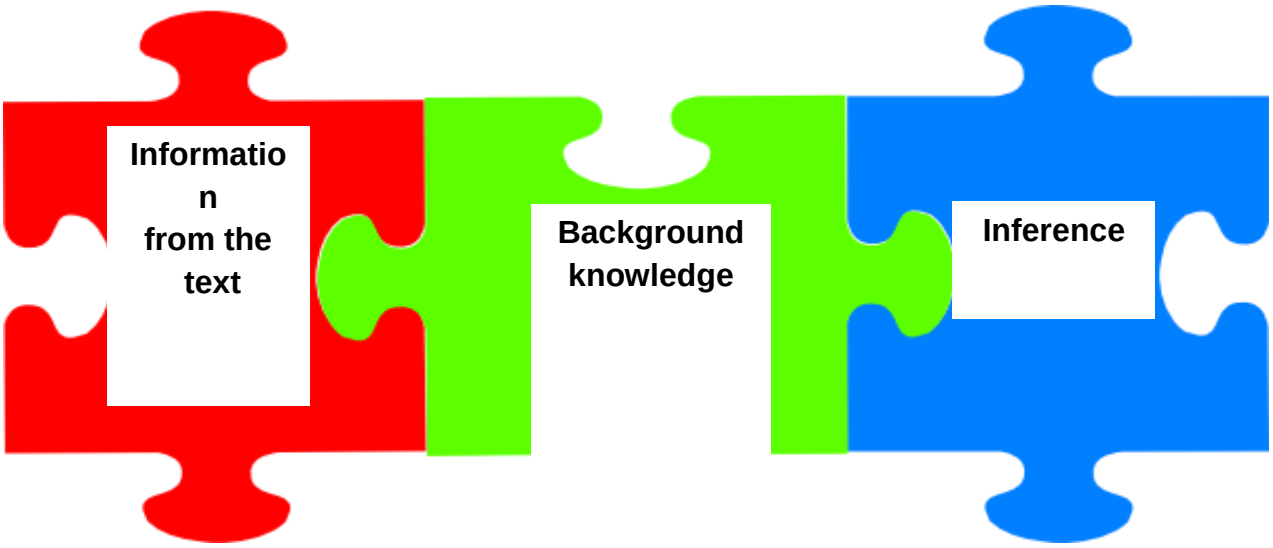
AAT 3202470).

Woolley, G. (2011). Reading comprehension. In *Reading Comprehension* (pp. 15-34). Springer Netherlands.

Appendixes

Appendix 1

READING SUPPLEMENT 1



MAKING INFERENCES

EHS 3

201720

The reading strategy you're about to learn is…

MAKING INFERENCES

Why is it important to make inferences?

What is an Inference?[1]

- It's the conclusion a reader makes about something that is not said explicitly in the text.

What is inference making?

- It is the process of integrating what you read (information in the text) and what you already know (background knowledge) about the topic.

Making inferences from a passage [2]

- Inferences are not stated explicitly in the passage. *Rather, inference questions require you to draw conclusions from the factual knowledge or evidence presented*. In order to answer an inference question, you must understand the logic of the author's statements and decide what is or is not reasonable. Inference questions are as much about critical thinking as they are about critical reading.

- Most inference questions will include one of the following key words**: *imply, suggest, infer, assume, most likely, probably, seem, predict, indicate, conclude*.**

---

[1] http://examples.yourdictionary.com/examples-of-inference.html#IhdjxrV8md6xxGCC.9

[2] Strategies for reading questions
http://www.massbay.edu/uploadedFiles/Admissions_and_Financial_Aid/Enrollment/QUESTIONTYPE.pdf

- One type of inference question will ask you to draw a conclusion that is supported by facts presented in the passage. Another type of inference question may ask you the meaning of a word or phrase that is included in the passage. Such questions are not meant to test your vocabulary. Rather, they are designed to test your ability to understand a word or phrase ***by the context in which it appears.***

There are several ways to make inferences, as you read different authors you might find different procedures. Now, you will look at some useful strategies for answering inference questions in a text.
Let's take a look at them in the section below!

Strategies for Answering Inference Questions:

Look for key words that identify the question as an inference question. When you see a question that contains one of the words listed above (***imply, suggest, infer, assume, most likely, probably, gather, conclude etc.)*** remember that you are looking for an inference.

Identify the most important substantive word(s) in the question. In addition to the key word(s), you will want to identify the word or phrase that will guide you toward the answer as you read the passage.

Read the passage and make notes. Read the passage, making a note related to the substantive word or phrase you've identified in the question.

Pay special attention to words such ***as but, yet, although, since, except moreover, unless, nonetheless, however in the passage.*** These words signal a shift, a qualification, something you should note. The ideas that follow these words are often the subject of inference questions.

Learn to spot wrong answers. Wrong answers for inference questions often make a *wild leap* not supported by the details of the passage or contain a *factual error*, a conclusion that runs counter to the details of the passage.

Let's see how to make inferences!

THINK-ALOUD DEMONSTRATION

What is to think aloud?

- Think aloud means speaking freely, reporting whatever is in your mind while reading.

What are the steps to think aloud?

1. Instructions: Your teacher is going to read an excerpt from a book and say aloud what she is thinking while reading it.

2. Modeling: She is going to demonstrate you how to make inferences. That is, she might do the following: *guessing, predicting, inferring, clarifying, commenting, criticizing, questioning etc.*

3.Practice: After listening to your teacher's think aloud, you will try to do the same with a different text. Remember that you are working on making inferences, therefore, you should use the strategies she taught you in the think-aloud session.

4. Reflection: You will say what you learned in this process, what was difficult etc.

Before you listen to your teacher's think aloud, keep in mind the following tips:

Do not interrupt while she is talking.

Try to notice the strategies she is using.

Annotate your questions.

Now, it is time to read the excerpt and pay attention to the modeling session.

The effectiveness of electroconvulsive therapy: A literature review

JOHN READ[1] and RICHARD BENTALL[2]

[1]*Department of Psychology, University of Auckland (New Zeland)*
[2]*Department of Psychology, Bangor University, Wales (United Kingdom)*

SUMMARY. **Aim** – To review the literature on the efficacy of electroconvulsive therapy [ECT], with a particular focus on depression, its primary target group. **Methods** – *PsycINFO, Medline*, previous reviews and meta-analyses were searched in an attempt to identify all studies comparing ECT with simulated-ECT [SECT]. **Results** – These placebo controlled studies show minimal support for effectiveness with either depression or 'schizophrenia' during the course of treatment (i.e. only for some patients, on some measures, sometimes perceived only by psychiatrists but not by other raters), and no evidence, for either diagnostic group, of any benefits beyond the treatment period. There are no placebo-controlled studies evaluating the hypothesis that ECT prevents suicide, and no robust evidence from other kinds of studies to support the hypothesis. **Conclusions** – Given the strong evidence (summarised here) of persistent and, for some, permanent brain dysfunction, primarily evidenced in the form of retrograde and anterograde amnesia, and the evidence of a slight but significant increased risk of death, the cost-benefit analysis for ECT is so poor that its use cannot be scientifically justified.

Declaration of Interest: Neither author has any financial conflicts of interest in relation to this paper.

KEY WORDS: ECT, evidence-based medicine, literature review, cost-benefit analysis.

Received 22.12.2009 – Final version received 11.03.2010 – Accepted 14.03.2010.

INTRODUCTION

The use of electricity to cause convulsions, in the hope of improving a person's mental health, is one of the most controversial issues in the mental health field. Paralleling the diverse and often strongly held beliefs about ECT, there are wide variations between and within countries in terms of usage, indications, modality, and degree of governmental or professional regulation (Asioli & Fioriti, 2000).

A recent editorial in the *British Journal of Psychiatry* celebrates 75 years of convulsive therapy, beginning with the work of Hungarian psychiatrist Laszlo Meduna. It reports that "despite the lack of evidence at this stage of therapeutic benefits, Meduna carried on with convulsive therapy", and that his "persistence was admirable" (Gazdag *et al.*, 2009). The authors conclude that "ECT has saved and significantly improved the lives of tens of thousands of patients since the 1930s".

Since Meduna's day, however, it has been recognised that medical ineffectiveness is often the consequence of poor scientific research (Cochrane, 1972). There has been a global movement towards evidence-based medicine, defined as "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients" (Sackett *et al.*, 1996). Advocates of this approach assume that clinical decision-making should be informed by a hierarchy of knowledge, at the top of which stands data from placebo-controlled randomized controlled trials (Devereux & Yusuf, 2003; Cipriani *et al.*, 2009). In keeping with this now well-established approach, this review of the effectiveness of ECT pays particular attention to comparisons of ECT and simulated-ECT [SECT], in which the usual general anaesthesia is administered but the electric shock is not.

Address for correspondence: Professor J. Read, Department of Psychology, University of Auckland, Room: 721.305, Tamaki Campus, Auckland 1142, (New Zealand).
E-mail: j.read@auckland.ac.nz

REVIEW METHODS

To ensure maximum possible inclusion of studies MEDLINE and PsycINFO were searched using the following combinations of keywords: 'electroconvulsive therapy' OR 'electroconvulsive treatment OR 'electroshock therapy' OR 'electroshock treatment' OR 'ECT' AND 'placebo' OR 'sham' OR 'simulated'. Reviews, meta-analyses, recent studies, and an independent review commissioned by the New Zealand government (Ministry of Health, 2004), were scanned to increase the detection rate. Only studies with human participants, presented in English, were included. Because there were only four depression studies with follow up-data (usually a requisite for demonstrating effectiveness) studies with data only for the treatment period (six) were included. This review also includes all the studies cited in a recent book in support of the conclusion that ECT is "a safe and effective treatment" (Shorter & Healey, 2007). The search identified eight meta-analyses in relation to depression (two of which also evaluated ECT for 'schizophrenia') and one that focused exclusively on schizophrenia. Besides using these meta-analyses to make the search as comprehensive as possible, they were also, themselves, reviewed, with particular attention to the accuracy of their reporting of studies and variation in their inclusion and exclusion of studies.

DOES ECT WORK?

When evaluating ECT, it is important that researchers observe methodological standards that have become widely recognised since the inception of the evidence-based medicine movement. Studies should be properly designed, with patients being randomised to treatment, and an adequate follow-up period using objective measures of outcome. In the case of ECT, it can be argued that the requirement to include a placebo control is particularly compelling because there is a prima facie case for assuming that applying electrical currents to the brain may be harmful. Hence, if researchers are to adhere to the first injunction in the Hippocratic oath (*primum non-nocere* – first do not harm; Gillon, 1985), they must demonstrate that the electroshock is a necessary component of the therapy, and that the procedure is not only effective but safe. To do this, researchers must compare gains made by ECT recipients with gains made by people who thought they received ECT but did not (Ross, 2006). Most studies claiming that ECT is effective fail to do this, including the NIMH-funded research by the Consortium on Research in ECT (eg Kellner *et al.*, 2005; 2006).

Many studies report high 'response' rates for ECT. However, the UK ECT Review Group (2003) found that only 73 of 624 studies (12%) met their standards for inclusion in their review, adding: "The quality of reporting", of even this 12%, "was poor". Very few included a placebo condition, which is necessary to exclude the possibility that any observed improvement is the consequence of expectancy and hope in psychiatrists or patients.

For the first ten years this had not been feasible. Because of the frequent fractures cause by 'unmodified' ECT a disguisable placebo was impossible. In the early 1950s general anaesthesia was introduced. This 'modified ECT' could be evaluated by comparison with SECT control groups rendered unconscious but not given ECT. The failure of most studies over the next 60 years to follow this procedure is often justified in terms of the claimed ethical difficulties of withholding a treatment assumed to be effective and (despite claims that ECT is safe) imposing on a control group "a treatment which involves repeatedly rendering a control group unconscious" (Kendell, 1981). The *assumption* that ECT is effective is used to justify not using the method that can best determine whether it *is* effective.

In their 382 page book Shorter & Healy (2007) cite only four studies to support their claim that ECT is effective (other than four that relate to ECT preventing suicide – see below). All four are from the 1940s. Three of them (Kalinowsky, 1944; Myerson, 1941; Smith *et al.*, 1942) had no control groups, vague or non-existent definitions of "recovery", and the people assessing "recovery" were either the hospital staff or unidentified (in the Myerson study none of the 'schizophrenics' improved). In the fourth (Tillotson & Sulzbach, 1945) a control group of "clinically comparable patients" improved less often (50%) than ECT recipients (80%), but there was no definition of "improved" and no mention of who decided who was "improved".

In the 1940s clinicians had became excited about the new treatment. Hope of recovery had returned to even the most depressing of institutions. Hope is a powerful placebo factor in psychiatric treatments, biological or psychological. It is important to clinicians and to patients. It can influence not just recovery itself but perceptions of recovery. Placebo effects in relation to ECT were acknowledged from the outset (see Brill *et al.*, 1959). Neurologist John Friedberg suggested that in the early days "the influence of ECT was on the minds of the psychiatrists, producing optimism and earlier discharges" (Friedberg, 1976). Despite this possibility (which could not be evaluated without SECT), some early studies found lower

recovery rates for ECT recipients than for non-recipients (Karagulla, 1950) or no difference (Scherer, 1951).

The inadequacy of most ECT research continued throughout the rest of the 20th century. The methodological failings were not limited to failure to compare to a SECT group. In a *British Journal of Psychiatry* study, claiming that the proportions showing some improvement were 100% for depression and 98% for schizophrenia, the description of how improvement was measured was: "A record was kept of progress" (Shukla, 1981). A survey for the British Royal College of Psychiatrists simply gathered psychiatrists' opinions about improvement (Pippard & Ellam, 1981). (Despite the bias involved in asking psychiatrists to estimate patients' opinions, the number of patients deemed to believe they were "worse" after ECT was five times greater than that which the psychiatrists believed were worse).

COMPARISON WITH SIMULATED-ECT FOR DEPRESSION

It is hard to ensure that neither psychiatrists nor patients know who did and did not receive ECT, because of the confusion and headaches that frequently immediately follow ECT. In one study the patients in the SECT group, many of whom had had real ECT in the past, "believed that they were receiving some new variation on ECT" (Brill *et al.*, 1959). The UK ECT Review noted that of 73 studies comparing ECT to drug treatment, no treatment or SECT "only two described the method of allocation concealment". So although comparison with SECT is the best research design it doesn't eliminate the possibility of placebo effects. Therefore even the very minimal positive benefits reported below may not have been caused by ECT.

Effectiveness during treatment period

Despite their claim to have conducted a "fair and comprehensive investigation of ECT", Shorter & Healy (2007) mention none of the studies reviewed next, the ones that best assess the effectiveness of ECT.

There have been ten studies comparing ECT and SECT for depression (Table I). Five found no significant outcome differences. One of these found identical response rates for ECT and SECT and concluded "The results suggest that the ECT pre-treatment procedure has an important therapeutic effect. This casts some doubt on current views of the effectiveness of electro-convulsive therapy" (Lambourn & Gill, 1978).

Of the five studies that did produce some significant findings, two invalidated their work, in terms of any lasting benefits, by giving real ECT to the SECT group after the first (Freeman *et al.*, 1978) or third week (West, 1981). What these two studies can reasonably claim is that the ECT group improved faster than the SECT group (which also improved) early in the treatment, at least on some measures. In the Freeman *et al.* study there were no differences on the Beck Depression Inventory (in this study the raters were blind to group membership but the doctor giving the ECTs and SECTs, who obviously was not blind, was the lead researcher).

The third was the famous Northwick Park study (Johnstone *et al.*, 1980). A prominent ECT advocate described it as "the most thoroughly designed and extensive trial of ECT's efficacy ever to be conducted in this country" (UK) but conceded that the "modest" difference found was "restricted to patients with delusions" and was "short-lived" (Kendell, 1981). There were no significant differences for two of the three subgroups of depressed patients: 'agitated' and 'retarded' (Nortwick Park ECT Trial, 1984). Furthermore, the positive finding for the 'deluded' subgroup was only perceived by psychiatrists. The ratings by nurses and by patients produced no significant differences for any of the three subgroups. The researchers themselves concluded that "The therapeutic benefits of electrically induced convulsions in depression were of lesser magnitude and were more transient than has sometimes been claimed" and "The results confirm that many depressive illnesses although severe may have a favourable outcome with intensive nursing and medical care even if physical treatments are not given" (Johnstone *et al.*, 1980). A recent review of the effectiveness of SECT describes the Northwick Park study as "probably the best trial in terms of methodology and psychopathological characterization of patients" and comments on the fact that "rigorously defined endogenously depressed patients did exceptionally well with sham ECT, just as well as with real ECT. This needs explaining because it is common wisdom that endogenous (melancholic) depressions are not supposed to be placebo responsive. Perhaps melancholic patients in hospital do obtain considerable relief from milieu approaches" (Rasmussen, 2009).

The fourth study (Brandon *et al.*, 1984) found significantly greater improvement in the ECT group, during the treatment period, for the 'retarded' and 'deluded' subgroups of depression, but not for the 'neurotic' subgroup. The fifth (Gregory *et al.*, 1985) arguably provides the strongest evidence in favour of ECT. Although both the ECT and the SECT groups improved significantly by the end of the treatment, the ECT group improved significantly more than the SECT group.

In the previous think- aloud session your teacher used some strategies that she considers you can benefit from when making inferences.
Let's take a look at them in the next section!

STRATEGIES TO MAKE INFERENCES

Before reading

1
Identify the purpose for reading the text.

2
Recognize the type of text.

3
Draw on your background knowledge while you read.

During reading

4
Make predictions as you read.

5
Retell/summarize what you have understood

6
As yourself Wh questions about the text (when, why, who, how etc.)

7
Look for key words.

8
Check on your own understanding.

9
Try to guess the meaning of unknown words.

10
Try to understand what the local cohesive devices refer to (pronouns,

After reading

11
Reflect about your comprehension

It's time for you to practice!

INDEPENDENT PRACTICE

1

Before we continue with the next step (practice), it is necessary to clarify your doubts. Ask your teacher the questions you annotated while she was thinking-aloud.

2

Now, it is your turn to think aloud using two different texts. Try to remember everything you have learned through the think aloud session your teacher modeled; both the think aloud procedure and the strategies for inference making

The Doctor Who Vanquishes Pain

Adapted and modified from English Daily

http://www.englishdaily626.com/comprehension.php?136

In an age of medical specialties, the anesthesiologist is a specialist in the use of drugs to prevent suffering. The pain of surgery is his first concern. as it has been for more than a hundred years. The anesthesiologist also brings **swift** relief to accident victims, treats ailments of the respiratory tract and eases the agony of incurable diseases. He draws on an extensive range of instruments and drugs: machines that temporarily substitute for body organs, gases that can induce a dreamy doze or deep unconsciousness, tranquillizers that banish fear, injections that block pain. So precise is the control afforded by these new tools and techniques that the anesthesiologist can, in effect, **suspend life for hours at a time**, making possible some of the most dramatic achievements of modern surgery, such as the repair of a damaged heart or the replacement of a diseased kidney.

In 1842, an American physician named Crawford Long made medical history when he held an ether-soaked towel over a patient's face until he was unconscious. Then Dr Long removed a small neck tumor; the patient experienced no pain. It was the first successful use of surgical anesthesia.

Today ether-obtained by distilling ethylene with sulphuric acid -- remains one of the most effective drugs for inducing the deep, relaxed sleep required for major surgery. But ether has an **unpleasant, often nauseating odor**; it irritates the respiratory system and it is dangerous to use because of its explosive nature. In one method of overcoming these drawbacks anesthesiologists use only very small amounts of ether, often mixed with another anesthetic,

as the finishing touch in a step-by-step procedure for inducing sleep. This technique, tailored to the individual, employs a series of drugs designed to achieve successively deeper anesthesia.

In a typical procedure, a pleasant relaxation is induced by injections of scopolamine and morphine. Calm and relaxed, the patient is now ready for an intravenous injection of sodium pentothal that will bring on the first stage of anesthesia, a light doze, followed by the second stage, loss of consciousness and **dulling of the brain's pain response**. The third stage, complete unconsciousness, generally requires some drug as strong as ether. The anesthesiologist inserts a plastic tube into the trachea, or windpipe, so that a mixture of ether, nitrous oxide and oxygen can be fed directly into the lungs without irritating the breathing passage. Only when he is certain that the patient's central nervous system is completely insensitive to pain will the anesthesiologist give the quick nod that indicates the operation may begin.

Once surgery has begun, the anesthesiologist becomes the **watch-dog** of the operating room, the man responsible for keeping the unconscious patient alive. Keeping an eye on the work of the surgeon, the anesthesiologist concentrates on changes in the patient's blood pressure, pulse and breathing. He checks to see that the anesthetic gas mixture contains 28 to 30 per cent oxygen, for even a brief drop-off may cause asphyxiation. He examines the patient's eyes for subtle changes that mean the anesthetic is wearing off or that it is sinking the patient into a dangerously deep sleep.

After surgery is completed the anesthesiologist faces one of his most difficult tasks: he must restore his anesthetized patient to complete consciousness as smoothly and painlessly as possible. The best drug for this purpose is oxygen. Flooding into the lungs, oxygen forces the

anesthetic gases out of the patient's body and also eases the work of the heart and respiratory system as the patient awakens.

Critical reading comprehension questions

1. From the passage, we can gather that the use of anesthesia has existed

a. for a hundred years.

b. for more than a century.

c. for less than a century.

d. only since the beginning of this century.

2. As used in line 3, ‘’swift’’ most likely means

a. delayed

b. fast

c. slow

d. expected

3. From the phrase ‘’ suspend life for hours at a time’’ in line 8, it can be assumed that during surgery

a. The patient is alike someone who is actually dead.

b. The patient dies as the anesthesiologist doesn’t use the correct technique.

c. The patient stops his/her heart long enough so that surgeons can operate him/her.

d. All the above.

4. It can be inferred from the passage that what actually makes possible that surgeon performs the amazing feats of modern surgery is

a. The use of machines which are substitutes for body organs.
b. The use of drugs which block pain and tranquillizers which banish fear.
c. The use of gases which induce a dreamy sleep or deep unconsciousness.
d. The precise control exercised by the anesthesiologist by means of new instruments and techniques.

5. It can be implied from paragraph 3 that the false statement about ‘’ether’’ is

a. It has an unpleasant smell.
b. It is explosive in nature.
c. It is an effective drug for rendering a patient completely unconscious.
d. It is used in large amounts to achieve anesthesia.

6. The ‘’unpleasant often nauseating odor’’ mentioned in line 17, would likely be best described as one of the

a. benefits of ether.
b. disadvantages of ether.
c. characteristics of ether.
d. advantages of ether.

7. In line 26, the phrase ‘’dulling most of the brain’s pain response’’ implies that

a. Brain’s pain is sharp.

b. Brain’s pain arises slowly.

c. Brain’s pain acute.

d. Brain’s pain arises quickly.

8. The expression ‘’watch-dog’’ in line 32 suggests that the anesthesiologist is

a. The star of the surgery.

b. The surgeon’s boss.

c. The coach of the surgery.

d. The custodian of the surgery.

9. According to the passage, the statement that is false about the anesthesiologist’ s job is

a. He prepares the patient for the operation.

b. He sees to it that the patient is not asphyxiated during the operation.

c. He monitors the patient's heartbeats and breathing.

d. His duties are over when the operation is completed.

10. It can be inferred that a false statement about the passage is

a. The anesthesiologist is a specialist in relieving the pain of surgery and sickness.

b. Without the expertise of the anesthesiologist, the achievements of modern surgery would be impossible.

c. Once of the most effective drugs used by the anesthesiologist in his job is ether.

d. The anesthetic gas mixture contains mainly ether, with some nitrous oxide and oxygen.

Excerpt from:

An update on semantic dementia: genetics, imaging, and pathology

Adapted and modified from: Landin-Romero et al. Alzheimer's Research & Therapy DOI 10.1186/s13195-016-0219-5

http://download-redirector.springer.com/redirect?ddsId=art:10.1186/s13195-016-0219-5&originUrl=http://alzres.biomedcentral.com/article/10.1186/s13195-016-0219-5&contentType=pdf

Authors:

Ramon Landin-Romero1,2,3†, Rachel Tan1,2†, John R. Hodges1,2,3 and Fiona Kumfor1,2,3*

Abstract

Progressive and relatively circumscribed loss of semantic knowledge, referred to as semantic dementia (SD) **which falls under the broader umbrella of frontotemporal dementia,** was officially identified as a clinical syndrome less than 50 years ago. Here, we review recent neuroimaging, pathological, and genetic research in SD. From a neuroimaging perspective, SD is characterized by hallmark asymmetrical atrophy of the anterior temporal pole and anterior fusiform gyrus, which is usually left lateralized. Functional magnetic resonance imaging (fMRI) studies have revealed widespread changes in connectivity, implicating the anterior temporal regions in semantic deficits in SD. Task-related fMRI have also demonstrated the relative preservation of frontal and parietal regions alongside preserved memory performance. In addition, recent longitudinal studies have demonstrated that, with disease progression, atrophy encroaches into the contralateral temporal pole and medial prefrontal cortices, **which reflects emerging changes in behavior and social cognition**. Notably, unlike other frontotemporal dementia subtypes, recent research has demonstrated strong clinicopathological concordance in SD, with TDP43 type C as the most common pathological subtype. Moreover, an underlying genetic cause appears to be relatively rare in SD, with the majority of cases having a sporadic form of the disease. The relatively clear diagnosis, clinical course, and pathological homogeneity of SD **make this syndrome a promising target for novel disease-modifying interventions.** The development of neuroimaging markers of disease progression at the individual level is an important area of research for future studies to address, in order to assist with this endeavor.

Keywords: Semantic-variant primary progressive aphasia, Frontotemporal dementia, Primary progressive aphasia.

Background

Semantic dementia (SD), a progressive neurodegenerative disorder affecting language, was empirically described only relatively recently. In the early 1970s, the conceptualization of memory into two distinct systems, an episodic system and a semantic system by Tulving [1], coincided with the report by Warrington [2] of three individuals who presented with visual object agnosia, a profound inability to recognize or identify objects. In light of this new memory system and additional assessment, Warrington recognized that the constellation of symptoms of these patients could be conceptualized as an underlying loss of semantic memory. Since this seminal paper, the syndrome, which is characterized by circumscribed but profound loss of semantic knowledge, has been referred to as SD [3, 4] and, more recently, as semantic-variant primary progressive **aphasia** (PPA) [5]. Less than 50 years later, our understanding of this striking clinical syndrome has advanced. In this review, we will consider how recent studies in imaging, genetics, and pathology over the last decade have informed our knowledge of SD. Contemporary consensus criteria for SD require individuals to first meet criteria for PPA; i.e. the most prominent clinical symptom to be in the domain of language, and evidence of subsequent **impaired** activities of daily living. Then, sub-classification as semantic variant is based on impaired confrontation naming and single-word comprehension, with supportive features including impaired object knowledge, surface dyslexia or dysgraphia, spared repetition, and spared speech production. In a series of

100 cases all of whom underwent longitudinal follow-up, the mean age at presentation was 64.2 years but with a range of 40–79 years [6**]. There was a 50% survival of 12.8 years indicating a slower progression than in other forms of frontotemporal dementia** [6]. Studies of the prevalence and incidence of SD have been relatively limited; however, a recent epidemiology study estimated the prevalence of frontotemporal dementia at 10.8/100,000, with SD accounting for approximately one-third of these cases [7] in line with previous estimates [8]. Whether this prevalence is similar across countries, however, remains to be examined, as most existing epidemiological data hail from European studies.

Clinical presentation and cognitive profile

Clinically, patients with SD show a speech profile that is relatively fluent but empty of content, producing a pattern of so-called logorrhea. Importantly, loss of semantic knowledge is observed irrespective of testing modality [9]. Impaired word comprehension is a mandatory feature and patients demonstrate word alienation in that they are able to repeat words such as “violin” or “caterpillar” but have no idea of their meaning. This deficit gradually progresses from low frequency and less familiar words, such as those mentioned, to more common words. Adlam et al. [10] demonstrated that SD patients are also impaired on nonverbal semantic matching tasks, tests of color knowledge, sound knowledge, and object-use knowledge, which do not require naming or verbal comprehension even from an early stage of the disease. Such findings have provided evidence that, in SD, symptomatology reflects a profound and progressive loss of conceptual knowledge which is not limited to performance on verbal tasks [11]. There is also accompanying surface dyslexia: patients are unable to correctly pronounce irregular words such as pint which they

read to rhyme with hint or flint. In contrast, recent studies have confirmed that **episodic memory** is relatively preserved in SD, particularly when tasks with minimal conceptual loading are employed [12, 13]. The intact performance on traditional non-conceptually loaded episodic memory tasks converges with the performance of SD patients on autobiographical memory tasks. Patients typically show relatively preserved recollection of recent autobiographical memory in the context of poorer remote autobiographical memory (known as the reverse temporal gradient or step-function), reflecting increased semanticisation of past events (e.g. [14–16]). This is in stark contrast to the compromised ability of SD patients to project forwards in time to imagine possible future events (e.g. [17]). These deficits in future-oriented thought are attributable to semantic processing impairments, and have led to the advancement of the semantic scaffolding hypothesis which proposes that semantic knowledge is required to impart structure and meaning during the process of future simulation [18].

Changes in behavior and social cognition are increasingly recognized in SD [19]. Clinically, SD patients often show mental rigidity and inflexible behavior. For example, patients may become obsessive in tasks they engage in (e.g. we have noticed patients spending hours completing jigsaw puzzles), food preferences (usually restricted to specific foods), or daily routines (e.g. clockwatching). In addition, SD patients may have increased apathy and changes in eating behavior, as well as loss of empathy, **impaired emotion perception** and emotional memories, and reduced theory of mind capacity [20–24]. Over time, many patients become essentially mute with only a limited repertoire of stereotypic phrases and a complete loss of word comprehension. Changes in emotional capacity as well as increased rigid

behaviors are associated with **higher carer burden** (e.g. [25]), and progressive behavioral changes and/or increasing disability leads to residential care in most cases [6] (Table 1).

Critical reading comprehension questions

1. In line 2, the phrase ‘’which falls under the broader umbrella of frontotemporal dementia’’, suggests that

a. There are only a few types of FD.

B. SD is not related to FD.

c. There are many types of FD.

d. SD is the only type of FD.

2. From the sentence in line 12 ‘’which reflects emerging changes in behavior and social cognition’’, it can be concluded that

a. patients with SD have difficulties in behaving well as they don’t like socializing with other people.

b. patients with SD have difficulties in explaining why they misbehave with other people.

c. patients with SD behave well and understand people’s feelings.

d. patients with SD are unable to behave well or recognize people’s faces and names.

3. In lines 17-18, the phrase ‘’…make this syndrome a promising target for novel disease-modifying interventions’’ implies that

a. less research on SD will be conducted as its diagnosis and clinical course are already known.

b. more research on SD need to be conducted as very little is known from this condition.

c. patients with SD won't be able to get new treatments as there isn't enough knowledge on this condition.

d. patients with this condition will be able to get more and better treatments thanks to the current knowledge on SD.

4. It can be assumed that the word ''aphasia'' in line 30, most likely means

a. inability to understand and produce language.

b. inability to swallow.

c. inability to speak a foreign language.

d. inability to understand a foreign language.

5. The word ''impaired'' in line 35, most likely means

a. healthy

b. unbroken

c. injured

d. perfect

6. From the sentence ''There was a 50% survival of 12.8 years indicating a slower progression than in other forms of frontotemporal dementia'' in line 40-41, it can be inferred that

a. Patients with SD live longer than patients with other type of FD.

b. Patients with SD live the same as patients with other type of FD.

c. Patients with SD live less than patients with other type of FD.

d. Patients with SD die as soon as the FD is diagnosed.

7. From the clinical presentation and cognitive profile section, it can be implied that the episodic memory allows people to

a. remember who they are, personal events, locations etc.

b. remember facts, concepts, and knowledge about the external world.

c. remember how something or someone look like with just a second of observation.

d. remember skills and how to do things, such as tying a shoelace or riding a bike.

8. According to the cognitive profile passage, patients with SD

a. can remember the past, but the present.

b. can remember the past, but think about the future.

c. can't remember the past nor think about the future.

d. can't remember anything.

9. The phrase ''impaired emotion perception'' suggests that patients

a. are unable to understand people's feelings.

b. care about people's feelings.

c. like making new friends.

d. are still able to socialize.

10. The expression '' high carer burden'' most likely means that people who take care of patients

a. get very stressed.

b. are understanding.

c. get very rich.

d. are compassionate.

REFLECTION

This is the last part of the think aloud process. I would like you to think about all the steps you have followed through this reading supplement and answer the following questions:

1. Do you consider that you really learned how to make inferences through the think aloud method and the strategies your teacher showed you? Why? / Why not?

2. Would you consider using these strategies for future inferences that you need to make while reading medical texts? Why? Why not?

3. How many strategies for making inferences did you use? Which ones were they?

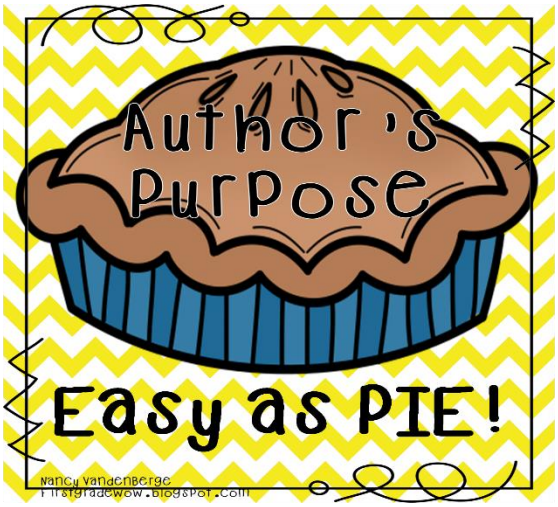
APPENDIX 2

READING SUPPLEMENT 2

AUTHOR'S PURPOSE

&

POINT OF VIEW



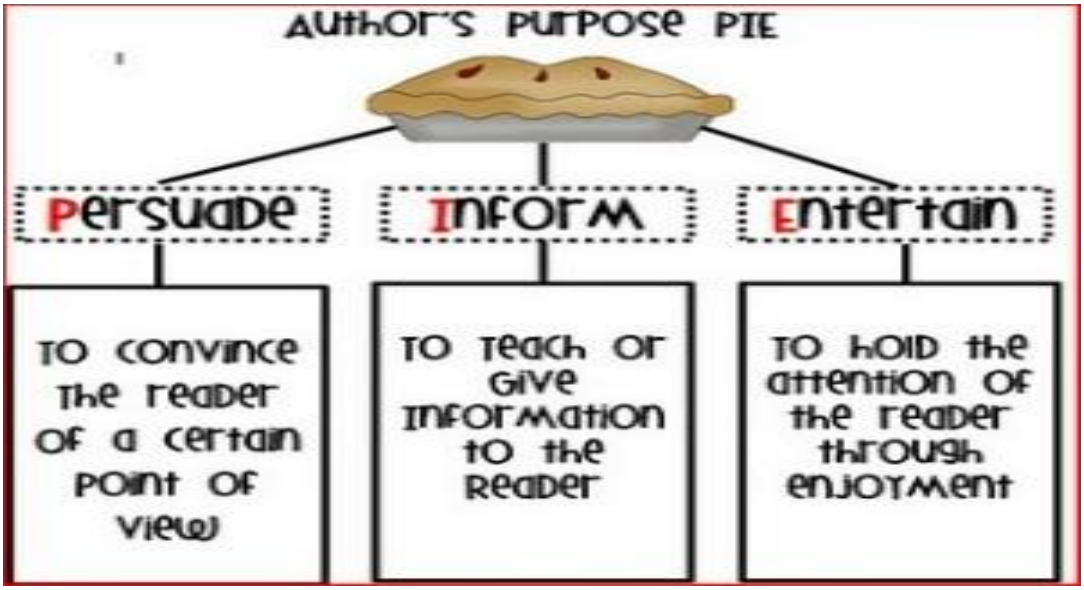
EHS 3

201720

AUTHOR'S PURPOSE

What is Author's purpose?

- It is the reason why he or she writes. Everything you read has a purpose. The primary author's purpose is as easy as pie! Look at the following chart.



- Additionally, the author's purpose can also be to ***Describe.***

What is Author's point of view?

- It is how an author feels about the topic he or she is writing about.

Why are they important?[3]

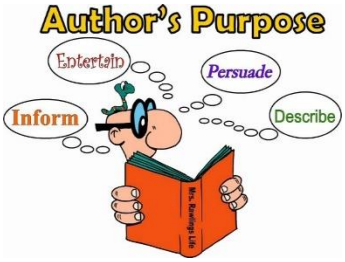
When you recognize the author's purpose you can:

- Recognize **author's inclination** and decide whether a source of information can be **trusted**.
- Understand why an author **says** things in a **specific way** or includes some facts and not others.

[3] Adapted and modified from A STUDY GUIDE FOR AUTHOR'S PURPOSE & PERSPECTIVE, 2011-2012.

IDENTIFYING AUTHOR'S PURPOSE

An author might write a text in order to persuade an audience, entertain, describe something, explain a process, define a term, refute a claim, analyze a text, or convey personal feelings.[4] It is also important to understand the author's tone which refers to the author's attitude toward a topic and audience. Authors transmit purpose and tone through their word choice and the impressions these words create.



If readers enjoyed what they read, one of the author's purposes may have been to entertain. If readers learn while they are reading, one of the author's purposes may have been to inform. If readers changed the way they thought about a topic or issue, one of the author's purposes may have been to persuade. Authors may have more than one purpose for writing. Author's purpose can be stated explicitly, or readers may have to infer the intent.

IDENTIFYING AUTHOR'S POINT OF VIEW

Author's perspective is the way an author looks at a topic or the ideas being described. The author's perspective includes the content of the text and the language used to present the data. Thoughtful readers are able to discern an author's perspective, opinions, hypotheses, assumptions, and possible bias. Understanding the author's perspective helps you read analytically in order to identify the validity of information contained in the text. Try to

[4] Adapted and modified from A STUDY GUIDE FOR AUTHOR'S PURPOSE & PERSPECTIVE, 2011-2012.

identify words and phrases that show an author's strong feelings for or against a person, group, or issue.

Strategies for Answering Author's Purpose Questions

Look for key words ***(author's purpose, reason why, the passage can be best described as etc.)*** *that identify the question as an author's purpose question.*

Author's purpose answer options often incorporate the following vocabulary words: ***Analyze, compare, contrast, critique, evaluate, examine, investigate, characterize, define, depict, describe, explain, identify, introduce, narrate, recount, summarize, acknowledge. Advocate, assert, promote, propose, support, condemn, criticize, oppose.***

Read the passage and make notes. Once you've identified the question as an author's purpose question, read the passage, making note as you read.

Consider the vocabulary of your answer options. Is the author really analyzing something, or is she describing it? Use your knowledge of key vocabulary words to eliminate wrong answers and identify the better answer.

Let's see how to get the author's purpose and point of view

THINK-ALOUD DEMONSTRATION

1. Instructions: Your teacher is going to read an article and say aloud what she is thinking while reading it.

2. Modeling: She is going to demonstrate you how to understand the author's purpose and point of view.

3.Practice: After listening to your teacher's think aloud, you will try to do the same with a different text. Remember that you are working on understanding the author's ´purpose and point of view, therefore, you should use the strategies she showed you in the think-aloud session.

4. Reflection: You will say what you learned in this process, what was difficult etc.

Before you listen to your teacher's think aloud, keep in mind the following tips:

- Do not interrupt while she is talking.
- Try to notice the strategies she taught you when making inferences in the reading supplement 1 (before, while & after reading).
- Annotate your questions.

Trauma in the OR. From doctors' bullying.

Adapted and modified from medpageToday's

http://www.kevinmd.com/blog/2017/07/scared-clinical-trials-7-reasons-not.html

ANONYMOUS | *PHYSICIAN* | *JULY 1, 2017*

It's Friday morning in any operating room, USA. Nurses and techs are scrambling to get everything in place before the surgeon arrives because if not, there will be hell to pay. The first patient arrives late, the second patient needs to use the bathroom, the third patient needs blankets before the IV is started … and here he comes … and we're not ready. The fear is palpable.

Down the street, in another operating room, a tech has called out sick. The nurse manager springs into action, adjusting staffing assignments and calling out to her team. "OK, you go scrub in OR 3, and you scrub with me in OR 2. As soon as we finish in OR 2, you can relieve the tech in OR 3, and then she can scrub into OR 1. If we do this right, there will be no delays. Quick, Quick!"

And they do it right, and the doctor isn't delayed. But he finds out the team is down one tech. So, he hunts down the nurse manager and waits for the surgeon to leave the OR where the manager is caring for a pediatric patient undergoing an airway procedure. Then, he bursts in during the critical moment when the patient is being extubated. He screams at this nurse so loudly and with such insults that she later states she cannot remember his words. "It was too traumatic, I guess."

Bullying involves behavior that targets a person with the intent to intimidate and harass and can cause risk to the health and safety of the targeted person. In the world of health care, it can also cause risk to the health and safety of the patient, too.

“I remember looking down at the patient, she was just 12-years-old, you know? And I looked at her to make sure she was OK. And I looked at the monitors, and her vitals looked good. And then I started to cry, which is very unusual for me. I don’t usually cry when the doctors yell at me, you know? I’m used to it. Doesn’t matter. But he got me that morning. And I cried. And the thing is, he wasn’t delayed at all. I knew if he was we would all be in trouble, but my plan worked and there was no delay. I just don’t understand.”

This nurse and others like her suffer from so much constant bullying by physicians — they often don’t even know it’s not supposed to be like that. After all, leadership knows the abuse happens routinely. They fear surgeons, if reprimanded, will move their surgery cases to another health system and “everybody on the team will lose jobs.” She is told that she “should have communicated better with the physician.” And then, sadly, she is forced to apologize to the doctor that screamed at her. That’s followed up with several apologies to the surgeon by members of senior leadership.

This nurse manager is strong. Most nurse managers are, especially those who work side-by-side with surgeons every day. She says she stays for her team and the patients. She is doing good work for the community. Is there a health system out there that won’t tolerate bullying from physicians? They all have a zero-tolerance policy on paper, but that’s all it is, a token piece of paper.

Bullying the surgical team reduces performance and decreases their desire to learn, grow and engage in their work. Bullying reduces morale and increases staff turnover. Eventually, the

most confident and accomplished team members resign, leaving behind the least competent workers — those willing, like battered spouses, to stick around.

John B. Pinto describes three types of surgeon bullies:

1. Episodic/improvable. In a moment of stress, the surgeon lashes out, uncharacteristically, at others. We are all prone to this to varying degrees, and in the mildest cases, the episodic bully rapidly pulls back from the brink, recognizes the pain and harm he has caused in others, and quickly apologizes. Over time he improves his behavior. The established surgeon who loses it once or twice a year is easy to forgive once an apology is made.

2. Chronic/escalating. This kind of sociopathic, narcissistic surgeon bully gets worse over time. The newness of each professional relationship may keep the bully at ease at first. But over time, the boundaries come down and the bullying behavior escalates until the new member of the team feels the sting just as much as the veterans. The lack of serious consequences teaches this bully to continue the poor behavior freely.

3. Secondhand bullying. Bullying is largely a learned behavior. Those who are part of a team led by a bully may start to become bullies themselves. After all, the motto goes: see one, do one, teach one.

I have one more type to add:

4. The accomplice bully. This is the team member who allows the bullying to occur repeatedly and, in the worst cases, attempts to make the bully's target(s) believe the bullying is their fault. This bully retaliates on behalf of the chronic bully by warning targets they will lose their job if they speak up, forcing targets to apologize to the bully, and minimizing the bullying event(s).

The history of tolerance to intimidating and disruptive surgeon behavior allows bullying to go unchecked in health care. Previous generations have made great strides to educate about bullying. My generation has to do more than educate and write policies. We have to act, and we have to do it to protect future generations, workers and patients.

Bullying in health care poses a critical problem for patient safety. The Institute for Safe Medication Practices found that almost half of health care personnel surveyed would rather keep silent than question a bully physician about a medication order. The Joint Commission cited the role of bullying in medical errors and warned of a decline in trust among hospital employees.

What can be done to stop bullying by surgeons in operating rooms across the country? Report all incidents per your organization's policy. Understand that this action takes strength and bravery. Know bullying is not the fault of the bully's target. Realize your identity may be revealed, by accident or on purpose, after you report bullying event(s). Some will use your complaint to win the physician's trust. "She lodged a complaint, but don't worry; I'll fix it for you." This is classic accomplice bully behavior. If your organization doesn't handle the event(s) appropriately, report it to their accrediting agency such as The Joint Commission and the Centers for Medicare and Medicaid Services.

Know that there is truly strength and safety in numbers and unity — find health care leaders, surgeons, nurses, techs and anesthesia providers that you can trust. Band together against bullying by promoting dignity and respect. Bullies try to divide and conquer to force their agenda. We must demand that health care organizations stop bullying.

INDEPENDENT PRACTICE

Read the passage and answer the questions below.

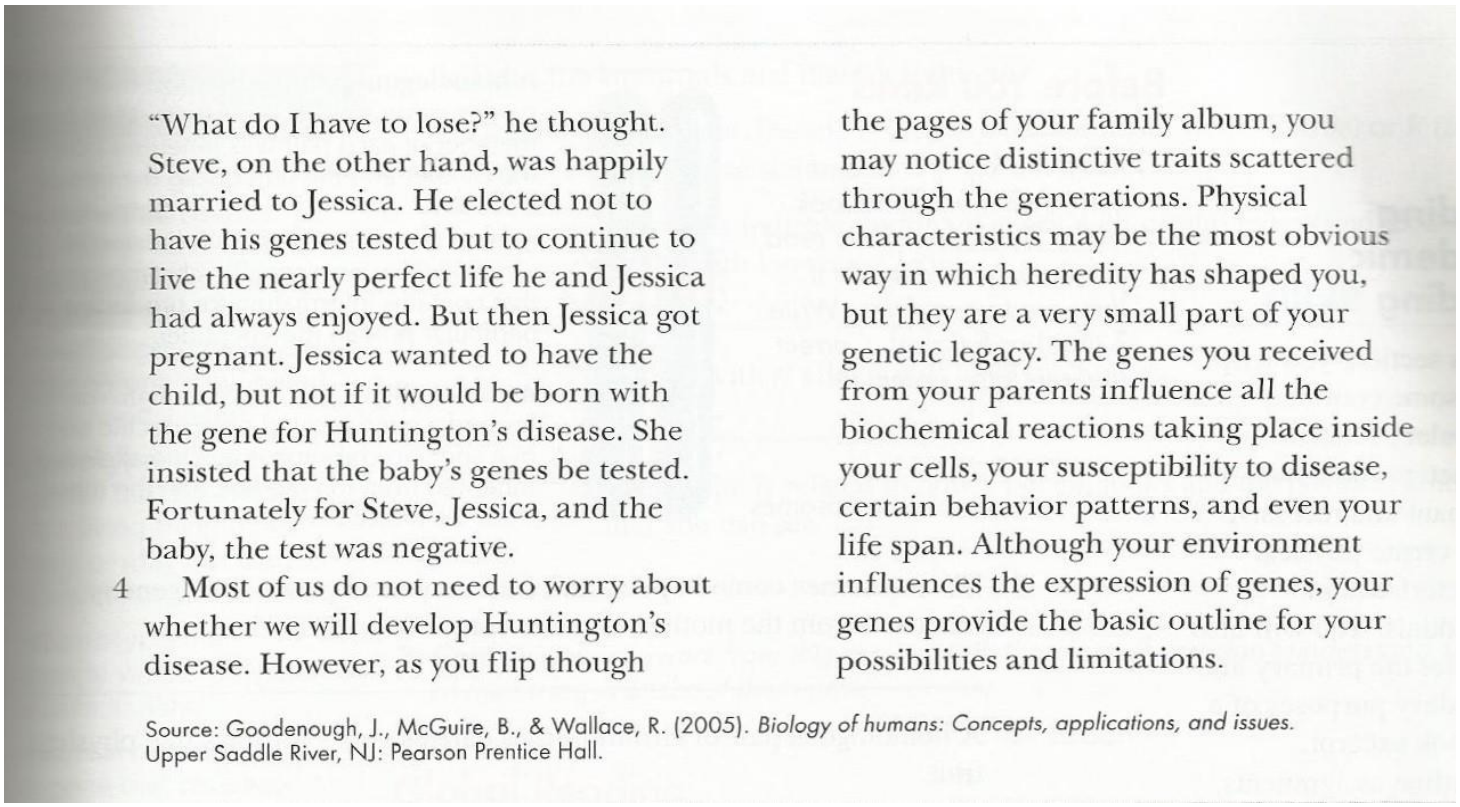
The Story of Dan and Steve

1 Steve's brother, Dan, is a risk taker. Two years ago, he hiked through the Andes Mountains in Chile with only a backpack and a knife. Four years ago, he learned to scuba dive while on an adventure cruise in Alaska. Recently, he took up skydiving.

2 Dan hasn't always been like this. Six years ago, he was finishing law school and looking forward to a career in politics. Then his father was diagnosed with Huntington's disease, which is caused by the degeneration of brain cells. This devastating disease usually appears in middle age with symptoms of clumsiness and forgetfulness. Now Dan's dad is still able to work, but his handwriting has become uncontrollable, and it is difficult for him to sit for long periods without twitching.

3 The bad news for Dan and Steve is that Huntington's disease is genetic. There is a 50 percent chance that they also carry the gene.[1] Because Huntington's disease is caused by a dominant gene, if Dan and Steve do carry the gene, they will surely develop the disease in middle age. After his father's diagnosis, Dan decided to have his genes analyzed to see if he carried the Huntington's gene. Unfortunately, he did. When Dan finished school, he started to live the life of a risk taker.

[1]**carry the gene** *v* to have the gene



"What do I have to lose?" he thought. Steve, on the other hand, was happily married to Jessica. He elected not to have his genes tested but to continue to live the nearly perfect life he and Jessica had always enjoyed. But then Jessica got pregnant. Jessica wanted to have the child, but not if it would be born with the gene for Huntington's disease. She insisted that the baby's genes be tested. Fortunately for Steve, Jessica, and the baby, the test was negative.

4 Most of us do not need to worry about whether we will develop Huntington's disease. However, as you flip though the pages of your family album, you may notice distinctive traits scattered through the generations. Physical characteristics may be the most obvious way in which heredity has shaped you, but they are a very small part of your genetic legacy. The genes you received from your parents influence all the biochemical reactions taking place inside your cells, your susceptibility to disease, certain behavior patterns, and even your life span. Although your environment influences the expression of genes, your genes provide the basic outline for your possibilities and limitations.

Source: Goodenough, J., McGuire, B., & Wallace, R. (2005). *Biology of humans: Concepts, applications, and issues.* Upper Saddle River, NJ: Pearson Prentice Hall.

1. What was the author's primary purpose for writing this test?

a. to entertain us with the story of Dan and Steve.

b. to persuade us that genetic testing is best.

c. to inform us about how our genes can influence our lives.

2. Why did the author start this text with a story?

a. to tell the reader about her friends Steve and Dan.

b. to get out attention.

c. to make us feel sorry for Dan.

3. The writer's move from the narrative about Dan and Steve to a more informative text takes place in which paragraph? How do you know?

a. 2

b. 3

c. 4

4. Why did Dan choose to live the life of a risk taker?

a. He felt he was going to die soon.

b. He enjoyed the thrill of danger.

c. He didn't want to get married.

5. Steve did not get his genes tested for Huntington's disease because he_____.

a. was already leading a happy life.

b. didn't care.

c. knew he was going to die sometime.

6. Steve and Jessica decided to test the genes of their unborn child because they _____.

a. weere looking for a cure for Steve's father.

b. didn't want their child to have Huntington's disease.

c. wanted to have a perfect child.

As you have learned, every written text has a primary purpose. At a university or college, that primary purpose is most often to inform or to persuade. However, writers may also have secondary (or rhetorical) purposes. Generally, to express a secondary purpose, writers use the following specific words, phrases, or strategies:

-To introduce a new point: first, next.

-To explain why something happens: because, as a result, therefore, in order to, for this reason.

-To provide more information: in addition, also.

-To provide an alternative explanation: or, on the other hand; use of parentheses.

-To provide an example: for example, for instance, such as

-To quantify a general statement: use of numbers.

- To emphasize a point: it should be noted that, most of all, especially, in particular.

- To contrast ideas: but, however, although, while, whereas, on the other hand.

-To create a picture for the reader: imagine, picture this, is like, looks like.

STRATEGY PRACTICE

A. Determine the writers' secondary purposes from the sections of the texts you have read so far. Circle the correct answers. Then discuss your answers with the class.

From ''the story of Dan and Steve''

Steve's brother, Dan, is a risk taker. Two years ago, he hiked through the Andes Mountains in Chile with only a backpack and a knife. Four years ago, he learned to scuba dive while on an adventure cruise in Alaska. Recently, he took up skydiving.

1. Why did the writer say that Dan tried hiking, backpacking, scuba diving, and skydiving?

a. to give examples of Dan's risky behavior.

b. to show that Dan is very athletic.

c. to suggest that Dan likes to travel the world.

This devastating disease usually appears in middle age with symptoms of clumsiness and forgetfulness. Now Dan's dad is still able to work, but his handwriting has become uncontrollable, and it is difficult for him to sit for long periods without twitching.

2. Why does the writer mention that Dan's father's handwriting has become uncontrollable and that it is difficult for him to sit for long periods without twitching?

a. to show that Dan's father is suffering from Huntington's disease.

b. to suggest that life is not that bad for people with Huntington's disease.

c. to create an image of the disease in the reader's mind.

When Dan finished school, he started to live the life of a risk taker. "What do I have to lose?" he thought. Steve, on the other hand, was happily married to Jessica. He elected not to have his genes tested but to continue to live the nearly perfect life he and Jessica had always enjoyed.

3. Why did the author use the phrase ''on the other hand''?

a. to show that Steve's other hand is fine.

b. to contrast Dan and Steve.

c. to explain why Steve didn't get get his genes tested.

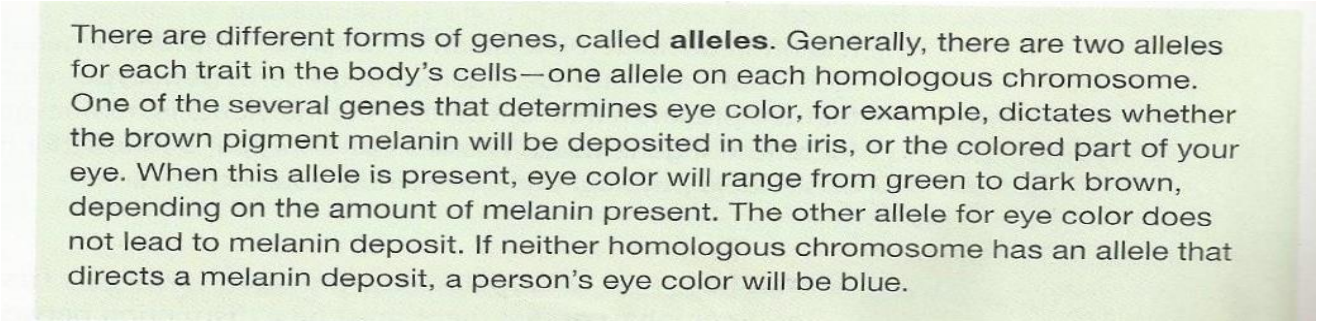
From ''Principles oh Inheritance''

A **gene** directs the synthesis of the specific polypeptide (protein) that can play either a structural or a functional role in the cell. In this way, the gene-determined protein can influence whether a certain **trait**, or physical characteristic, will develop.

4. Why is the word protein in parentheses?

a. to provide more explanation about the polypeptide.

b. to provide an alternative word for *polypeptide.* c. to provide information that contradicts the polypeptide.



There are different forms of genes, called **alleles**. Generally, there are two alleles for each trait in the body's cells—one allele on each homologous chromosome. One of the several genes that determines eye color, for example, dictates whether the brown pigment melanin will be deposited in the iris, or the colored part of your eye. When this allele is present, eye color will range from green to dark brown, depending on the amount of melanin present. The other allele for eye color does not lead to melanin deposit. If neither homologous chromosome has an allele that directs a melanin deposit, a person's eye color will be blue.

5. Why does the writer use the word *generally in the text?*

a. to show that there is no need to be specific.

b. to provide more explanation about alleles.

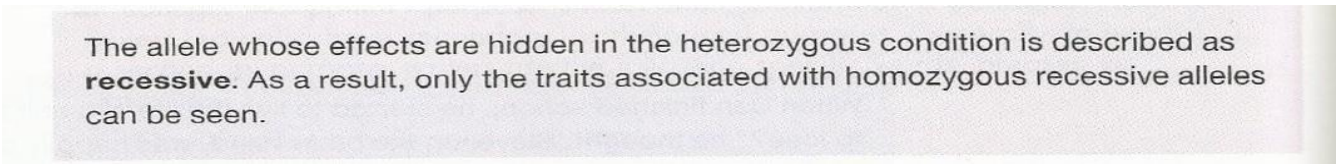
c. to show that this fact is true in the majority of cases.

6. Why does the writer mention eye color in this section of the text?

a. to give an example of how alleles work.

b. to show that eye color is an important physical feature.

c. to explain why people have blue eyes.



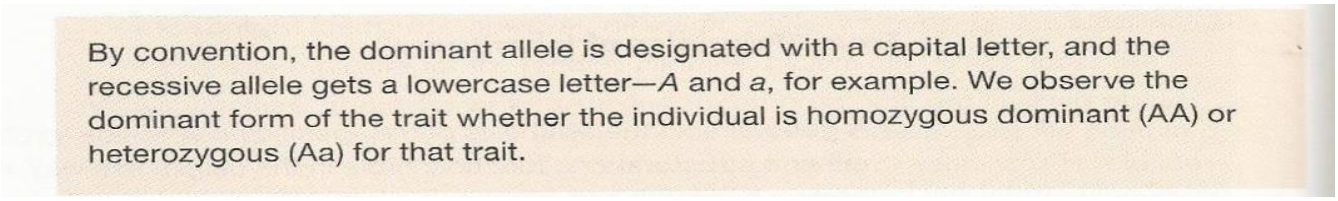
The allele whose effects are hidden in the heterozygous condition is described as **recessive**. As a result, only the traits associated with homozygous recessive alleles can be seen.

7. The writer uses the phrase ‘’As a result’’ in order to _____

a. explain why traits associated with recessive genes are only seen in the homozygous condition.

b. conclude the paragraph with a good point about homozygous genes.

c. provide more information about homozygous genes.



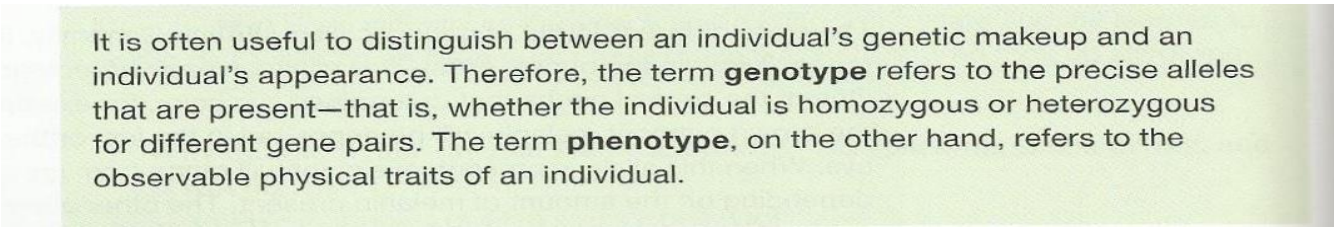
By convention, the dominant allele is designated with a capital letter, and the recessive allele gets a lowercase letter—*A* and *a*, for example. We observe the dominant form of the trait whether the individual is homozygous dominant (AA) or heterozygous (Aa) for that trait.

8. Why does the writer use the phrase *‘’By convention’’* in the first sentence?

a. to introduce the next point about dominant and recessive alleles.

b. to explain that this method of designating dominant and recessive alleles is traditional.

c. to persuade readers that dominant and recessive alleles should not be designated in this way.



It is often useful to distinguish between an individual's genetic makeup and an individual's appearance. Therefore, the term **genotype** refers to the precise alleles that are present—that is, whether the individual is homozygous or heterozygous for different gene pairs. The term **phenotype**, on the other hand, refers to the observable physical traits of an individual.

9. Why does the author start this paragraph with this first sentence?

a. to emphasize that there must be a distinction between genes and appearance.

b. to provide an alternative explanation for genotypes and phenotypes.

c. to explain why we need the terms *genotype* and *phenotypes.*

Passage 2

FLOSSING

Adapted and modified from Read Theory LLC, 2012.

It is bad to have food stuck between your teeth for long periods of time. This is because food attracts germs, germs produce acid, and acid hurts your teeth and gums. Flossing helps to remove the food that gets stuck between your teeth. This explains why flossing helps to keep your mouth healthy, but some doctors say that flossing can be also good for your heart.

It may seem strange that something you do for your teeth can have any effect on your heart. Doctors have come up with a few ideas about how flossing works to keep your heart healthy. One idea is that the germs that hurt your teeth can leave the mouth and travel into your blood. Germs that get into the blood can then attack your heart. Another idea is based on the fact that when there are too many germs in your mouth, the body tries to fight against these germs. For some reason, the way the body fights these mouth germs may end up weakening the heart over time.

Not every doctor agrees about these ideas. Some doctors think that the link between good flossing habits and good heart health is only a coincidence. A coincidence is the occurrence of two or more events at one time apparently by mere chance. The incidence of these events is completely random, as they do not admit of any reliable cause and effect relationship between them. For example, every time I wash my car, it rains. This does not mean that when I wash my car, I somehow change the weather. This is only a coincidence. Likewise, some doctors think that people who have bad flossing habits just happen to also have heart problems, and people who have good flossing habits just happen to have healthy hearts.

The theory that flossing your teeth helps to keep your heart healthy might not be true. But every doctor agrees that flossing is a great way to keep your teeth healthy. So even if flossing does not help your heart, it is sure to help your teeth. This is enough of a reason for everyone to floss their teeth every day.

1.The author's purpose in writing this passage is to

a. inform the reader about the benefits flossing have in regard to the heart.

b. persuade the reader to floss her/hos teeth.

c. entertain the reader with a story about teeth.

d. inform the reader about the effects of not flossing his/her teeth.

2. Flossing effectively helps to keep your mouth healthy by preventing

a. germs from producing acid

b. food from entering your body

c. germs from entering into your blood

d. acid from contacting your teeth and gums

3. In paragraph 2, the author introduces ideas about how flossing works to keep your heart healthy. Exactly how many of these ideas does the author put forth in this paragraph?

a. 1

b. 2

c. 3

d. 4

4. Based on information in paragraph 2, it can be understood that germs in the mouth may harm your heart by

I. getting into the blood that flows to the heart

II. forcing the body to fight against too many of them

III. causing food to get stuck in the arteries

a. l only

b. I and II only

c. II and III only

d. I, II, and III

5. In paragraph 2, the author explains how having too many germs in your mouth can "end up weakening the heart." Using the passage as a guide, it can be understood that doctors are

a. reluctant to hypothesize

b. confident in their estimations

c. extremely knowledgeable

d. uncertain but speculative

6. In paragraph 3 the author writes, "Not every doctor agrees about these ideas." The author's purpose in writing this sentence is to

a. provide an example

b. introduce a new topic

c. change a previous statement

d. clarify an earlier assertion

7. What is the author's point of view toward the interdependence between having good/bad flossing habits and healthy/ unhealthy heart?

a. they have nothing to do with each other.

b. they depend on each other.

c. they depend on the person's general health.

d. they depend on the doctor's point of view.

8. Which of the following best states the main idea of the final paragraph?

a. Because doctors do not agree that flossing will help your heart, it is useless to floss.

b. It is a fact that flossing can help your heart as well as your teeth.

c. Even if flossing is only good for your teeth, you should still do it every day.

d. There is no good reason to believe that flossing will help your heart, but it is still a good idea to do it every day.

REFLECTION

This is the last part of the think aloud process. I would like you to think about all the steps you have followed through this reading supplement and answer the following question:

1. Do you consider that you really learned how to identify the author's purpose and perspective through the think aloud method and the strategies your teacher showed you? Why? / Why not?

REFERENCES

http://www.gardencity.k12.ny.us/cms/lib8/NY01913305/Centricity/Domain/721/Authors%20Purpose%20Notes%20and%20Strategies.pdf

Williams, J. & Hill, D. (2010). *Academic Connections 3.* White Plains, NY: Pearson Longman.

http://www.kevinmd.com/blog/2017/07/trauma-doctors-bullying.html

APPENDIX 3

PRETEST- JUNE 23rd

57:17

INSTITUTO DE IDIOMAS	PREGRADO ENGLISH PROGRAM PRE / POST READING TEST EHS3	UNIVERSIDAD DEL NORTE

Student's name: Michelle Vasquez **Date:** 23/06 **Score:** 8/19

The following test is intended to get to know your ability to understand medical texts by answering inference questions. Results won't affect your grade in this English course as this test was elaborated for research endeavors only. ***You are not allowed to ask any questions during the exam.***

Directions: Read the passages. Then answer the questions below.

Passage 1

Adapted from Read Theory LLC, 2012.

The word *euthanasia* is of Greek origin and literally means "a good death." The American Heritage Dictionary defines it as "the act of killing a person painlessly for reasons of mercy." Such killing can be done through active means, such as administering a lethal injection, or by passive means, such as withholding medical care or food and water.

In recent years in the United States, there have been numerous cases of active euthanasia in the news. They usually involve the deliberate killing of ill or incapacitated persons by relatives or friends who plead that they can no longer bear to see their loved ones suffer. Although such killings are a crime, the perpetrators are often dealt with leniently by our legal system, and the media usually portrays them as compassionate heroes who take personal risks to save another from unbearable suffering.

The seeming acceptance of active forms of euthanasia is alarming, but we face a bigger, **more insidious** threat from passive forms of euthanasia. Every year, in hospitals and nursing homes around the country, there are growing numbers of documented deaths caused by caregivers **withholding life-sustaining care**, including food and water, from vulnerable patients who cannot speak for themselves.

While it is illegal to kill someone directly, for example with a gun or knife, in many cases the law has put its stamp of approval on causing death by omitting needed care. Further, many states have "living will" laws designed to protect those who withhold treatment, and there have been numerous court rulings which have approved of patients being denied care and even starved and dehydrated to death. Because such deaths occur quietly within the confines of hospitals and nursing homes, they can be kept hidden from the public. Most euthanasia victims are old or

very ill, so their deaths might be attributed to a cause other than the denial of care that really killed them. Further, it is often relatives of the patient who request that care be withheld. In one court case, the court held that decisions to withhold life-sustaining care may be made not only by close family members but also by a number of third parties, and that such decisions need not be reviewed by the judicial system if there is no disagreement between decision makers and medical staff. The court went so far as to rule that a nursing home may not refuse to participate in the fatal withdrawal of food and water from an incompetent patient!

"Extraordinary" or "heroic" treatment need not be used when the chance for recovery is poor and medical intervention would serve only to prolong the dying process. But to deny customary and reasonable care or to deliberately starve or dehydrate someone because he or she is very old or very ill should not be permitted. Most of the cases coming before the courts do not involve withholding heroic measures from imminently dying people, but rather they seek approval for denying basic care, such as administration of food and water, to people who are not elderly or terminally ill, but who are permanently incapacitated. These people could be expected to live indefinitely, though in an impaired state, if they were given food and water and minimal treatment.

No one has the right to judge that another's life is not worth living. The basic right to life should not be **abridged** because someone decides that someone else's quality of life is too low. If we base the right to life on quality of life standards, there is no logical place to draw the line.

To protect vulnerable patients, we must foster more positive attitudes towards people with serious and incapacitating illnesses and conditions. **Despite the ravages of their diseases, they are still our fellow human beings and deserve our care and respect.** We must also enact positive legislation that will protect vulnerable people from those who consider their lives meaningless or too costly to maintain and who would cause their deaths by withholding life-sustaining care such as food and water.

1) The tone of the author can best be described as

A. pleading
B. argumentative
C. compassionate
D. emphatic
E. empathetic

2) In paragraph 3, the author finds starvation and dehydration induced euthanasia is to be "more insidious" because

A. euthanasia is legally considered to be a criminal act
B. the public's attitude toward euthanasia is becoming more positive
C. it often involves those who cannot protest
D. the patient has asked to die with dignity
E. its perpetrators are viewed as kindly caregivers

3) As used in paragraph 3, what is the best synonym for **insidious**?

A. mischievous
B. treacherous
C. seductive
D. apparent
E. cumulative

4) The author maintains that death by withholding care is

A. largely confined to hospitals
B. largely confined to the terminally ill
C. often requested by family members
D. approved by living wills
E. difficult to prove if prosecuted

5) As used in paragraph 7, which is the best definition of **abridged**?

A. trimmed
B. curtailed
C. lengthened
D. extended
E. compressed

6) Using the passage as a guide, it can be inferred that the author would find euthanasia less objectionable in cases in which

I. the patient's death is imminent
II. the patient has left instructions in a living will not to provide care
III. the patient refuses to accept nourishment

A. I only
B. II only
C. I and II only
D. II and III only
E. I, II and III

7) The main idea of paragraph 7 is that

A. lawyers will be unable to prosecute or defend caregivers
B. no comprehensive right or wrong definition of euthanasia will exist
C. using a subjective standard will make the decision to end an individual's life arbitrary
D. no boundary will exist between euthanasia and care omission
E. 'quality of life' will no longer be able to be rigidly defined

8) In the final paragraph the author writes, "Despite the ravages of their diseases, they are still our fellow human beings and deserve our care and respect." The main purpose of this statement is to

A. prove a previous argument
B. illustrate an example
C. gainsay a later statement
D. object to a larger idea
E. justify an earlier statement

Passage 2

History of the Chickenpox Vaccine

Adapted and modified from
https://toefl.magoosh.com/answers/160058435?review%5Bafter%5D=2017-06-22+09%3A44%3A54+-0500&review%5Bexam_section_ids%5D%5B%5D=89

Chickenpox is a highly contagious infectious disease caused by the *Varicella zoster* virus; sufferers develop a fleeting itchy rash that can spread throughout the body. The disease can last for up to 14 days and can occur in both children and adults, though the young are particularly vulnerable. Individuals infected with chickenpox can expect to experience a high but tolerable level of discomfort and a fever as the disease works its way through the system. **The ailment was once considered to be a "rite of passage" by parents in the U.S. and thought to provide children with greater and improved immunity to other forms of sickness later in life.** This view, however, was altered after additional research by scientists demonstrated unexpected dangers associated with the virus. Over time, the fruits of this research have transformed attitudes toward the disease and the utility of seeking preemptive measures against it.

A vaccine against chickenpox was originally invented by Michiaki Takahashi, a Japanese doctor and research scientist, in the mid-1960s. Dr. Takahashi began his work to isolate and grow the virus in 1965 and in 1972 began clinical trials with a live but weakened form of the virus that caused the human body to create antibodies. Japan and several other countries began widespread chickenpox vaccination programs in 1974. However, it took over 20 years for the chickenpox vaccine to be approved by the U.S. Food & Drug Administration (FDA), finally earning the U.S. government's seal of approval for widespread use in 1995. Yet even though the chickenpox vaccine was available and recommended by the FDA, parents did not immediately choose to vaccinate their children against this disease. Mothers and fathers typically cited the **notion** that chickenpox did not constitute a serious enough disease against which a person needed to be vaccinated.

Strong belief in that view eroded when scientists discovered the link between *Varicella zoster*, the virus that causes chickenpox, and shingles, a far more serious, harmful, and longer-lasting disease in older adults that impacts the nervous system. They reached the conclusion that *Varicella zoster* remains dormant inside the body, making it significantly more likely for someone to develop shingles. As a result, the medical community in the U.S. encouraged the development, adoption, and use of a vaccine against chickenpox to the public. Although the appearance of chickenpox and shingles within one person can be

many years apart—generally many decades—the increased risk in developing shingles as a younger adult (30-40 years old rather than 60-70 years old) proved to be enough to convince the medical community that immunization should be preferred to the traditional alternative.

Another reason that the chickenpox vaccine was not immediately accepted and used by parents in the U.S. centered on observations made by scientists that the vaccine simply did not last long enough and did not confer a lifetime of immunity. In other words, scientists considered the benefits of the vaccine to be temporary when given to young children. They also feared that it increased the odds that a person could become infected with chickenpox later as a young adult, when the rash is more painful and **prevalent** and can last up to three or four weeks. Hence, allowing young children to develop chickenpox rather than take a vaccine against it was believed to be the "lesser of two evils." This idea changed over time as **booster shots** of the vaccine elongated immunity and **countered** the perceived limits on the strength of the vaccine itself.

Today, use of the chickenpox vaccine is common throughout the world. Pediatricians suggest an initial vaccination shot after a child turns one year old, with booster shots recommended after the child turns eight. The vaccine is estimated to be up to 90% effective and has reduced worldwide cases of chickenpox infection to 400,000 cases per year from over 4,000,000 cases before vaccination became widespread. In light of such statistics, most doctors insist that the potential risks of developing shingles outweigh the benefits of avoiding rare complications associated with inoculations. Of course, many parents continue to think of the disease as an innocuous ailment, refusing to take preemptive steps against it. As increasing numbers of children are vaccinated and the virus becomes increasingly rarer, however, even this trend among parents has failed to halt the decline of chickenpox among the most vulnerable populations.

1) According to the paragraph 1, which of the following is true of the chickenpox virus?

A. It leads to a potentially deadly disease in adults.
B. It is associated with a possibly permanent rash.
C. It is easily transmittable by an infected individual.
D. It has been virtually eradicated in the modern world.

2) Which of the following best expresses the essential information in the highlighted sentence? Incorrect answer choices change the meaning in important ways or leave out essential information.

A. U.S. parents believed that having chickenpox benefited their children.
B. U.S. parents confirmed that chickenpox led to immunity against most sickness.
C. U.S. parents wanted to make sure that their children developed chickenpox.
D. U.S. parents did not think that other vaccinations were needed after chickenpox.

3) Which of the following can be inferred from paragraph 2 about the clinical trials for the chickenpox vaccine?

A. They took longer than expected.
B. They cost a lot of money to complete.
C. They took a long time to finish.
D. They were ultimately successful.

4) The word **notion** in the passage is closest in meaning to

A. history
B. findings
C. fact
D. belief

5) According to paragraph 3, which of the following is true of Varicella Zoster?

A. It typically attacks adults who are over 60 years old.
B. It is linked to a serious disease that occurs more commonly in adults.
C. It likely is not a serious enough threat to human health to require a vaccine.
D. It is completely eradicated from the body after chickenpox occurs.

6) The word **prevalent** in the passage is closest in meaning to

A. dangerous
B. widespread
C. infectious
D. contaminated

7) The author uses **booster shots** as an example of

A. a scientifically approved medicine to eliminate chickenpox
B. a preferred method of chickenpox rash and fever treatment
C. a way to increase the effectiveness of the chickenpox vaccine
D. a strategy for parents to avoid vaccinating their child altogether

8) The word **countered** in the passage is closest in meaning to

A. affirmed
B. refuted
C. supported
D. defied

9) According to paragraph 4, many parents did not choose the chickenpox vaccine because

A. they believed that the virus was weak and not especially harmful
B. they thought that scientists did not have enough data to reach a conclusion
C. they were unsure about the utility of the vaccine given its expected duration
D. they were convinced it was potentially very toxic, particularly for older children

APPENDIX 4

POSTTEST- JULY 10th

00:21 Sc

INSTITUTO DE IDIOMAS	PREGRADO ENGLISH PROGRAM PRE / POST READING TEST EHS3	UNIVERSIDAD DEL NORTE

Student's name: Micaelle Ruiz **Date:** 10/07/12 **Score:** 8/10

The following test is intended to get to know your ability to understand medical texts by answering inference questions. Results won't affect your grade in this English course as this test was elaborated for research endeavors only. ***You are not allowed to ask any questions during the exam.***

Directions: Read the passages. Then answer the questions below.

Passage 1

Adapted from Read Theory LLC, 2012.

The word *euthanasia* is of Greek origin and literally means "a good death." The American Heritage Dictionary defines it as "the act of killing a person painlessly for reasons of mercy." Such killing can be done through active means, such as administering a lethal injection, or by passive means, such as withholding medical care or food and water.

In recent years in the United States, there have been numerous cases of active euthanasia in the news. They usually involve the deliberate killing of ill or incapacitated persons by relatives or friends who plead that they can no longer bear to see their loved ones suffer. Although such killings are a crime, the perpetrators are often dealt with leniently by our legal system, and the media usually portrays them as compassionate heroes who take personal risks to save another from unbearable suffering.

The seeming acceptance of active forms of euthanasia is alarming, but we face a bigger, **more insidious** threat from passive forms of euthanasia. Every year, in hospitals and nursing homes around the country, there are growing numbers of documented deaths caused by caregivers **withholding life-sustaining care**, including food and water, from vulnerable patients who cannot speak for themselves.

While it is illegal to kill someone directly, for example with a gun or knife, in many cases the law has put its stamp of approval on causing death by omitting needed care. Further, many states have "living will" laws designed to protect those who withhold treatment, and there have been numerous court rulings which have approved of patients being denied care and even starved and dehydrated to death. Because such deaths occur quietly within the confines of hospitals and nursing homes, they can be kept hidden from the public. Most euthanasia victims are old or

very ill, so their deaths might be attributed to a cause other than the denial of care that really killed them. Further, it is often relatives of the patient who request that care be withheld. In one court case, the court held that decisions to withhold life-sustaining care may be made not only by close family members but also by a number of third parties, and that such decisions need not be reviewed by the judicial system if there is no disagreement between decision makers and medical staff. The court went so far as to rule that a nursing home may not refuse to participate in the fatal withdrawal of food and water from an incompetent patient!

"Extraordinary" or "heroic" treatment need not be used when the chance for recovery is poor and medical intervention would serve only to prolong the dying process. But to deny customary and reasonable care or to deliberately starve or dehydrate someone because he or she is very old or very ill should not be permitted. Most of the cases coming before the courts do not involve withholding heroic measures from imminently dying people, but rather they seek approval for denying basic care, such as administration of food and water, to people who are not elderly or terminally ill, but who are permanently incapacitated. These people could be expected to live indefinitely, though in an impaired state, if they were given food and water and minimal treatment.

No one has the right to judge that another's life is not worth living. The basic right to life should not be **abridged** because someone decides that someone else's quality of life is too low. If we base the right to life on quality of life standards, there is no logical place to draw the line.

To protect vulnerable patients, we must foster more positive attitudes towards people with serious and incapacitating illnesses and conditions. **Despite the ravages of their diseases, they are still our fellow human beings and deserve our care and respect.** We must also enact positive legislation that will protect vulnerable people from those who consider their lives meaningless or too costly to maintain and who would cause their deaths by withholding life-sustaining care such as food and water.

1) The tone of the author can best be described as

A. pleading
B. argumentative
C. compassionate
D. emphatic
E. empathetic

2) In paragraph 3, the author finds starvation and dehydration induced euthanasia is to be "more insidious" because

A. euthanasia is legally considered to be a criminal act
B. the public's attitude toward euthanasia is becoming more positive
C. it often involves those who cannot protest
D. the patient has asked to die with dignity
E. its perpetrators are viewed as kindly caregivers

3) As used in paragraph 3, what is the best synonym for **insidious**?

A. mischievous
B. treacherous
C. seductive
D. apparent
E. cumulative

4) The author maintains that death by withholding care is

A. largely confined to hospitals
B. largely confined to the terminally ill
C. often requested by family members
D. approved by living wills
E. difficult to prove if prosecuted

5) As used in paragraph 7, which is the best definition of **abridged**?

A. trimmed
B. curtailed
C. lengthened
D. extended
E. compressed

6) Using the passage as a guide, it can be inferred that the author would find euthanasia less objectionable in cases in which

I. the patient's death is imminent
II. the patient has left instructions in a living will not to provide care
III. the patient refuses to accept nourishment

A. I only
B. II only
C. I and II only
D. II and III only
E. I, II and III

7) The main idea of paragraph 7 is that

A. lawyers will be unable to prosecute or defend caregivers
B. no comprehensive right or wrong definition of euthanasia will exist
C. using a subjective standard will make the decision to end an individual's life arbitrary
D. no boundary will exist between euthanasia and care omission
E. 'quality of life' will no longer be able to be rigidly defined

8) In the final paragraph the author writes, "Despite the ravages of their diseases, they are still our fellow human beings and deserve our care and respect." The main purpose of this statement is to

A. prove a previous argument
B. illustrate an example
C. gainsay a later statement
D. object to a larger idea
E. justify an earlier statement

Passage 2

History of the Chickenpox Vaccine

Adapted and modified from
https://toefl.magoosh.com/answers/160058435?review%5Bafter%5D=2017-06-22+09%3A44%3A54+-0500&review%5Bexam_section_ids%5D%5B%5D=89

Chickenpox is a highly contagious infectious disease caused by the *Varicella zoster* virus; sufferers develop a fleeting itchy rash that can spread throughout the body. The disease can last for up to 14 days and can occur in both children and adults, though the young are particularly vulnerable. Individuals infected with chickenpox can expect to experience a high but tolerable level of discomfort and a fever as the disease works its way through the system. **The ailment was once considered to be a "rite of passage" by parents in the U.S. and thought to provide children with greater and improved immunity to other forms of sickness later in life.** This view, however, was altered after additional research by scientists demonstrated unexpected dangers associated with the virus. Over time, the fruits of this research have transformed attitudes toward the disease and the utility of seeking preemptive measures against it.

A vaccine against chickenpox was originally invented by Michiaki Takahashi, a Japanese doctor and research scientist, in the mid-1960s. Dr. Takahashi began his work to isolate and grow the virus in 1965 and in 1972 began clinical trials with a live but weakened form of the virus that caused the human body to create antibodies. Japan and several other countries began widespread chickenpox vaccination programs in 1974. However, it took over 20 years for the chickenpox vaccine to be approved by the U.S. Food & Drug Administration (FDA), finally earning the U.S. government's seal of approval for widespread use in 1995. Yet even though the chickenpox vaccine was available and recommended by the FDA, parents did not immediately choose to vaccinate their children against this disease. Mothers and fathers typically cited the **notion** that chickenpox did not constitute a serious enough disease against which a person needed to be vaccinated.

Strong belief in that view eroded when scientists discovered the link between *Varicella zoster*, the virus that causes chickenpox, and shingles, a far more serious, harmful, and longer-lasting disease in older adults that impacts the nervous system. They reached the conclusion that *Varicella zoster* remains dormant inside the body, making it significantly more likely for someone to develop shingles. As a result, the medical community in the U.S. encouraged the development, adoption, and use of a vaccine against chickenpox to the public. Although the appearance of chickenpox and shingles within one person can be

many years apart—generally many decades—the increased risk in developing shingles as a younger adult (30-40 years old rather than 60-70 years old) proved to be enough to convince the medical community that immunization should be preferred to the traditional alternative.

Another reason that the chickenpox vaccine was not immediately accepted and used by parents in the U.S. centered on observations made by scientists that the vaccine simply did not last long enough and did not confer a lifetime of immunity. In other words, scientists considered the benefits of the vaccine to be temporary when given to young children. They also feared that it increased the odds that a person could become infected with chickenpox later as a young adult, when the rash is more painful and **prevalent** and can last up to three or four weeks. Hence, allowing young children to develop chickenpox rather than take a vaccine against it was believed to be the "lesser of two evils." This idea changed over time as **booster shots** of the vaccine elongated immunity and **countered** the perceived limits on the strength of the vaccine itself.

Today, use of the chickenpox vaccine is common throughout the world. Pediatricians suggest an initial vaccination shot after a child turns one year old, with booster shots recommended after the child turns eight. The vaccine is estimated to be up to 90% effective and has reduced worldwide cases of chickenpox infection to 400,000 cases per year from over 4,000,000 cases before vaccination became widespread. In light of such statistics, most doctors insist that the potential risks of developing shingles outweigh the benefits of avoiding rare complications associated with inoculations. Of course, many parents continue to think of the disease as an innocuous ailment, refusing to take preemptive steps against it. As increasing numbers of children are vaccinated and the virus becomes increasingly rarer, however, even this trend among parents has failed to halt the decline of chickenpox among the most vulnerable populations.

1) According to the paragraph 1, which of the following is true of the chickenpox virus?

A. It leads to a potentially deadly disease in adults.
B. It is associated with a possibly permanent rash.
C. It is easily transmittable by an infected individual.
D. It has been virtually eradicated in the modern world.

2) Which of the following best expresses the essential information in the highlighted sentence? Incorrect answer choices change the meaning in important ways or leave out essential information.

A. U.S. parents believed that having chickenpox benefited their children.
B. U.S. parents confirmed that chickenpox led to immunity against most sickness.
C. U.S. parents wanted to make sure that their children developed chickenpox.
D. U.S. parents did not think that other vaccinations were needed after chickenpox.

3) Which of the following can be inferred from paragraph 2 about the clinical trials for the chickenpox vaccine?

A. They took longer than expected.
B. They cost a lot of money to complete.
C. They took a long time to finish.
D. They were ultimately successful.

4) The word **notion** in the passage is closest in meaning to

A. history
B. findings
C. fact
D. belief

5) According to paragraph 3, which of the following is true of Varicella Zoster?

A. It typically attacks adults who are over 60 years old.
B. It is linked to a serious disease that occurs more commonly in adults.
C. It likely is not a serious enough threat to human health to require a vaccine.
D. It is completely eradicated from the body after chickenpox occurs.

6) The word **prevalent** in the passage is closest in meaning to

A. dangerous
B. widespread
C. infectious
D. contaminated

7) The author uses **booster shots** as an example of

A. a scientifically approved medicine to eliminate chickenpox
B. a preferred method of chickenpox rash and fever treatment
C. a way to increase the effectiveness of the chickenpox vaccine
D. a strategy for parents to avoid vaccinating their child altogether

8) The word **countered** in the passage is closest in meaning to

A. affirmed
B. refuted
C. supported
D. defied

9) According to paragraph 4, many parents did not choose the chickenpox vaccine because

A. they believed that the virus was weak and not especially harmful
B. they thought that scientists did not have enough data to reach a conclusion
C. they were unsure about the utility of the vaccine given its expected duration
D. they were convinced it was potentially very toxic, particularly for older children

APPENDIX 5

GRADE ANALYSIS -READING TEST 1 (INFERENCE MAKING)

3,5

INSTITUTO DE IDIOMAS	PREGRADO ENGLISH PROGRAM EHS3 Reading Test 1 201720	UNIVERSIDAD DEL NORTE

STUDENT´S NAME: Angie Altamar **Date:** June 28th **Score:** 14 /20

I. Read the passage below and answer the inference questions.

Passage 1 **(10 points. 2 each)**

CONCUSSIONS

Adapted and modified from Read Theory LLC, 2012.

Concussions are brain injuries that occur when a person receives a blow to the head, face, or neck. Although most people who suffer a concussion experience initial bouts of dizziness, nausea, and drowsiness, these symptoms often disappear after a few days. The long-term effects of concussions, however, are less understood and far more severe. Recent studies suggest that people who suffer multiple concussions are at significant risk for developing chronic traumatic encephalopathy (CTE), a degenerative brain disorder that causes a variety of dangerous mental and emotional problems to arise weeks, months, or even years after the initial injury. These psychological problems can include depression, anxiety, memory loss, inability to concentrate, and aggression. In extreme cases, people suffering from CTE have even committed suicide or homicide. The majority of people who develop these issues are athletes who participate in popular high-impact sports, especially football. Although new sports regulations and improvements in helmet technology can help protect players, amateur leagues, the sports media, and fans all bear some of the responsibility for reducing the incidence of these devastating injuries. Improvements in diagnostic technology have provided substantial evidence to link severe—and often fatal—psychological disorders to the head injuries that players receive while on the field. Recent autopsies performed on the brains of football players who have committed suicide have shown advanced cases of CTE in every single victim.

In response to the growing understanding of this danger, the National Football League (NFL) has revised its safety regulations. Players who have suffered a head injury on the field must undergo a "concussion sideline assessment"—a series of mental and physical fitness tests—before being allowed back in the game. In an effort to diminish the amount of head and neck injuries on the field, NFL officials began enforcing stricter penalty calls for helmet-to-helmet contact, leading with the head, and hitting a defenseless player. Furthermore, as of 2010, if a player's helmet is accidentally wrenched from his head during play, the ball is immediately whistled dead. It is hoped that these new regulations, coupled

with advances in helmet design, will reduce the number of concussions, and thus curb further cases of CTE.

Efforts by the NFL and other professional sports leagues are certainly **laudable**; we should commend every attempt to protect the mental and physical health of players. However, new regulations at the professional level cannot protect amateur players, especially young people. Fatal cases of CTE have been reported in victims as young as 21. Proper tackling form—using the arms and shoulders to aim for a player's midsection—should be taught at an early age. Youth, high school, and college leagues should also adopt safety rules even more stringent than those of the NFL. Furthermore, young athletes should be educated about the serious dangers of head injuries at an early age.

Perhaps the most important factor in reducing the number of traumatic brain injuries, however, lies not with the players, the coaches, or the administrators, but with the media and fans. Sports media producers have become accustomed to showcasing the most aggressive tackles and the most intense plays. NFL broadcasts often replay especially violent collisions while the commentators marvel at the players' physical prowess. **Some sports highlights television programs** even feature weekly countdowns of the "hardest hits." When the media **exalts** such dangerous behavior, professionals are rewarded for injuring each other on the field and amateurs become more likely to try to imitate their favorite NFL athletes. Announcers, commentators, television producers, and sportswriters should engage in a collective effort to cease glorifying brutal plays. In turn, fans should stop expecting their favorite players to put their lives on the line for the purposes of entertainment. Players must not be encouraged to trade their careers, their health, their happiness, and even their lives for the sake of a game.

1. Based on information in the passage, it can be inferred that all of the following statements are true except

A. tackling is not always dangerous; however, players who use improper tackling form may injure others.
B. scientists have established a definitive link between players who die untimely deaths and the onset of CTE.
C. NFL officials have done little to address the problem of CTE.
D. D. athletes who are praised for exceptionally brutal hits are likely to continue engaging in such dangerous behavior.
E. the NFL has done more to mitigate future cases of CTE than youth, high school, or college leagues have done.

2. From the passage, it can be deduced that the factor that contributes to the incidence of CTE in amateur players is

I. inconsistent application of safety regulations for all levels

II. lack of education about the dangers of head injuries

III. amateur players' desire to imitate professionals

A. I only

B. II only

C. I and II only

D. II and III only

E. I, II, and III

3. As used in paragraph 3, the word <u>laudable</u> most likely means

A. praiseworthy

B. ineffectual

C. memorable

D. audacious

E. satisfactory

4. As used in the final paragraph, it can be implied that the best <u>antonym</u> for <u>exalts</u> is

A. mitigates

B. venerates

C. mollifies

D. expedites

E. castigates

5. In the final paragraph, it can be inferred that the phrase "sports highlights television programs" is an example of how

I. the media glorifies violence

II. amateurs learn to mimic professional athletes

III. professional athletes gain approval

A. I only

B. II only

C. I and II only

D. II and III only

E. I, II, and III

II. Read the passage below and answer the inference questions.

Passage 2 **(10 points. 2 each)**

AUTISM

Adapted and modified from Read Theory LLC, 2012.

Autism spectrum disorders (ASD) are a range of psychological conditions characterized by abnormalities in social interaction, behavior, interests, and communication. The five forms of ASD include classical autism, Asperger syndrome, Pervasive Developmental Disorder, Rett syndrome, and Childhood Disintegrative Disorder. Although the number of reported cases of ASD has experienced a dramatic increase in the past 25 years, the majority of doctors agree that this increase is due to changes in diagnostic practices and advances in the understanding of psychiatric health. While there is no general consensus among medical professionals about the underlying causes of ASD, theories range from genetic inheritance to environmental factors. One of the most controversial theories to have emerged in recent times is the hypothesis that ASD could be caused by the MMR vaccine, which is an immunization against measles, mumps, and rubella that was first developed in the 1960's. The vaccine is a mixture of three live viruses and is administered via injection to children when they are one year old. By the late 1990's, this vaccination had led to the near-eradication of measles in countries that employed widespread inoculation. However, a combination of **spurious** scientific data and alarmist media attention led to an entirely preventable resurgence in measles cases in the early 21st century.

The first claims of a connection between the MMR vaccine and autism were made in 1998, when an article in The Lancet, a respected British medical journal, reported on eight cases of autism that could possibly be traced back to the administration of an MMR vaccine. The parents of the children in this study contended that the symptoms of autism in their children developed within days of vaccination. During a press conference, Andrew Wakefield, one of the authors of the article, called on British doctors to stop giving combined MMR vaccines, instead advocating for individual inoculations against measles, mumps, and rubella.

Following the publication of this article, Wakefield published several follow-up papers that further questioned the safety of the MMR vaccine. An onslaught of media coverage then began. Parents appeared on television sharing anecdotal evidence linking their child's inoculation to the onset of ASD. The popular press quickly seized upon this story; in 2002, over 1200 articles were written about the link between MMR vaccines and ASD. Less than 30% of these articles mentioned that an overwhelming amount of scientific evidence suggested that these vaccinations were completely safe.

Since the initial panic, fears that MMR vaccines cause ASD have generally subsided. A survey completed in 2004 showed that only 2% of people in the United Kingdom thought that there was a legitimate link between MMR vaccines and ASD. Fears were most likely allayed when, in 2004, an investigative reporter discovered that Andrew Wakefield had received a large sum of money from lawyers seeking evidence to use in cases against vaccine manufacturers. It was then discovered that Wakefield had applied for patents on an alternate MMR vaccine. These severe **conflicts of interest** damaged the credibility of Wakefield's study beyond repair. In 2010, Wakefield was tried by Britain's General Medical Council under allegations that he had falsified data and manipulated test results. The Council found that Wakefield had acted "dishonestly and irresponsibly," and consequently The Lancet officially retracted Wakefield's 1998 article.

The anti-MMR vaccine panic that arose immediately after Wakefield's article was published had a significant negative effect on the health of thousands of children. Once the controversy began, the number of parents in the United Kingdom who inoculated their children with the MMR vaccine experienced a sharp decline. Not surprisingly, the number of reported cases of measles increased; while there were only 56 confirmed cases of measles in the UK in 1998; in 2008 there were over 1300. Between 2002 and 2008, there were outbreaks of measles throughout Europe and North America. These outbreaks cost millions of dollars in health care and resulted in the deaths of dozens of children and adults with compromised immune systems.

Who is to blame for these deaths? It is easy to hold Andrew Wakefield accountable, but the media must also bear some of the responsibility. The media's appetite for a sensational medical story overshadowed the fact that there was very little scientific evidence behind Wakefield's claim. Although Wakefield is certainly not the first person to publish fraudulent scientific findings in a respected medical journal, the magnitude of this event was **anomalous**, as most medical hoaxes are discredited before they can reach the popular media. While The Lancet should not have published Wakefield's article without checking it thoroughly, the popular media should not have blown the study out of proportion without fully considering the consequences.

1. It can be assumed that the primary purpose of the passage is to

A. warn parents about the dangers of not vaccinating their children against measles.

B. criticize The Lancet for publishing Wakefield's article without vetting it more thoroughly.

C. provide an overview of the MMR vaccine controversy, including its consequences and responsible parties.

D. inform readers about the history of the MMR vaccine, especially in the U.S. and the UK.

E. blame parents who believed alarmist media reports for the measles outbreaks.

2. As used in paragraph 1, it can be implied that the best antonym for spurious is

A. false

B. safe

C. clear

D. necessary

E. legitimate

3. The statement that best summarizes the author's explanation for the increase in reported cases of ASD over the past 25 years most likely is

A. Over the past 25 years, parents have been more likely to have their young children inoculated against MMR.

B. Since the results of Wakefield's study were published, parents have been less likely to have their young children inoculated against MMR.

C. In the past 25 years, doctors have developed a better understanding of genetics, which is thought to be the leading factor in whether or not a child will develop ASD.

D. The drastic changes in our environment that have occurred over the past 25 years have most significantly contributed to an increase in cases of ASD.

E. The increase in reported cases of ASD is mainly the result of an increased understanding of how to recognize ASD.

4. Based on its use in paragraph 4, it can be inferred that the phrase "conflicts of interest" means situations in which people

A. unethically accept large sums of money

B. have interests that fail to accord with those of the mainstream media

C. falsify data and manipulate test results

D. have personal interests that threaten their official objectivity

E. stand to gain financially through illegal means

5. As used in paragraph 6, it can be assumed that the best synonym for anomalous is

A. timely

B. calamitous

C. abnormal

D. unacceptable

E. coincidental

APPENDIX 6

GRADE ANALYSIS - READING TEST 2 (AUTHOR'S PURPOSE)

INSTITUTO DE IDIOMAS | PREGRADO ENGLISH PROGRAM
EHS3 Reading Test 2
201720 | UNIVERSIDAD DEL NORTE

STUDENT'S NAME: Karol Tatiana Carrero Pora Date: 06/07/17 Score: 30/30

5,0

Read the following passages and answer the questions below. (20 points, 2 each)

Scared of clinical trials? 5 reasons to not be.

Adapted and modified from medpageToday's

BY STEPHANIE GRAFF, MD | PHYSICIAN | JULY 2, 2017

I see more and more patients decline to participate in clinical trials. **Simultaneously**, I hear patient advocates on the national stage clamoring for better trial access. Why the disconnect?

Let's explore 5 reasons why clinical trial participation is right for you:

1. ***The smartest minds in medicine designed this for you.*** Clinical trials are not designed by one doctor on the fly. Most oncology drugs have been studied for at least six years prior to entering clinical trial. There are a number of drugs that have proven track records in other diseases or other stages of the same disease. Trial design includes a large collection of many of the brightest minds in medicine — nationally recognized physician thought leaders, pharmaceutical industry pioneers, large collaborative international work groups and experienced regulatory oversight. Trials compare head-to-head two (or more) therapy options. Those options include the current standard **(which is sometimes studied by observation)** vs. an experimental option we think might be better. If we didn't think the experimental arm had a chance to improve outcomes — the trial would never happen.

2. ***You trust your physician.*** When your doctor agreed to open this trial at your facility, he/she carefully reviewed the experimental medicine and the background science in careful detail. They agreed the trial is a valid option for treatment regardless of which arm of the study you are randomized to. It is why they are offering it to you in particular. Your physician believes the trial is a great option. **Put your trust in their recommendation.**

3. ***Institutional Review Boards that protect your rights.*** An institutional review board (IRB) is an independent body designated to evaluate and monitor all clinical research at your hospital/health system to protect the rights and welfare of human research subjects. The process is unique to trials and doesn't exist in standard practice. **There is no independent group of people reviewing your care and watching out for your best interest unless you are on a clinical trial.** The review boards were established **as a result** of research abuses that occurred in the 20th century. They ensure clinical trials are conducted both ethically and safely for all participants.

4. **Science needs this.** Trial participation is **altruistic.** There may or may not be benefits to you, but the trial results will significantly benefit patients that come after you because it helps us to see what is working and what is not. Science needs this. The only hope to find cures is to have more patients enrolling in trials. Trials are often widely criticized for not having enough gender, age, race, geographic or socioeconomic diversity. Every

news release you see about a new promising therapy, every news story about a new miracle was made possible by clinical trial participants just like you.

5. Kids are doing it. Only 5 percent of adults with cancer are participating in clinical trials. Yet we hear regular clamor about "finding a cure" and "fighting cancer." We fight with knowledge. We fight with science. And, do you know who has demonstrated that most eloquently? Children. Childhood cancer survival rates far exceed cancer survival rates in adults. 60 percent of children with cancer are treated on clinical trial. **Coincidence? I don't think so.**

1. What was the author's purpose for writing this article?

a. to criticize readers for not supporting clinical trials.

b. to inform readers about the phases of critical trials.

c. to persuade readers to volunteer for clinical trials.

d. to entertain readers with a story about clinical trials.

2. The author's tone is

a. humorous.

b. critical.

c. hopeful.

d. enthusiastic

3.Why did the writer use the sentence ''Simultaneously, I hear patients advocate on national stage clamoring for better trial access'' in the first line of the article?

a. to condemn patients for quitting clinical trials.

b. to contrast patients' desire for clinical trials.

c. to convince patients to ask the government for better clinical trials.

d. to support patients who quit clinical trials.

4. Why is the phrase (paragraph 1) ''which is sometimes studied by observation'' in parentheses?

a. to provide an alternative explanation about how clinical trials are compared.

b. to provide another alternative for patient's clinical trials.

c. to provide information that contradicts clinical trials procedures.

d. to provide an alternative explanation about one way to analyze clinical trials in current standard.

5. Why did the author write in paragraph 2 ''put your trust in their recommendation''?

a. to show that doctors trust their patients.

b. to support doctors when recommending clinical trials.

c. to advocate patients' decision for not participating in clinical trials.

d. to criticize patients who don't trust doctors.

6. The writer used the phrase ''as a result'' in paragraph 3 to

a. explain the functions of review boards.

b. show how review boards work.

c. explain why review boards were created.

d. provide more information review board rules.

7. Why did the author say in paragraph 3 ''there is no independent group of people reviewing your care and watching out for your best interest unless you are on a clinical trial''?

a. to show that review boards are the only people who care about patients.

b. to show that review boards are the only entity that warrantees patients are safe while participating in clinical trials.

c. to show that doctors don't care about patients who don't want to participate in clinical trials.

d. to show that patients have to accept clinical trials to get their medication.

8.Why did the writer use the word ''altruistic'' in paragraph 4?

a. to indicate that participating in clinical trials is a generous action.

b. to show that participating in clinical trials is a selfish action.

c. to demonstrate that participating in clinical trials is an unsacrificing action.

d. to show that participating in clinical trials is an uncharitable action.

9. In paragraph 5, why did the author say ''kids are doing it''?

a. to show that kids aren't scared of clinical trials.

b. to demonstrate that kids are brave and adults are coward.

c. to indicate that kids are better than adults.

d. to suggest that adult patients should participate in clinical trials just as kids do.

10. Why did the writer say in paragraph 5 ''coincidence, I don't think so''?

a. to suggest that it is a miracle that kids with cancer survive more than adults.

b. to criticize adults who don't participate in clinical trials.

c. to suggest that adults who participate in clinical trials live less than kids who also participate in it.

d. to suggest that adults with cancer might have the same survival opportunities as kids if they participate in clinical trials.

Read the following passages and answer the questions below. (10 points, 2 each).

LEECH

1 **Biology**

Leeches are a kind of worm[1] from one millimeter to five centimeters long. They live all over the world. In general, leeches live in lakes and rivers. There are 650 kinds of leeches in the world. Only one kind is used in medicine. They are called medicinal leeches.

2 Medicinal leeches live on the blood of other animals. They have suckers[2] at both ends—one for feeding and one for holding on. Their saliva has three special chemicals that help them drink the blood. One is an anesthetic[3], which allows the leech to feed without hurting the animal. The second chemical makes the veins open wide, and the third makes the blood flow from the veins for a long time.

3 A medicinal leech will drink 10 to 15 milliliters of blood at one time. This takes about 45 minutes. After the leech is full, it falls off. The bite will still bleed for another 24 hours because of the chemicals from its saliva.

4 **History** Leeches have been used in medicine for over 3,000 years. Leeches were most popular in Europe in the early 1800s. At this time, people thought that too much blood in a person's body made the person sick. Doctors put three or four leeches (or sometimes up to 50 or 60 leeches!) on a patient's body. The leeches took out the extra blood.

5 Leeches were used to cure many illnesses, from fevers to broken legs. Unfortunately, leeches often hurt more than they healed. For example, the Russian writer Nikolai Gogol was leeched because he had anemia, an illness caused by too *little* blood. He died a few days later. George Washington had a sore throat. He was leeched four times in two days. He too died a few days later. By the mid-1850s, people began to understand some of the problems with leeching, and it became unpopular.

6 **In Medicine Today** Today, doctors know more about leeches. They know when to use them and why. They understand that the chemicals in the leech saliva make leeches very useful in medicine. For this reason, the United States made it legal in 2004 to use leeches in reattachment surgeries[4].

[1] worm: a small snake-like animal that lives in the ground
[2] suckers: small round parts that connect the leech to the animal it feeds on
[3] anesthetic: a chemical that stops you from feeling pain
[4] reattachment surgeries: procedures performed when someone's finger or toe is cut off and the doctor puts it back on the hand or foot

(continued on next page)

1. The author's purpose for writing this text was to

a. explain to the reader how to use medicinal leeches by himself/ herself.

b. inform the reader about how medicinal leeches have been used.

c. entertain the reader with a story about medicinal leeches.

d. persuade the reader to use medicinal leeches as a cure for his/ her illness.

2. Why is the phrase '' or sometimes up to 50 or 60 leeches!'' in parenthesis?

a. to show surprise about the small number of leeches used many years ago.

b. to explain that a lot of leeches were used in medical procedures.

c. to explain why doctors used only some leeches many years ago.

d. to show incredulity about the number of leeches that were used in medical procedures.

3. The writer used the phrase ''because of'' in the last line of paragraph 3 to

a. explain why the leech saliva makes the finger to continue bleeding for another 24 hours.

b. describe how leeches bite the finger for 24 hours.

c. provide more information about the leeches teeth.

d. provide information about the side effects of using leeches for medical purposes.

4. Why did the writer use the word ''unfortunately'' to star paragraph 5?

a. to introduce a new idea about the advantages of using leeches in medicine.

b. to emphasize the importance of being leeched when one is sick.

c. to provide an example of the benefits of using leeches for medical purposes.

d. to contrast the advantages and disadvantages of using leeches for medical purposes.

5. In paragraph 6, the writer used the phrase ''for this reason'' to?

a. explain why leeches should be used in reattachment surgeries.

b. explain why he/she doesn't like leeches.

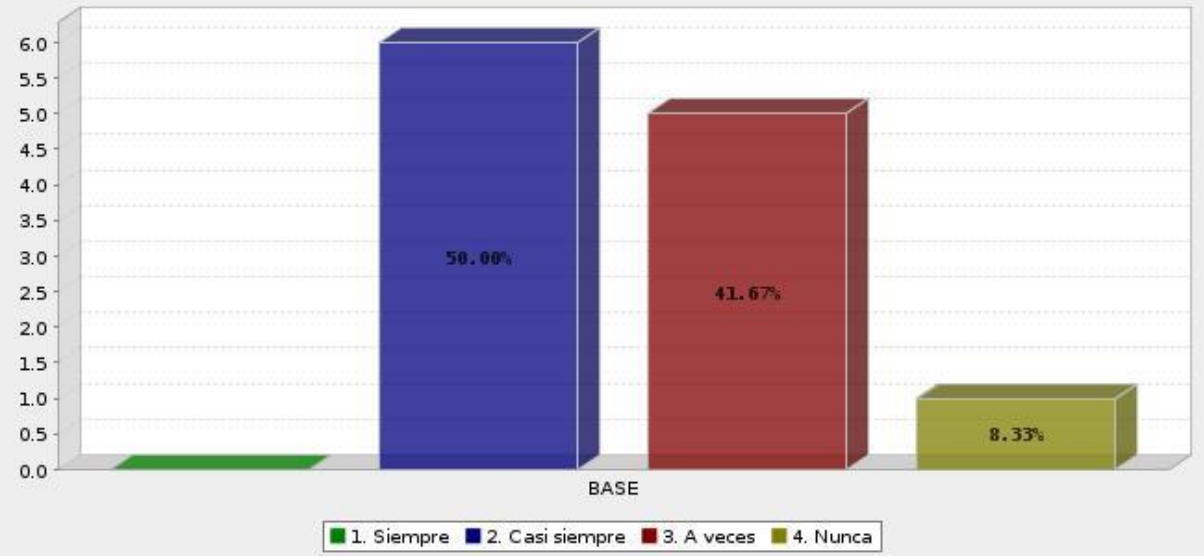
c. explain why leeches were implemented in reattachment surgeries.

d. explain why leeches shouldn't be used in reattachment surgeries.

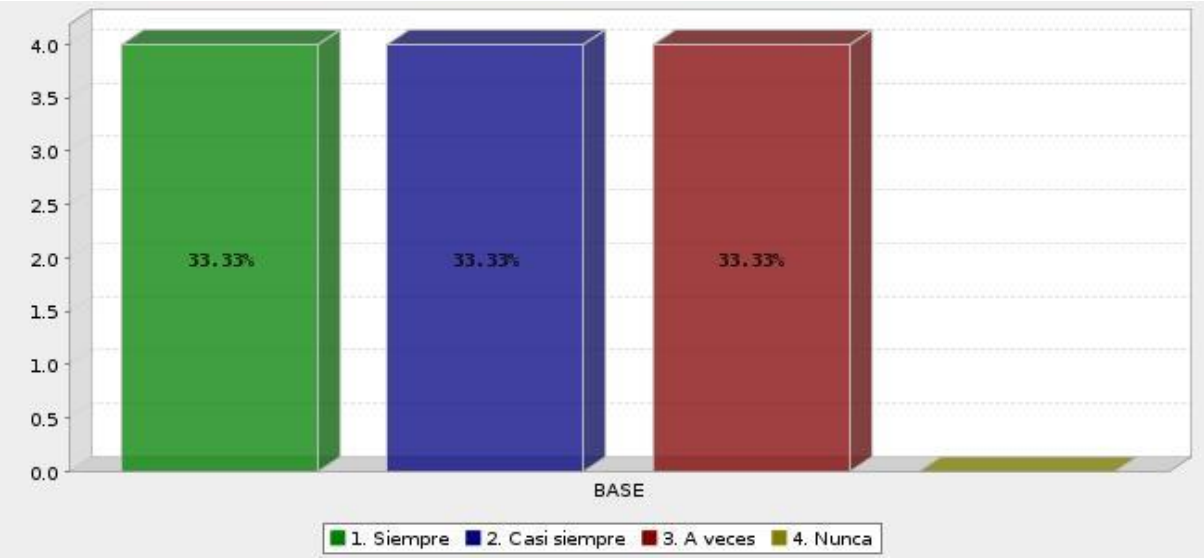
APPENDIX 7

ENTRANCE SURVEY

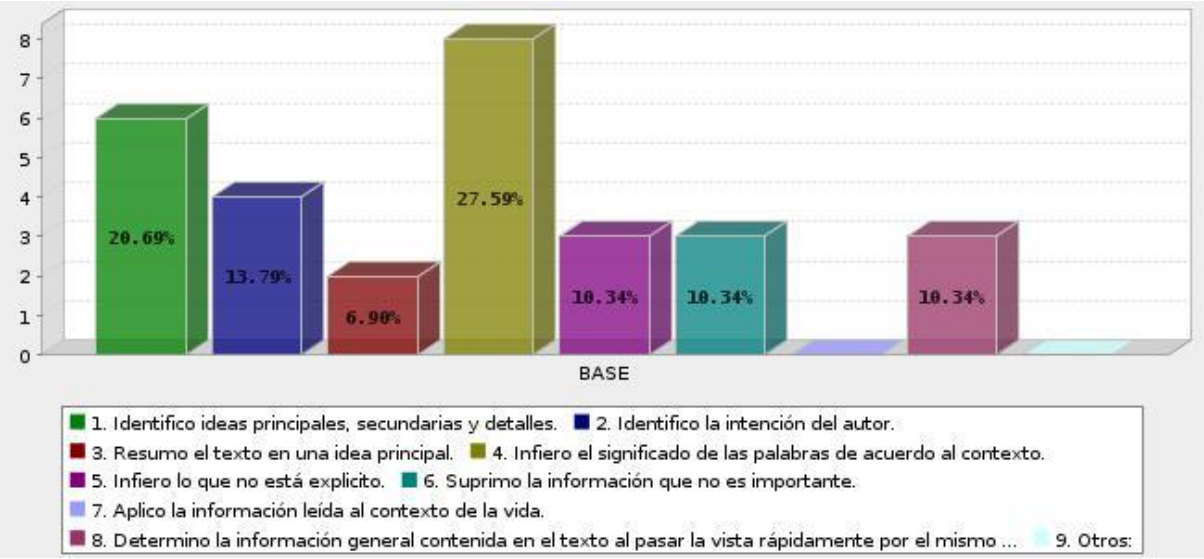
1. Cuando leo un texto en Inglés pienso en como procesar la información, es decir trazo acciones a seguir.



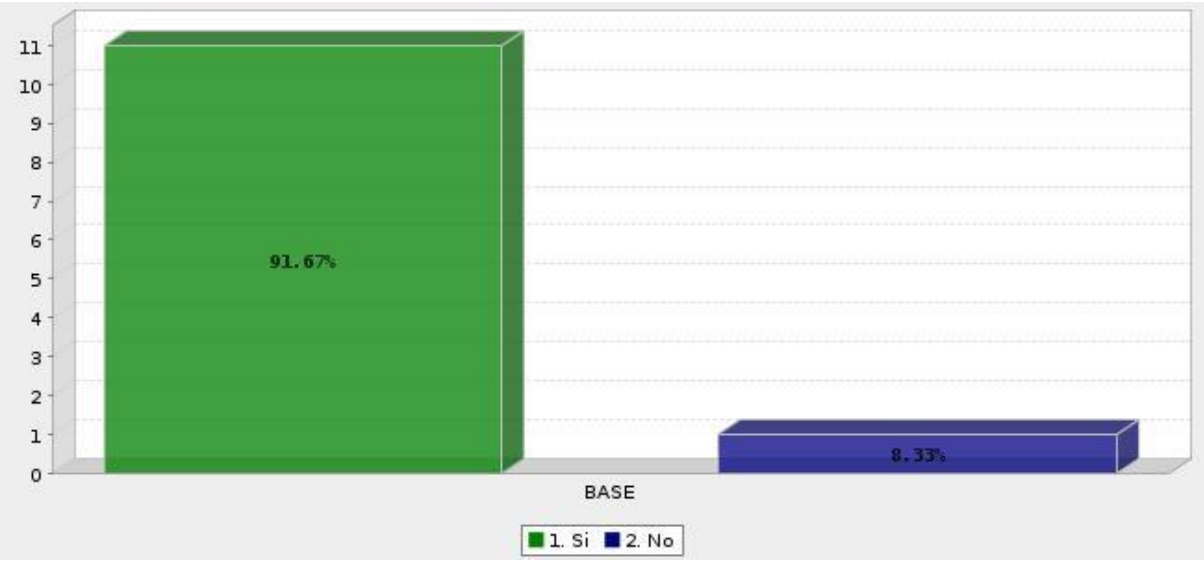
2. Utilizo estrategias de lectura para facilitar mi comprensión de textos en Inglés.



3. Si la respuesta anterior fue "siempre", "casi siempre" o "a veces" escoge las estrategias que utilices para comprender mejor los textos.

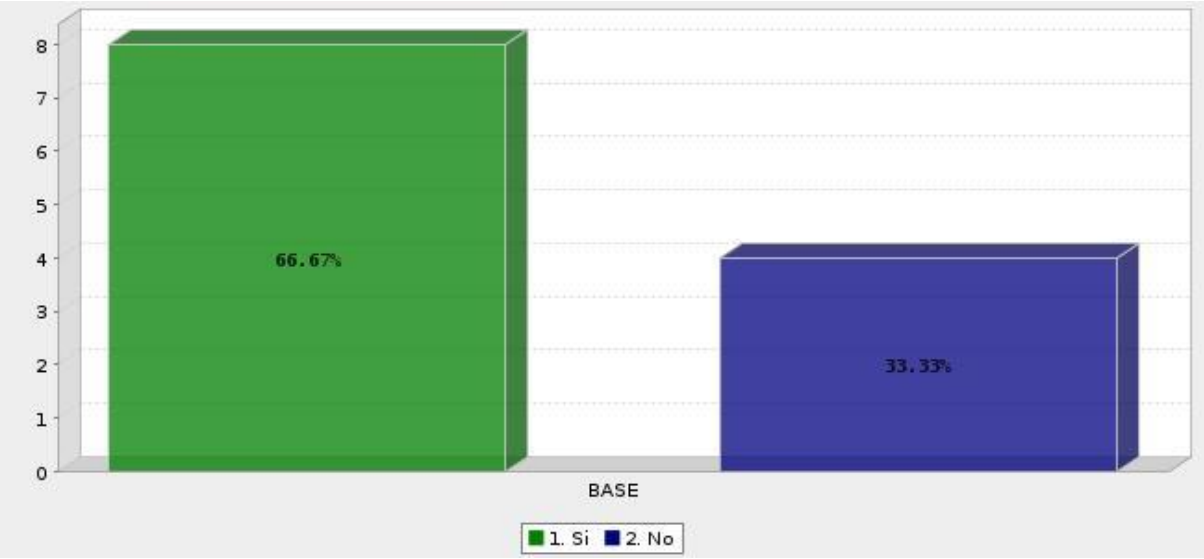


4. Creo que aprender estrategias de comprensión de lectura crítica en el nivel de inglés, me ayudará a entender mejor los textos que leo en mi programa de medicina / odontología.

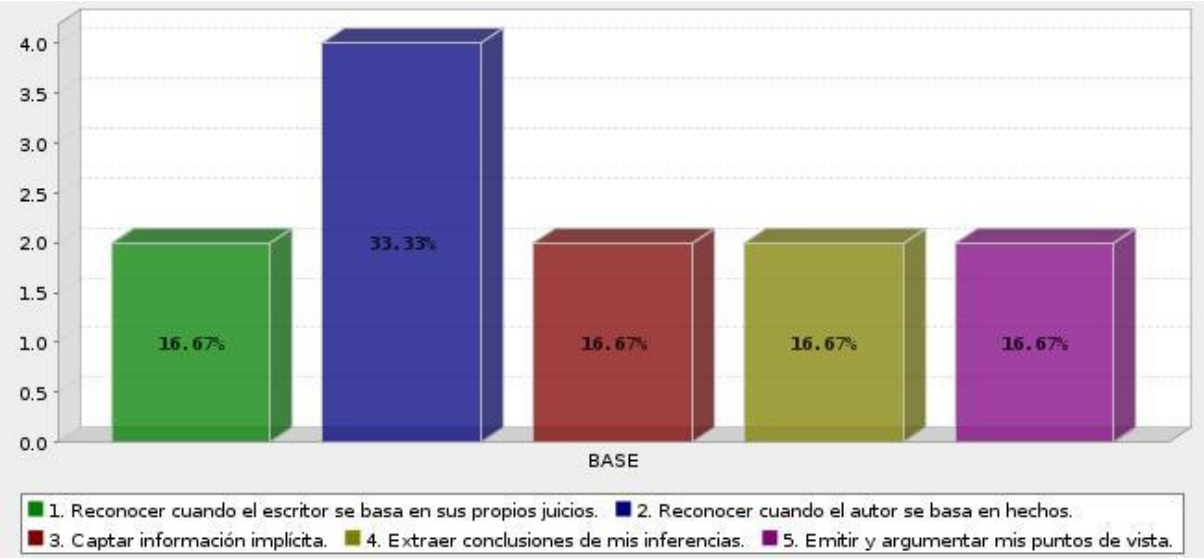


5. Prefiero que mi profesora me enseñe explícitamente a usar estrategias para comprender mejor los textos en Inglés.

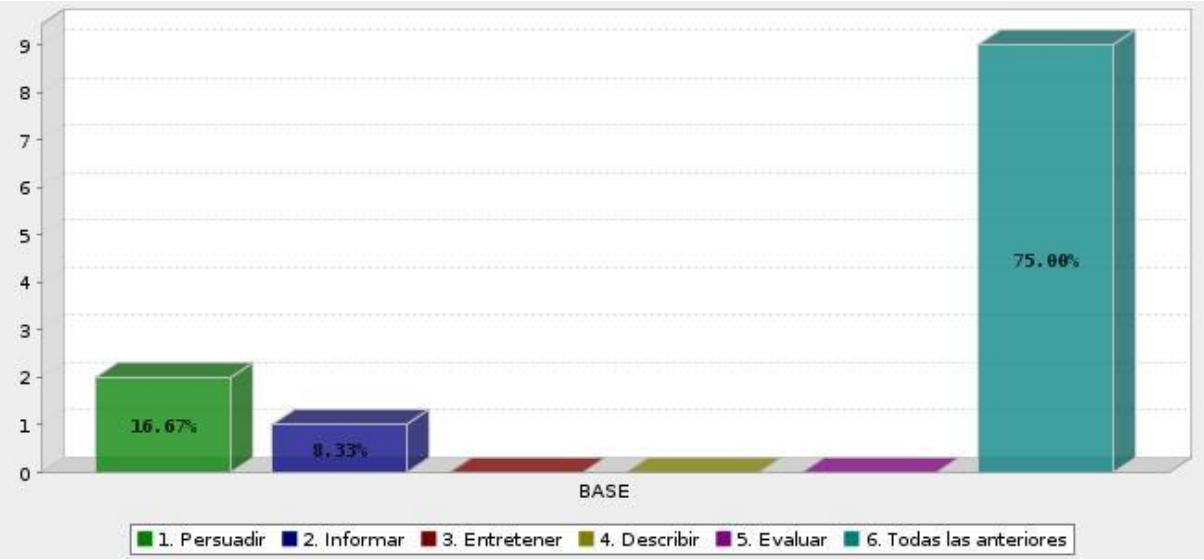
6. Prefiero descubrir por mi mismo (a) las estrategias de lectura que funcionan mejor para mi.



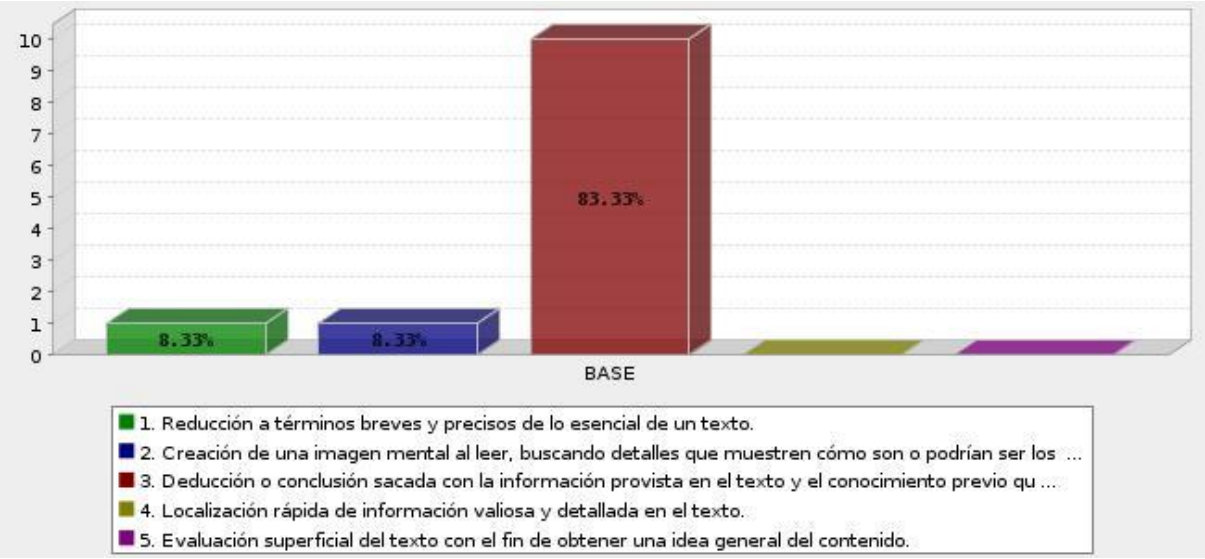
7. Cuando leo un texto en inglés puedo:



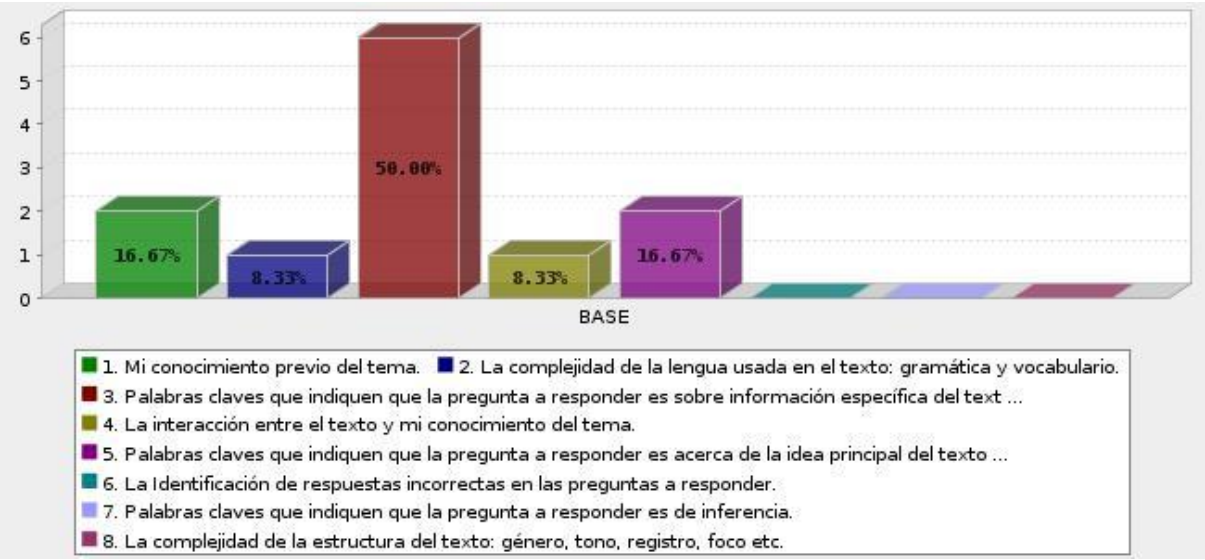
8. De las siguientes opciones, ¿cuáles crees que podrían ser los propósitos de un autor al escribir?



9. De las siguientes opciones, escoge la que defina lo que es una inferencia.



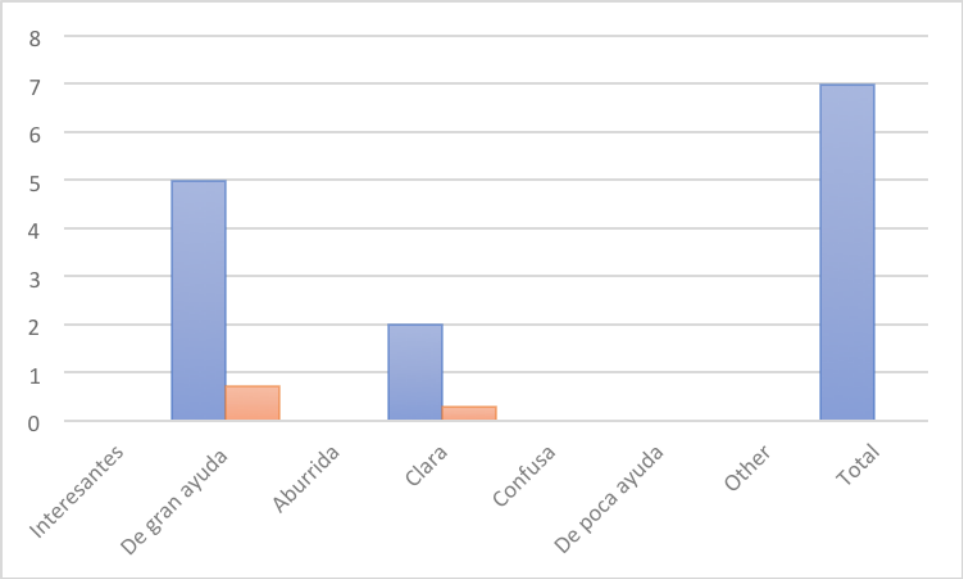
10. Para hacer inferencias puedo hacer uso de:



APPENDIX 8

EXIT SURVEY

1. Consideras que la enseñanza explícita de las estrategias de comprensión lectora durante el vacacional fue:



APPENDIX 9

FIRST SAMPLE OF A CODED THINK-ALOUD PROTOCOL WITH RUBRICS

Think- Aloud Results			
Text **The Doctor Who Vanquishes Pain** Adapted and modified from English Daily http://www.englishdaily626.com/comprehension.php?136	**Student's comments** **(utterances might contain grammatical mistakes)**	**Strategies for making inferences**	**Researcher's comments**
In an age of medical specialties, the anesthesiologist is a specialist in the use of drugs to prevent suffering.	I don't know that!	ø	N/A
The pain of surgery is his first concern.	I don't know what is concern	ø	N/A
As it has been for more than a hundred years. The anesthesiologist also brings **swift** relief to accident victims, treats ailments of the respiratory tract and eases the agony	Ok... describes want to tell about the role or paper or function of the anesthesiologist and take to talk… to	4 & 5	The student made a prediction

of incurable diseases.	talk about history in this first part.		about what the text is going to be about and retold what he had understood so far.
He draws on an extensive range of instruments and drugs: machines that temporarily substitute for body organs, gases that can induce a dreamy doze or deep unconsciousness, tranquillizers that banish fear, injections that block pain. So precise is the control afforded by these new tools and techniques that the anesthesiologist can, in effect, **<u>suspend life for hours at a time</u>**, making possible some of the most dramatic achievements of modern surgery, such as the repair of a damaged heart or the replacement of a diseased kidney.	In effect… this is a linking word Okay, in this, I think that this paragraph wants to tell all about the anesthesiologist, for example the... techniques that the anesthesiologist use to make sleep the patient for example and say something that for me is important that when you are an anesthesiologist you to suspend the life for hours, for example	10 5 & 8	The student identified a local cohesive device. The student summarized

	you can be death for a time, for a short time…. (mumbling) okay…		what they have understood and checked on his own understanding.
In 1842, an American physician named Crawford Long made medical history when he held an ether-soaked towel over a patient's face until he was unconscious. Then Dr Long removed a small neck tumor; the patient experienced no pain. It was the first successful use of surgical anesthesia.	This paragraph is for the history to talk about the first time when a person use an Anesthesia eh, the person was Crawford Long, he was a doctor… the first doctor.	1 & 8	The student made a prediction again and checked on

Today ether-obtained by distilling ethylene with sulphuric acid…	Okay, this ethelin with sulphuric acid I think that this paragraph is going to talk about...eh...about…um the drugs that you can use the names, the names that the doctor used to make sleep the person.	1 & 8	his own understanding.
-- remains one of the most effective drugs for inducing the deep, relaxed sleep required for major surgery. But ether has an **unpleasant, often nauseating odor**; it irritates the respiratory system and it is dangerous to use because of its explosive nature.	um this part, in another hand wants to talk about the I think the second effect or the effect that {anesthesia} can give you, for example in your nose can make an unpleasant odor, it can irritate your nose… this is most important thing in this part. ; it irritates the respiratory system and it is dangerous to use		Ss makes a prediction

	because of its explosive nature. (mumbling)		about what the upcoming paragraph is going to be about before reading it.
In one method of overcoming these drawbacks anesthesiologists use only very small amounts of ether, often mixed with another anesthetic, as the finishing touch in a step-by-step procedure for inducing sleep. This technique, tailored to the individual, employs a series of drugs designed to achieve successively deeper anesthesia.	Okay, in this case the the writer want to talk about that if you use this drug you need to be cuidadoso (I don't remember) you need to take to put attention to what you are going to do because the drug can give you some symptoms that can be bad for your body, for example in this part when the author say that often mixed with another anaesthesia, osea is going to talk about when you are going to use this drug the distilling etiling		The student tried to identify the author's intention.

	and sulfuric acid you must mix with another aneste because the drugs are very very bad if you don't mix umm..		
In a typical procedure, a pleasant relaxation is induced by injections of scopolamine and morphine.	Okay, when I read ... one week ago scopolamine when you use in a good way is to sleep person but today the bad, the bad, *si* the bad people use it for make bad things for example to stole	3	The student was able to associate the information form the text with the information about scopolamine

Calm and relaxed, the patient is now ready for an intravenous injection of sodium pentothal that will bring on the first stage of anesthesia, a light doze, followed by the second stage, loss of consciousness and **dulling of the brain's pain response**. The third stage, complete unconsciousness, generally requires some drug as strong as ether.	something you can use scopolamine when you use in high toxis. Okay, I read that the anesthesia drug you can use for different ways for example in this case is going to talk about intravenous injection but I know scopolamine is for example you can use in your know for sleep if you sell you can go sleep. I think that the first step of the anesthesia is the light doze, is that I understand, ok is the first step light	11 11	that he learned in the medicine program. The student checked on his own understanding.

The anesthesiologist inserts a plastic tube into the trachea, or windpipe, so that a mixture of ether, nitrous oxide and oxygen can be fed directly into the lungs without irritating the breathing passage. Only when he is certain that the patient's central nervous system is completely insensitive to pain will the anesthesiologist give the quick nod that indicates the operation may begin.	doze. loss of consciousness and dulling of the brain's pain response. I think he want to tell in this phrase that the anesthesic is going to sleep your brain, that I think that he wants to put your brain in… in slow eh … slow rate. I think that the third stage, complete unconsciousness, when you are going to sleep, okay.		

Once surgery has begun, the anesthesiologist becomes the **watch-dog** of the operating room, the man responsible for keeping the unconscious patient alive. Keeping an eye on the work of the surgeon, the anesthesiologist concentrates on changes in the patient's blood pressure, pulse and breathing.	For that I read that when you use 2 different drugs (mumbling) like I am going to watch like distilling ethic and sulfuric acid that is when you can, can irritate your respiratory system, that is when you smell, but in this case that you put intravenous is more relaxing because the patient can't feel when he is going to sleep. it is easier for the patient because he can't feel anything and is very relax I think it is better to use the intravenous because it is more easier for the patient to use that.		

He checks to see that the anesthetic gas mixture contains 28 to 30 per cent oxygen, for even a brief drop-off may cause asphyxiation. He examines the patient's eyes for subtle changes that mean the anesthetic is wearing off or that it is sinking the patient into a dangerously deep sleep. After surgery is completed the anesthesiologist faces one of his most difficult tasks: he must restore his anesthetized patient to complete consciousness as smoothly and	Okay, I think that the writer of the text wants to make a resume of all pace of anesthesia. Because he wants in this paragraph, he wants to talk about the steps that you use, for example if he writes you have four steps. For example, the first one is the light doze, the second one is when you, when your brain is going to feel very very sleepy. Oh, the third is when you are unconsciousness and yes and all the thing that the	1	The student was able to identify the purpose for reading that paragraph.

painlessly as possible. The best drug for this purpose is oxygen. Flooding into the lungs, oxygen forces the anesthetic gases out of the patient's body and also eases the work of the heart and respiratory system as the patient awakens.	anesthesi she wants to do is to … to your nervous central system is insensitive because your nervous system is that makes that you feel eh… awake. what is … Okay In this case the writer wants to talk about the call the anesthesiologist the	6	The student asked himself a question about the text.

	watchdog Why? I think that he do that because the anesthesiology must be in the area that watching the patient all time because she need to watch the pressure, the pulse and breathing because when the pulse or the pressure of the breathing is down you could die and you don't want this . You want to do the surgery in a good way and the patient awake and can't die.		
	I don't know what is 'subtle' I think that is the thing in the middle of the that is it can change depends your if you have big or	9	The student tried to guess the meaning of an unknow word "subtle"

	very… I don't remember...		
	Okay, this paragraph is more about that the what things eh the anesthesiology must do in a surgery. Then first when he put the anesthesi, the second one is to watch to be in the surgery and try to watch the patient, Okay, the last one is…	1	Once again the students identified the purpose of the pragraph
	Okay, this paragraph is the last paragraph and tells is like a conclusion, like a resume of all the text.	1	

	Talks about that the best drug that is the drug you mix with oxygen eh talk about that the anesthesiology must be '*pendiente*' of the respiratory system, the pressure and all all this function is make by the central nervous system.		

Think- Aloud Results			
Reading Comprehension questions	**Student's comments**	**Strategies to make inferences**	**Researcher's comments**
1. From the passage, we can gather that the use of anesthesia has existed	Critical comprehension questions... from the passage, we can {gaither}that the use	Ø	

a. for a hundred years. b. for more than a century. c. for less than a century. d. only since the beginning of this century.	of anesthesia has existed… The letter 'a' for a hundred years. I remember when the first part eh… he said that… Can I go to the text and watch? Ah ok.		
2. As used in line 3, ''<u>swift</u>'' most likely means a. delayed b. fast c. slow d. expected	Okay, swift (mumbling) As used in line 3, ''<u>swift</u>'' most likely means… Can I answer the last	Ø	

	or I have to answer it right now?		
3. From the phrase '' <u>suspend life for hours at a time''</u> in line 8, it can be assumed that during surgery a. The patient is alike someone who is actually dead. b. The patient dies as the anesthesiologist doesn't use the correct technique. c. The patient stops his/her heart long enough so that surgeons can operate him/her. d. All the above.	Ok (mumbling) I think is letter 'd' because in all the case is true for example if you can use the anesthesiology you can kill the patient, in letter 'a' the patient is alike someone who is actually dead. Okay I think the patient when you put the anesthesi in the body of the patient is like if he was or he is dead and letter 'c' the patient stops his/her heart long enough so that surgeons can operate	11	The student was trying to get the right answer by reflecting about each of the choices given.

	him/her. Okay, I think that that is true. So, the answer is letter 'd' all the above.	Ø	N/A
4. It can be inferred from the passage that what actually makes possible that surgeon performs the amazing feats of modern surgery is a. The use of machines which are substitutes for body organs. b. The use of drugs which block pain and tranquilizers which banish	In this case is letter 'd' the four.		

fear. c. The use of gases which induce a dreamy sleep or deep unconsciousness. d. The precise control exercised by the anesthesiologist by means of new instruments and techniques.			
5. It can be implied from paragraph 3 that the false statement about ‘’ether’’ is a. It has an unpleasant smell. b. It is explosive in nature. c. It is an effective drug for rendering a patient completely unconscious. d. It is used in large amounts to achieve anesthesia.	Okay in the five question is a false statement. It has an unpleasant smell, is really. It is explosive in nature, is really. It is an effective drug for rendering a patient completely unconscious. It is used in large amounts to achieve anesthesia. I think that is letter ‘c’ in five.		The student reflected on what he had understood.

6. The ‘’<u>unpleasant often nauseating odor’’</u> mentioned in line 17, would likely be <u>best</u> described as one of the a. benefits of ether. b. disadvantages of ether. c. characteristics of ether. d. advantages of ether.	The six is letter ‘b’ disadvantage that is bad things that you feel when you receive ether.	11	The student relied on his background knowledge.
7. In line 26, the phrase ‘’<u>dulling most of the brain’s pain response’’</u> implies that a. Brain’s pain is sharp. b. Brain’s pain arises slowly. c. Brain’s pain acute. d. Brain’s pain arises quickly.	I think it’s ‘b’ or ‘d’ because brain’s pain arise slowly or arise quickly… I think that it’s ‘d’.	3	

8. The expression ‘’watch-dog’’ in line 32 suggests that the anesthesiologist is a. The star of the surgery. b. The surgeon’s boss. c. The coach of the surgery. d. The custodian of the surgery.	No! Letter ‘d’ the custodian of the surgery. The star of the surgery, no! Depends because if you are going to make a surgery I think that is the boss, I think that it’s the surgeon, but I think that watch-dog is like the custodian of the surgery all the surgery that the	ø	The student reflected on what he had understood.

	surgery goes in a good way.	11	
9. According to the passage, the statement that is false about the anesthesiologist's job is a. He prepares the patient for the operation. yes! b. He sees to it that the patient is not asphyxiated during the operation. c. He monitors the patient's heartbeats and breathing. d. His duties are over when the operation is completed.	He seems that the patient is false… (mumbling), the monitors, yes! I think that is 'd'. His duties are over when the operation is completed. No! because he needs to {monitoreit} the patient to after the operation.		The Student spotted the wrong

			answer.
10. It can be inferred that a false statement about the passage is a. The anesthesiologist is a specialist in relieving the pain of surgery and sickness. b. Without the expertise of the anesthesiologist, the achievements of modern surgery would be impossible. c. One of the most effective drugs used by the anesthesiologist in his job is ether. d. The anesthetic gas mixture contains mainly ether, with some nitrous oxide and oxygen.	I think for is I do a wrong answer I think that ‘a’ is true but is I think (mumbling) ‘c’ is true, ‘d’ is true if I umm, I think that is the ‘b’ for the spot the wrong answer. And the last one, is ten, letter ten is ‘d’.	8 9	The student tried to guess the meaning of the word “swift”.

	Nine, I put ‘d’, eh and the two. Ten ‘b’, excuse… and two is swift most likely means …. I think that it’s expected letter ‘b’, delay no, fast, no… swift bring relief… I don’t know… No, I think it’s ‘b’ fast relief it’s done.		

APPENDIX 10

SECOND SAMPLE OF A CODED THINK-ALOUD PROTOCOL WITH RUBRICS

Think- Aloud Results			
Text ***Excerpt from:*** **An update on semantic dementia: genetics, imaging, and pathology** **Adapted and modified from:** Landin-Romero et al. Alzheimer's Research & Therapy DOI 10.1186/s13195-016-0219-5	**Student's comments** **(utterances are in Spanish as student translated the text most of the time)**	**Strategies for making inferences**	**Researcher's comments**
Abstract Progressive and relatively circumscribed loss of semantic knowledge, referred to as semantic dementia (SD)… **<u>which falls under the broader</u>**	La pérdida progresiva y relativa del conocimiento semántico se denomina demencia semántica. No lo entendí. Lo que	8	The student checked on her own understanding using her mother

umbrella of frontotemporal dementia, was officially identified as a clinical syndrome less than 50 years ago.	entendí es que era una demencia que implicaba que el lóbulo… osea que una "umbrela" sombrilla que amparaba el lóbulo fronto-temporal. Fue oficialmente identificada como un síndrome clínico hace más o menos como 50 años.		tongue.
Here, we review recent neuroimaging, pathological, and genetic research in SD. From a neuroimaging perspective, SD is characterized by hallmark asymmetrical atrophy of the anterior temporal pole and anterior fusiform gyrus, which is usually left lateralized.	Aquí eh… bueno, las revisiones de la neuro imagen patológico y estudios genéticos en el síndrome de demencia. Desde la perspectiva de la neuroimagen es la demencia semántica se caracteriza por "hallmark" no sé qué	Ø	

	significa se caracteriza por una atrofia simétrica del polo temporal anterior. Del giro anterior fusiforme eh… usualmente está lateralizado.		
Functional magnetic resonance imaging (fMRI) studies have revealed widespread changes in connectivity, implicating the anterior temporal regions in semantic deficits in SD.	La resonancia magnética ha revelado cambios en la conectividad implicando la región anterior temporal con déficit en la demencia semántica.	Ø	
Task-related fMRI have also demonstrated the relative preservation of frontal and parietal regions alongside preserved memory performance.	{Tas-relative} no sé qué significa, pero la resonancia magnética ha demostrado la preservación de la región parietal y frontal y la memoria preservada. (indiscernible)…	8	

	"performance"…		
In addition, recent longitudinal studies have demonstrated that, with disease progression, atrophy encroaches into the contralateral temporal pole and medial prefrontal cortices, **which reflects emerging changes in behavior and social cognition**.	En adición, recientes estudios longitudinales han demostrado que esta la progresión de la enfermedad bueno la atrofia de como que avanza al lóbulo contra lateral, pero polo al lado temporal inmediata y la corteza prefrontal. Estos cambios son como de alarmas emergentes … no sé qué significa "behavior" y condición social.	8	The student checked on her own understanding.
Notably, unlike other frontotemporal dementia subtypes, recent research has demonstrated strong clinicopathological concordance in SD, with TDP43 type C as the most common pathological	Notablemente… hay… bueno, hay otros subtipos de la demencia frontotemporal, recientemente estudios han	Ø	

subtype.	demostrado como que hay otra patológica clínica que es concordante similar al síndrome de la demencia con "TDP43" tipo C es el subtipo patológico más común…		
Moreover, an underlying genetic cause appears to be relatively rare in SD, with the majority of cases having a sporadic form of the disease. The relatively clear diagnosis, clinical course, and pathological homogeneity of SD **make this syndrome a promising target for novel disease-modifying interventions.**	{Underly genetic cause} esa parte no (mumbling) Ah, eh… el diagnóstico relativamente claro, el curso clínico y la homogeneidad patológica de la demencia semántica hacen de este síndrome, no sé qué significa "promising" como algo como algo importante para la	**8**	

	intervención de nuevas modificaciones de la enfermedad.		
The development of neuroimaging markers of disease progression at the individual level is an important area of research for future studies to address, in order to assist with this endeavor.	La neuroimagen muestra progresión de la enfermedad, diferentes niveles. Bueno, la neuroimagen ha demostrado que la progresión de esta enfermedad es un area importante para el estudio de… para la investigación de futuros estudios como para agregar una asistencia mejor a este (indiscernible)	Ø	
Keywords: Semantic-variant primary progressive aphasia, Frontotemporal dementia, Primary progressive aphasia.	En las {keiwords} están las variantes semántica primaria progresiva que es la afasia, la demencia	Ø	

	frontotemporal y la afasia primaria progresiva.		
Background Semantic dementia (SD), a progressive neurodegenerative disorder affecting language, was empirically described only relatively recently. In the early 1970s, the conceptualization of memory into two distinct systems, an episodic system and a semantic system by Tulving [1], coincided with the report by Warrington [2] of three individuals who presented with visual object agnosia, a profound inability to recognize or identify objects.	La demencia semántica es un trastorno neurodegenerativo progresivo que afecta el lenguaje fue como osea de nuevo no fue hace mucho eh… a principios de 1970. Como que hay dos sistemas de memoria, uno que es episódico y otro que es semántico creo que este fue descrito por "Tulving" y apoyado por "Warrington" que dice que de tres individuos presentaron agnosia visual de objetos y una, como una	8	The student tried to understand what she had read about the two distinctive systems.

	incapacidad profunda de reconocer e identificar objetos.		
In light of this new memory system and additional assessment, Warrington recognized that the constellation of symptoms of these patients could be conceptualized as an underlying loss of semantic memory. Since this seminal paper, the syndrome, which is characterized by circumscribed but profound loss of semantic knowledge, has been referred to as SD [3, 4] and, more recently, as semantic-variant primary progressive **aphasia** (PPA) [5].	En vista (mumbling) Warrington reconoce como que estos síntomas una constelación, como un grupo de síntomas de esos pacientes que podría ser conceptualizado como una perdida subyacente de la memoria semántica. Osea como que cogieron esos síntomas y los agruparon desde… no sé... Este síndrome el cual es caracterizado por una profunda y circunscrita pérdida de conocimiento	Ø	

	semántico que fue referido como demencia semántica ay más recientemente como una semántica, como… osea esos síntomas los recogieron y los denominaron afasia, pero esa afasia hace parte de una variante progresiva de la semántica.		
Less than 50 years later, our understanding of this striking clinical syndrome has advanced. In this review, we will consider how recent studies in imaging, genetics, and pathology over the last decade have informed our knowledge of SD. Contemporary consensus criteria for SD require individuals to first meet criteria	Como que hace recientemente hace menos de 50 años, nuestros entendimientos de … no sé qué significa "striking" en esta…como que los estudios, las imágenes, los estudios en imágenes,		

for PPA; i.e. the most prominent clinical symptom to be in the domain of language, and evidence of subsequent **impaired** activities of daily living.	la patología durante la última década han informado sobre el conocimiento que ellos tenían acerca del síndrome de demencia. Los criterios contemporáneos para el síndrome de demencia requieren que el individuo tenga el primer (indiscernible) que es l afasia. Los síntomas más el que más predomina en el dominio del lenguaje y la ah y como que la persona al pasar el tiempo va… como va que decayendo en las actividades diarias del día a día.		
Then, sub-classification as	Estas	Ø	

semantic variant is based on impaired confrontation naming and single-word comprehension, with supportive features including impaired object knowledge, surface dyslexia or dysgraphia, spared repetition, and spared speech production. In a series of 100 cases all of whom underwent longitudinal follow-up, the mean age at presentation was 64.2 years but with a range of 40–79 years [6**].**	subclasificaciones de la variante son basadas en una confrontación de nombre que incluye… como dislexia, disgrafia, como que, en ese síntoma, tiene varios síntomas eh, hacen parte palabras, síntomas como la dislexia y la disgrafia… (mumbling) Como que la edad que más se presenta esto, en promedio es 64.2 pero el rango está entre personas que tienen 40 y 70 años.		

There was a 50% survival of 12.8 years indicating a slower progression than in other forms of frontotemporal dementia [6]. Studies of the prevalence and incidence of SD have been relatively limited; however, a recent epidemiology study estimated the prevalence of frontotemporal dementia at 10.8/100,000, with SD accounting for approximately one-third of these cases [7] in line with previous estimates [8]. Whether this prevalence is similar across countries, however, remains to be examined, as most existing epidemiological data hail from European studies.	Estudios de la prevalencia e incidencia del síndrome de la demencia semántica ha estimado la prevalencia de la demencia frontotemporal de 10.8 sobre 100,000. Esa prevalencia es similar… (mumblin)	Ø	
Clinical presentation and cognitive profile Clinically, patients with SD	La presentación química del perfil cognitivo	Ø	

show a speech profile that is relatively fluent but empty of content, producing a pattern of so-called logorrhea. Importantly, loss of semantic knowledge is observed irrespective of testing modality [9].	Clínicamente los pacientes con el síndrome de demencia muestran un perfil relativamente ah??? Importante en la pérdida de conocimiento observado… Demostrando la (mumblin)este déficit progresivo…		
]. Impaired word comprehension is a mandatory feature and patients demonstrate word alienation in that they are able to repeat words such as “violin” or “caterpillar” but have no idea of their meaning. This deficit gradually progresses from low frequency and less familiar words, such as those mentioned, to more common words. Adlam	(mumblin)		The student decided to read in English. However, it sounded like mumbling sounds.

et al. [10] demonstrated that SD patients are also impaired on nonverbal semantic matching tasks, tests of color knowledge, sound knowledge, and object-use knowledge, which do not require naming or verbal comprehension even from an early stage of the disease. Such findings have provided evidence that, in SD, symptomatology reflects a profound and progressive loss of conceptual knowledge which is not limited to performance on verbal tasks [11].			
There is also accompanying surface dyslexia: patients are unable to correctly pronounce irregular words such as pint which they read to rhyme with hint or flint. In contrast, recent studies have confirmed that **episodic memory** is relatively preserved in SD, particularly	Patients are unable to correct the pronouns in regular words such as pint which they read to rhyme with hint or flint. In contrast, estudios recientes han confirmado que estos	Ø	The student switched from English to Spanish and vice versa.

when tasks with minimal conceptual loading are employed [12, 13].	episodios de memoria son relativamente preservados en el síndrome de demencia particularmente cuando when tasks with minimal conceptual loading are employed.		
The intact performance on traditional non-conceptually loaded episodic memory tasks converges with the performance of SD patients on autobiographical memory tasks.	The intact performance on traditional non-conceptually loaded episodic memory tasks converges with the performance of SD patients on {autobiographical} memory tasks.	Ø	The student switched from English to Spanish and vice versa.
Patients typically show relatively preserved recollection of recent autobiographical memory in the context of poorer	Pacientes típicos demuestran relativa preservada recolección de la	Ø	The student switched from Spanish to English and

remote autobiographical memory (known as the reverse temporal gradient or step-function), reflecting increased semanticisation of past events (e.g. [14–16]). This is in stark contrast to the compromised ability of SD patients to project forwards in time to imagine possible future events (e.g. [17]). These deficits in future-oriented thought are attributable to semantic processing impairments, and have led to the advancement of the semantic scaffolding hypothesis which proposes that semantic knowledge is required to impart structure and meaning during the process of future simulation [18].	memoria de la autobiografía en ese contexto… This is in stark contrast to the compromised ability of SD patients to project forwards in time to {imagine} possible future {events}. Estos deficit son atribuidos a los procedimiento semánticos… and have led to the advancement of the semantic scaffolding hypothesis which proposes that semantic knowledge is required to impart structure and meaning during the process of future simulation		vice versa.

Changes in behavior and social cognition are increasingly recognized in SD [19]. Clinically, SD patients often show mental rigidity and inflexible behavior. For example, patients may become obsessive in tasks they engage in (e.g. we have noticed patients spending hours completing jigsaw puzzles), food preferences (usually restricted to specific foods), or daily routines (e.g. clockwatching). In addition, SD patients may have increased apathy and changes in eating behavior, as well as loss of empathy, **impaired emotion perception** and emotional memories, and reduced theory of mind capacity [20–24]. Over time, many patients become essentially mute with only a limited repertoire of stereotypic phrases and a complete loss of	Changes in behavior and social cognition are increasingly recognized in SD. Los pacientes con syndrome de demencia muestran…For example, patients may become obsessive in tasks they engage in (e.g. we have noticed patients spending hours completing jigsaw puzzles), food preferences (usually restricted to specific foods), or daily routines (e.g. clockwatching) In addition, SD patients may have increased apathy and changes in eating	Ø	The student finished reading the text in English.

word comprehension. Changes in emotional capacity as well as increased rigid behaviors are associated with **higher carer burden** (e.g. [25]), and progressive behavioral changes and/or increasing disability leads to residential care in most cases [6] (Table 1).	behavior, as well as loss of empathy, **impaired emotion perception** and emotional memories, and reduced theory of mind capacity [20–24]. Over time, many patients become essentially mute with only a {limaited} repertoire of stereotypic phrases and a complete loss of word comprehension. Changes in emotional capacity as well as increased rigid behaviors are associated with **higher carer burden** and progressive {behavioral} changes and/or increasing		

	disability leads to residential care in most cases.		
Reading Comprehension Questions	**Students' Comments**	**Strategies for making inferences**	**Researcher's comments**
1. In line 2, the phrase <u>''which falls under the broader umbrella of frontotemporal dementia</u>'', suggests that a. There are only a few types of FD. B. SD is not related to FD. c. There are many types of FD. d. SD is the only type of FD.	The answer is "C" because the word "broader umbrella".	7	The student was able to select the correct answer by looking for key words.
2. From the sentence in line 12 <u>''which reflects emerging changes in behavior and social cognition''</u>, it can be concluded that a. patients with SD have difficulties in behaving well as they don't like socializing with	Here it say that the patient has difficulties…I don't know what is behavior. I think the answer is "b".	ø	The student didn't select the right answer. This might be caused due to the lack of knowledge

other people. b. patients with SD have difficulties in explaining why they misbehave with other people. c. patients with SD behave well and understand people's feelings. d. patients with SD are unable to behave well or recognize people's faces and names.			about the meaning of the word" behavior" as she had previously expressed that she didn't know its meaning.
3. In lines 17-18, the phrase <u>''…make this syndrome a promising target for novel disease-modifying interventions''</u> implies that a. less research on SD will be conducted as its diagnosis and clinical course are already known. b. more research on SD need to be conducted as very little is known from this condition. c. patients with SD won't be	The answer is "b". I understand that the text say *se necesita* more research.	5	The student remembers and retells something she read from the text.

able to get new treatments as there isn't enough knowledge on this condition. d. patients with this condition will be able to get more and better treatments thanks to the current knowledge on SD.			
4. It can be assumed that the word ''<u>aphasia''</u> in line 30, most likely means a. inability to understand and produce language. b. inability to swallow. c. inability to speak a foreign language. d. inability to understand a foreign language.	I know the word aphasia is when the patient has problems to talk. I think the answer is "a".	3	The student used her background knowledge. Maybe she had seen this topic in the medicine program.
5. The word <u>''impaired''</u> in line 35, most likely means a. healthy b. unbroken c. injured	Healthy no, unbroken, injured *es herido no creo*, perfect no because semantic dementia is	**7**	The student discarded some words and chose the one that she

d. perfect	a problem. Maybe the answer is "b".		wasn't sure about its meaning.
6. From the sentence ''<u>There was a 50% survival of 12.8 years indicating a slower progression than in other forms of frontotemporal dementia</u>'' in line 40-41, it can be inferred that a. Patients with SD live longer than patients with other type of FD. b. Patients with SD live the same as patients with other type of FD. c. Patients with SD live less than patients with other type of FD. d. Patients with SD die as soon as the FD is diagnosed.	It say "slower progression" in the question… so letter "a" say the patients live more.	7	The student chose the correct option as she looked for key words which associated with keywords in the answer.
7. From the clinical presentation and cognitive profile section, it can be implied that the <u>episodic</u>	The answer is "a" because I know the episodic memory has relation with events.	5	Student relied on her background knowledge.

<u>memory</u> allows people to remember a. who they are, personal events, locations etc. b. facts, concepts, and knowledge about the external world. c. how something or someone look like with just a second of observation. d. skills and how to do things, such as tying a shoelace or riding a bike.			
8. According to the cognitive profile passage, patients with SD a. can remember the past, but the present. b. can remember the past, but think about the future. c. can't remember the past nor think about the future. d. can't remember anything.	I think is "b" … *puede recorder el pasado pero sobre el futuro. No estoy segura.*	ø	The student didn't select the correct answer as the right answer is "c".

9. The phrase ‘’impaired emotion perception’’ suggests that patients a. are unable to understand people’s feelings. b. care about people’s feelings. c. like making new friends. d. are still able to socialize.	Patients sometimes are *‘’groseros’’*, have problems with other people. I think the answer is “a”.		
10. The expression ‘’ high carer burden’’ most likely means that people who take care of patients a. get very stressed. b. are understanding. c. get very rich. d. are compassionate.	*Alto* carer burden. *no sé qué significa* “burden”. Maybe the answer is “a”, the other answers don’t have relation with the semantic dementia. “burden” *puede ser “estres”.*	9	The students attempted to guess the meaning of “burden” by discarding the rest of the options.

APPENDIX 11

THIRD SAMPLE OF A CODED THINK-ALOUD PROTOCOL WITH RUBRICS

Text taken from the Second Reading Supplement; author's purpose

Think -Aloud Results				
Text **The Story of Dan & Steve** Adapted and modified from Real Reading 3	**Student's comments (utterances might contain grammatical mistakes)**	**Strategies for Identifying Author's Purpose**	**Strategies for making inferences**	**Researcher's comments**
The story of Dan and Steve. Steve's brother, Dan, is a risk taker.	I can infer with this title is about two brothers or two friends and and… With this sentence I can infer that Dan is a brother of Steve and that is a person doesn't feel fear or	ø	4	The student tried to predict what the story was about.

	something like that because is a risk taker.			
Two years ago, he {hiked} through the Andes Mountain in Chile with only a backpack and a knife. Four years ago, he learnt to scuba dive while on an adventure cruise in Alaska. Recently he took up skydiving.	Well, in this paragraph I can infer that San is a ... he likes adventures and travel in all the world learn culture, sports, extreme, extreme sports and something like that. The third paragraph…	ø	3	The student attempted to make an inference about the things Dan would do as a risk taker.

Dan hasn't always been like this. Six years ago, he was finishing law school and looking forward to a career in politics.	Eh this talking about eh something finish the main or the (Indiscernible) or Dan is something that is drastic for him because he was different and now is like other person.	ø		N/A
Then his father was diagnosed with Huntington's disease, which is caused by a degeneration of brain cells. This devastating disease usually appears in middle age with	In this paragraph can confirm that the disease of the dad of Dan changed the mind of his son and is the reason of Dan change all his life. The next in the text say…	ø	8 & 11	The student checked on her understanding and/ or reflected about her comprehension.

symptoms of {clumsiness} and forgetfulness. Now Dan's dad is still able to work, but his handwriting has become uncontrollable, and it is difficult for him to sit for long {periods} without twitching.				

The bad news for Dan and Steve is that Huntington's disease is genetic. There is a 50 percent chance that they also carry the gene. Because Huntington's disease is caused by a dominant gene, if Dan and Steve do carry the gene, they will surely develop the disease in middle age. After his father's	Eh, this can say me that the is genetic is can be {eredi} *algo así, no se como se dice en Inglés*	Ø	3	The student made an inference from the word "genetic" as she meant ''hereditary''

diagnosis, Dan decided to have his genes analyzed to see if he carried the Huntington's disease. Unfortunately, he did. When Dan finished school, he started to live the life of risk taker. "What do I have to lose"? He thought. Steve, on the other hand, was happily married	Well, I can infer that Dan finished school of law but he can't... he can't continue *laboral* life because he know, he know that he has the gene of a Huntington's disease. Steve is the other brother.	Ø	5	Once again, the student made an inference**.**

to Jessica. He elected not to have his genes tested but to continue to live the nearly perfect life he and Jessica had always enjoyed. But then Jessica got pregnant. Jessica wanted to have the child, but not if it would be born with the gene of Huntington's disease. She insisted that the baby's genes to be tested.	This tell me about the different things between the brothers, while Dan is a risk taker, he decide analyze his genes, Steve wants to be a family person with Jessica, but Jessica can't eh... be the possibility the her son have the Huntington's disease and he want to analyze the gene. To continue with the text…	Ø	5 & 11	Student retold and reflected on what she had read so far.

Fortunately for Steve, Jessica, and the baby, the test was negative. Most of us do not need to worry about whether we will develop Huntington's disease. However, as you flip through the pages of your family album, you may notice distinctive traits scattered through the generations. Physical characteristics may be the most obvious way in which heredity	*Bueno*, in this paragraph it told me about the gene if I show about someone of my family has a distinctive *osea un rasgo*, something distinctive of a disease or whatever I can tell about the generation, the	Ø	5& 11	Once again, the student retold and reflected on what she had understood so far.

has {shaped} you, but they are a very small part of your genetic legacy. The genes you receive from your parents influence all the biochemical reactions taking place inside your cells, your susceptibility to disease, certain behavior	genes, is hereditary or not. In this paragraph I can {note} that the gene it can be influenced for the environment and I can be susceptibility for many disease and this is important to know because for example the Huntington's disease is very {devasting} and if you know that you can… eh, do things if you have pregnant or if you	Ø	5 &11	The student retold and reflected on what she had understood so far.

patterns, and even your life span. Although your environment influences the expressions of genes, your genes provide the basic outline for your possibilities and limitations.	want to have kids. The questions the first is… (See chart below)			

Think-Aloud Results				
Reading comprehension questions	**Student's comments**	**Strategies for Identifying Author's Purpose**	**Strategies for making inferences**	**Researcher's comments**
1. What was the author's primary purpose for writing this test? a. to entertain us with the story of	Eh I think eh (mumbling) a. no b. maybe, but I don't think this is the primary	4	Ø	Student was able to identify the author's primary purpose by considering the language and

Dan and Steve. b. to persuade us that genetic testing is best. c. to inform us about how our genes can influence our lives.	purpose. I choose C because the author never try to convince me because only gave me information about Hungtinton's disease.			vocabulary the author used.
2. Why did the author start this text with a story? a. to tell the reader about her friends Steve and Dan. b. to get out attention. c. to make us feel sorry for Dan.	I choose B, to get out attention. I think that the author don't have relation with Dan or Steve, he invented that story because he wanted to get out attention.	Ø	1	The student made inferences, and identified the author's intention.

3. The writer's move from the narrative about Dan and Steve to a more informative text takes place in which paragraph? How do you know? a. 2 b. 3 c. 4	I think, *Bueno*, I think that the third paragraph talks about bad news unfortunately when Dan develop that he carried the Huntington's disease and talk fortunately for Steve, Jessica, and the baby when the test was negative. I can infer that the writer's move from the narrative when he worried for his eh for that no eh Steve.	Ø	5 & 11	The student attempted to make an inference. However, she did not select the right answer (C).
4. Why did Dan choose to live the	a. Maybe, because the	Ø	3 & 5	The student already knew

life of a risk taker? a. He felt he was going to die soon. b. He enjoyed the thrill of danger. c. He didn't want to get married.	Huntington's disease is a serious degeneration effect is most eh probably that you die soon. b. I think is A.			that Huntington's disease is a very serious disease.
5. Steve did not get his genes tested for Huntington's disease because he_____. a. was already leading a happy life. b. didn't care.	I guess he didn't want to test the genes because he was happy with Jessica and the baby.	Ø	5	The student relied on what she had read before in the

c. knew he was going to die sometime.				text.
6. Steve and Jessica decided to test the genes of their unborn child because they _____. a. were looking for a cure for Steve's father. b. didn't want their child to have Huntington's disease. c. wanted to have a perfect child.	The answer is b, Jessica didn't want to have a baby sick because Huntington's disease is very serious disease.	Ø	11	The Student reflected about her comprehension from the text.

Denotations	
Words in italics	Words spoken in Spanish
{}	Wrong pronunciation
words in script	Textual parts of the reading
...	Pause
(mumbling)	Sounds of mumbling
(Indiscernible)	Utterances that are not understandable

Code	**Strategies for Identifying Author's purpose**
1	Look for key words **(author's purpose, reason why, the passage can be best described as etc.)** that identify the question as an author's purpose question.
2	Author's purpose answer options often incorporate the following vocabulary words: **Analyze, compare, contrast, critique, evaluate, examine, investigate, characterize, define, depict, describe, explain, identify, introduce, narrate, recount, summarize, acknowledge. Advocate, assert, promote, propose, support, condemn, criticize, oppose.**
3	Read the passage and make notes. Once you've identified

	the question as an author's purpose question, read the passage, making note as you read.
4	Consider the vocabulary of your answer options. Is the author really analyzing something, or is she describing it? Use your knowledge of key vocabulary words to eliminate wrong answers and identify the better answer.
ø	No strategies used
Code	**Strategies for making inferences**
1	Identify the purpose for reading the text.
2	Recognize the type of text.
3	Draw on your background knowledge while you read.
4	Make predictions as you read.
5	Retell/summarize what you have understood
6	Ask yourself Wh questions about the text (when, why, who, how etc.)
7	Look for key words.
8	Check on your own understanding.

9	Try to guess the meaning of unknown words.
10	Try to understand what the local cohesive devices refer to (pronouns, connectives etc.)
11	Reflect about your comprehension