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THE USE OF METACOGNITIVE STRATEGIES FOR MAIN IDEA IDENTIFICATION IN EXPOSITORY TEXTS: A PERSPECTIVE ON INSTRUCTION

por

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ABSTRACT

THE USE OF METACOGNITIVE STRATEGIES FOR MAIN IDEA IDENTIFICATION IN EXPOSITORY TEXTS: A PERSPECTIVE ON INSTRUCTION

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This study investigated the metacognitive strategies used by secondary school students for main idea identification in Portuguese and in English expository texts. Thirteen students were involved in this study. Firstly, they were tested in their ability to identify explicit and implicit main idea in four expository texts, two in English and two in Portuguese. Then, ten subjects were randomly selected out of the thirteen subjects for the second task: the subjects were expected to verbalize the reading strategies used to understand L1 and L2 texts for main idea identification. The data collected were analysed later, and the following results were obtained: most students had difficulty in identifying the explicit and implicit main idea in L1 and L2 expository texts; the

students demonstrated not to have a clear notion of importance concerning the information included in their main idea statements; the subjects seemed to have used the same comprehension strategies and modes of response to understand the L1 and the L2 texts for main idea identification, although the occurrence of these strategies varied in frequence and incidence of occurrence; finally, the subjects who succeeded in the second task diverged in their text approach to identify the main idea. Thus, if, on one side, we had the kind of reader who read the texts and identified the main idea quite automatically, on the other side, we could see the strategic kind of reader, who was aware of the reading comprehension strategies required for a successful identification of main ideas in the L1 and L2 texts. As a conclusion, one might say that, besides the metacognitive strategies for main idea identification, other notions such as the notion of importance and, consequently, the notion of text structure, should be included in the reading syllabuses.

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RESUMO

THE USE OF METACOGNITIVE STRATEGIES FOR MAIN IDEA IDENTIFICATION IN EXPOSITORY TEXTS: A PERSPECTIVE ON INSTRUCTION

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Este estudo investigou as estratégias metacognitivas usadas por estudantes secundaristas para identificar a idéia central de textos expositórios em Português e em Inglês. Treze estudantes participaram deste estudo. Primeiramente, os estudantes foram testados na sua habilidade de identificar a idéia central explícita e implícita de quatro textos informativos, dois em Português e dois em Inglês. Dentre eles, dez alunos foram escolhidos ao acaso para participarem da segunda tarefa: leitura de um texto em Português e outro em Inglês para coleta das estratégias usadas na identificação da idéia principal dos textos em questão. Os dados coletados foram analisados e os resultados demonstraram que: a) alguns alunos tiveram dificuldades na identificação da idéia central explícita e implícita de textos expositórios em Português e Inglês; os alunos demonstraram não ter noção clara de importância a respeito da informação a ser

incluída na idéia central do texto; o uso de estratégias e modos de respostas foi praticamente o mesmo em ambas as línguas, porém com variação na freqüência e na incidência das estratégias; e, finalmente, que os alunos bem sucedidos na segunda tarefa, divergiram em seus padrões de abordagem do texto para identificação da idéia central: de um lado, o aluno que desenvolveu uma leitura automática e, portanto, quase não verbalizou as estratégias usadas pois elas atuaram preferencialmente abaixo do seu nível de consciência, e por outro lado, o aluno que, consciente das estratégias que precisou para compreender o texto e identificar a sua idéia central, as aplicou assim que percebeu a necessidade de agir para que o processo de identificação da idéia central prosseguisse. Daí concluiu-se que, além das estratégias metacognitivas para a identificação da idéia central do texto, outras noções, tais como, as noções de importância da informação e, consequentemente, estrutura do texto, deveriam ser incluídas nos programas escolares de leitura.

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CHAPTER ONE

INTRODUCTION

Identifying the main idea of a passage has been considered by researchers and teachers as a crucial point in reading comprehension. In fact, as nature prioritizes economy (Smith, 1978), we tend to store only the most relevant information in our minds. The amount of stored information was labelled by Rumelhart (1981) as "*the building blocks of cognition*" or *schemata*. Thus, in order to keep the incoming information as part of our schemata, readers put several cognitive processes into action with the purpose of reducing that bulk of information to its essence and, by this means, shaping it down to the demands of our mental processing. In this process, readers use other sources of information (e.g.: prior knowledge) to determine the different degrees of relevance of each coming idea, and then, build a macrostructure representation of the text (van Dijk & Kintsch, 1978, 1983).

Quoting Carriedo and Alonso-Tapia (1996, p. 130) "(...) *this macrostructure can be described as those propositions in the text that represent the information that summarizes the text, and this is what we call main idea*". However, main idea is not clearly defined and may take the form of a word title, topic sentences, summaries, etc., which may be expressed explicitly or implicitly in the text (Williams, 1988). Thus, main idea identification may not be an easy task for less successful readers.

When readers face the task of reading a text, it means that they have to grasp the meaning of the passage. As a consequence, their cognitive machinery is triggered off at the sight of the printed words of the target text. Depending on their necessity or

motivation, they may employ some tactics (Paris, Wasik & Turner, 1991) in order to approach and understand such passage. These tactics, defined by Aebersold and Field (1997, p.15) as "(...) *mental activities that readers use in order to construct meaning from a text.*", are called *reading strategies,* although, sometimes, they are called *reading skills*: while reading skills are automatic information-processing techniques, reading strategies refer to deliberate behaviors which can be taught in order to improve readers' performance in reading comprehension. As a matter of fact, the limits between reading skills and strategies are really slight: due to their same nature, only the occurrence of *awareness* makes the difference (Paris, Wasik & Turner, 1991). Moreover, a skill may become a strategy if the reader uses it deliberately. On the other hand, if a reader becomes so expert in the use of a certain strategy that it becomes automatized, then it is the case of a strategy transformed into a skill (Paris, Wasik & Turner, 1991). Both the knowledge about strategies and the ability to use them during the act of reading to control and monitor reading comprehension constitute one feature that characterizes good readers. It means that good readers are able to recognize *when, how much* and *how well* they understand and what strategy to use in the case of comprehension failure. In other words, it has to do with metacognition and awareness.

Referring to a number of studies, Block (1986) points out more specifically that, besides monitoring their comprehension and being aware of the use of strategies, good readers use them more flexibly and adjust them to the kind of text they are reading and to the purpose of their task (Baker & Brown, 1984; Dole, Duffy, Roheler & Pearson, 1992; Aebersold & Field, 1997). They are also able to make a distinction between important information and details in the passage, to use clues to predict information, to relate new information to prior knowledge (van Dijk & Kintsch, 1983; Winograd & Bridge, 1986; Afflerbach, 1990; Gagné, Yekovich & Yekovich, 1993; among others),

and to employ strategies to understand the perceived inconsistencies in the text (Baker, 1984; Garner, 1988).

Quite differently, poor readers may not be aware of the amount of learning they have achieved from texts, and thus they have to employ some techniques to check reading comprehension in order to meet the goals and demands of the task at hand (Paris, Wasik & Turner, 1991). Mainly, poor readers are the ones who need the teacher's guide in order to take the necessary steps towards reading comprehension.

The role played by the teacher as the mediator between texts and students in reading comprehension has been strongly recommended by most researchers. Teachers introduce the text, provide help for students to understand its content, teach them how to use reading strategies and explain the reading process (Carriedo & Alonso-Tapia, 1996).

Concerning readers' ability in L2 reading, Block (1986) says that ESL readers seemed to use the same reading strategies or pattern of reading strategies used by native English speakers. This fact suggests that reading strategy use is not exclusive of native readers, but a characteristic of readers in general. Confirming this assertion, she adds that researchers have found in their studies that "*some aspects of reading ability are readily transferred from one language to another*" (p. 485).

In addition to this, Grabe (1991) points out that more world knowledge, more highly developed cognitive abilities, the ability to use metacognitive strategies, and usually, more motivation are some advantages that second language readers have over first language reading beginners.

Thus, the top cognitive ability to identify the main idea in expository texts is highly relevant for readers' success as students, the goal of every reading teacher. Also, according to the research in the area, metacognitive strategies and the ability to use

them have been considered importants tools for supplying students' needs in reading comprehension.

Considering that the metacognitive strategies which promote text comprehension would be the best way toward main idea identification in both L1 and L2 texts, I intend to investigate the metacognitive strategies 3rd year secondary students use for main idea identification.

1.1. The Study

The purpose of this study is twofold. First, the secondary students' ability to identify explicit and implicit main ideas in L1 and L2 expository paragraphs are investigated. Second, the comprehension strategies used by these students when reading L1 and L2 expository texts for main idea identification were examined and compared in order to verify which strategies they may use to carry out this task successfully.

Moreover, the findings of this study might shed some light on the nature of students' problems when tackling the *selection* or *construction* of the main ideas of L1 and L2 expository passages. Also, it might enlighten teachers about the strategies which best fit their students when they face tasks involving main idea identification.

Finally, this study might be of some help for reading teachers to design their courses and select their reading material. Thus, it might contribute to the enlargement of teachers' resources for providing their students with safer and easier ways of identifying the central information from L1 and L2 expository texts.

1.2. Research Questions

The purposes of this study will be pursued by following the directions given by the research questions below:

1 – Are Brazilian students finishing secondary school able to identify main ideas in both L1 and L2 expository texts?

2 – What kind of response do subjects produce when asked to give the main idea of a passage?

3 – Do Brazilian secondary students use the same comprehension strategies when reading L1 and L2 texts for main idea identification?

4 – How strategic are the secondary students who participated in the present experiment?

1.3. Significance of the study

This study investigated the use of metacognitive strategies secondary students used in main idea identification of L1 and L2 expository texts. For this purpose, an investigation was conducted with a group of students who used to attend an important state school in Florianópolis. In fact, this school displays a very heterogeneous community in socio-economic and cultural terms, since its students come from all strata of Florianópolis and nearby towns. Thus, the result of this investigation may be a representative sample of the reading comprehension in this school community in terms of the use of metacognitive strategies for main idea identification.

Finally, the findings of this study might supply L1 and L2 reading teachers with useful information about the metacognitive strategies their students could use to identify main idea in L1 and L2 expository texts.

1.4. Organization of the Thesis

The present study is organized in five chapters. In chapter one, an introduction to main idea identification and metacognitive strategies is presented. Chapter two reviews

the specific literature on : (a) main idea identification, (b) reading comprehension and reading models, (c) schema theory and reading comprehension, (d) text structure, (e) metacognition, (f) skills and strategies, (g) skilled and less skilled readers, (h) main idea identification instruction – the teacher's role. Chapter three describes the methods used in the study. Chapter four presents the analysis and discussion of the data and the answers to the research questions. And, finally, chapter five presents the final considerations, limitations of the study, and pedagogical implications.

CHAPTER 2

REVIEW OF THE LITERATURE

2.1. DEFINING MAIN IDEA

Researchers believe that main idea identification happens when readers, while reading a text, use strategies to process the information it contains. Then these strategies activate readers' knowledge of text structure, and their knowledge of the topic in the text in order to establish different levels of importance of the information contained in the text. Then, a mental framework is constructed for the text which is being read (Williams, 1988; Winograd, 1984; Winograd and Bridge, 1986; Aulls, 1986; Dole, Duffy, Roehler & Pearson, 1992; Carriedo & Alonso-Tapia, 1996).

This framework is what van Dijk and Kintsch (1983; Gagné,Yekovich & Yekovich, 1993) describe as being the result of inferential processes which reduce text's propositions under the same heading idea into a hierarchically organized condensation that expresses the most important information in the passage, the *macrostructure* or *gist*. Van Dijk and Kintsch (1983) also say that the same text can support different macrostructures identified by different readers, since every person brings different goals and personal prior knowledge to carry out the task of main idea identification.

Therefore, under the umbrella term *main idea* we can find a varied terminology, which mirrors the lack of consensus about its nature (Cunningham & Moore,1986; Pearson & Johnson, 1978; Williams, 1988; Tomitch, in press), even though research and instructional programs explain that it refers to *the most important information* whether clearly explicit, or implicit in the passage (Pearson & Johnson, 1978; Williams, 1988; Aulls, 1986).

Accordingly, Cunningham and Moore (1986) also emphasize that different readers may have different concepts about *main idea.* Looking for a classifying parameter for their studies, these two researchers collected and analysed nine different types of readers' concepts about main idea identification which they present as *gist, title, topic, topic/thesis sentence, topic issue, key word, theme, interpretation, selective summary/diagram* (pp.6-7). Thus, the same task about the same passage given to different individuals may result in different types of main idea or, in other words, in different ways of labelling *the most important information* in the passage, even though each label correspond, in fact, to a different task which demands a different level of generalization.

In relation to the different labels for main idea, Williams (1988) says that studies attribute this variation to inconsistencies found in basal series of primary instruction for native speakers about main idea definition, examples, and tasks given to students. She adds that this problem is reinforced because the difference between narrative and expository texts is not taken into account. Another source of confusion mentioned by researchers (Williams, 1988; Cunningham & Moore, 1986; Winograd & Bridge, 1986) is that writers and readers may have different ideas about what is important in a passage.

Pearson and Johnson (1978) in their remarkable book about reading comprehension give a very clear description of main idea and the supporting details. They say that the confusion about main idea tasks is just superficial. It can be explained *through the logical relation between more general and more specific propositions.* This means that finding main idea, or a topic, or a topic sentence follows the same procedure we use to find a category label for a list of words. In fact, in order to find main idea, the reader has to realize that "some of the propositions are *examples* of the most general proposition intended to serve as *the main idea.*" (p.90).

With regard to the importance of information, Cunningham and Moore (1986) and Williams (1988) say that information is not important by itself. In fact, importance depends entirely on the readers' goals in relation to the task they have to carry out and the type of text under consideration (Winograd & Bridge, 1986; Cunningham & Moore, 1986). Thus, importance can be determined either by the reader or by the author of the text (Cunningham & Moore, 1986; Williams,1988), let alone those task demands which usually involve what teachers and authors point out as important in school texts (Schellings & Van Hout-Wolters, 1995; Dole, Duffy, Roehler, & Pearson, 1991; Winograd & Bridge, 1986).

Aulls (1986) states that readers need declarative knowledge, procedural knowledge, and text cues to determine the importance of ideas in the text. He points out that *topic* and *main idea* are two distinctive text components encompassed in readers' declarative knowledge and readers should be aware of such a distinction. He describes *topic* as the dominant subject contained in the text and *main idea* as the sentence which states the topic and hierarchically serves as reference for all other sentences in the text.

Research mentioned in this section depicted main idea as the result of text processing which reduce it to its most essential meaning. Thus, main idea identification is said not to be an easy task, as it demands reading strategy action, and resources from prior knowledge, what requires individual maturity and schooling. Also, determining the importance of information to achieve main idea identification depends on the reader's goals and the kind of text they have to deal with. Moreover, in instructional terms, main idea identification is still a confused curricular component. Even though there is a general agreement among researchers and teachers about main idea being the most important information in the passage, there is no uniformity for task directions in instructional books.

2.2. READING COMPREHENSION AND THE READING MODELS: BOTTOM-UP, TOP-DOWN AND INTERACTIVE MODELS

Since the 1960s, research in the reading comprehension field has suffered strong influence from psychology in the attempts to explain how readers' mental processing of information takes place. In fact, the psycholinguistic perspective of reading comprehension (Samuels & Kamil, 1988) influenced both traditional and more up-to-date concepts of reading comprehension. Traditionally, the reading process was understood as a hierarchical sequence of distinguished skills which readers should acquire to achieve comprehension (Dole et al., 1991; Garner, 1988). However, this concept has evolved to "cognitively based views of reading comprehension" (Dole et al., 1991, p.240) which focus on the ongoing strategies that promote the interaction among readers' prior knowledge, cues from the text, and reading context, to develop a representation of the text in the readers' mind (Dole et al., 1991).

In this mean time, several researchers designed models of reading comprehension according to their own understanding of the process and, also, according to the scientific and historical context they were experiencing (Davies, 1995).

According to Davies (1995), we can identify the reading process as it is traditionally viewed with the so-called "bottom-up" models, which have Gough's (1972) model as a paradigm. Gough's model begins with letter recognition and goes up from lower levels of one-direction information processes through distinctive stages to achieve the higher level processes of reading comprehension. However, bottom-up models present some shortcomings. In fact, as they emphasize lower level processes such as letter-sound recognition without taking into account other resources such as the reader's knowledge of topics, they overload working memory, slowing down comprehension, and turning reading into a really painful process. Also, these one-

direction information processing models' greatest deficiency is their "lack of feedback" (Samuels & Kamil, 1988, p.31), i.e., they do not permit that a higher order information can fix up a failure in processing at a lower stage.

As a reaction to these early models, Davies (1995), Garner (1988), Samuels and Kamil (1988) report that researchers such as Goodman (1970) and Smith (1982) developed "top-down" models whose main characteristic is that they focus strongly on higher levels of information source and processing without paying much attention to letter-sound recognition. In Goodman's model, "antecipation, prediction and "going for gist" (Davies, 1995, p.62) were taken as leading strategies, while text print played an insignificant role. As these models are also one-direction information processing models, they have limitations, mainly in relation to L2 teaching, because they do not attend L2 readers' difficulties with decoding (Davies, 1995).

Samuels and Kamil (1988) added that finally, as none of those models managed to explain the reading process satisfactorily, researchers applied their efforts and arrived to the conclusion that, although "bottom-up" and "top-down" models were complete from their constructors' perspective, they did not account for all occurrences that appear in the reading process.

According to Samuels and Kamil (1988), Garner (1988), and Davies (1995), the interactive model was a step forward in the sequence of reading models. It proposed a far better explanation for the reading process. Following those researchers' words, Rumelhart's (1977) interactive model attends better both L1 and also L2 readers, as it does not establish a one-direction flow for information processing. On the contrary, it proposes a *parallel processing* of information that enables an interaction among *visual, orthographic, lexical, semantic, syntactic,* and *schematic* sources of information. In his model, input is simultaneously and selectively conducted into a *pattern synthesizer*

which, in turn, produces an adequate *interpretation* of all the information. However, those researchers point out that Stanovich (1980) brought a good contribution to the interactive model when she suggested that readers could compensate for their own defficiences in lower level processing by heavily relying on higher level processing of information and vice-versa.

In later studies, Rumelhart (1981) enriched his model by emphasizing the role of the "semantic level of processing" (Davies, 1995, p.66), or, in other words, the important role both prior knowledge and experience play in reading comprehension.

The studies included in this section described briefly relevant reading models which were developed according to the psycholinguistic perspective, as an attempt to explain how the human mind works when processing information.

2.2.1. SCHEMA THEORY AND READING COMPREHENSION

Rumelhart (1981) suggests that all our knowledge is stored into units called *schemata* which contain, besides the knowledge about every situation we are meant to face, the knowledge about how to use the strategies which activate our *schemata.* Our *schemata* can be described as *stereotypical* models of meaning which follow a plan determined by what we experienced in life so far. These schemata are formed by sub-schemata which attend the continuous arrival of new information and which are linked to the central model and to each other through meaning, and that grow every time a new piece of related information is added to them. *Schema theory* is particularly relevant to the reading comprehension in the notions of top-down (*conceptually-driven processing*) and *bottom-up activation* (*data-driven processing*). Thus, a *conceptually-driven* processing activates a schema which, by its turn, activates its net of sub-schemata and guides them into elaborating predictions about the perceived input. The second

mechanism, the *data-driven processing*, functions bottom-up as any of the sub-schemata is somehow activated by the incoming of the perceived information. Moreover, our schema-directed processing is always evaluating and embodying information by checking the incoming input against the higher level elaborated assumptions based on our knowledge and experience. As a result, the information can be accepted or rejected, if the new information does not match the *top-down* expectations. In this case, the processing stops, and a new schema is allocated.

Rumelhart (1981) also says that " the process of understanding discourse is the process of finding a configuration of schemata which offers an adequate account of the passage in question" (p.22). The reader, then, uses the cues from the passage to elaborate predictions of the text meaning which will be checked against the sentences in the passage to build a macrostructure for the passage. However, the reader's understanding of the text may not always be correct. Then, Rumelhart (1981) suggests three reasons to justify this failure. First, the reader has no schemata for the text topic, so understanding simply does not occur. Second, the author does not supply the text with enough cues for the reader to construct a macrostructure. Therefore, even though the reader has the needed schemata for the text in question, s/he is not able to access them. In this case, the supplement of other adequate cues would guide the reader towards text comprehension. Third, the macrostructure the reader builts from the text is consistent with the text but does not match the author's intended message. In this case, we can say that the reader has failed to understand not the text, but the message intended by the writer.

Chiesi, Spilich, and Voss (1979) studied the influence of the knowledge of a particular topic on the acquisition of new information related to this same topic. In this study, they selected high knowledge and low knowledge subjects on the topic of

"baseball" to perform their investigation. They found that, in general, prior knowledge on a certain topic facilitates the acquisition of new related information on that topic. High knowledge subjects integrated new related information more quickly and needed less input to make their judgements about the text. Well-structured knowledge on a topic also facilitates encoding and retrieval, in other words, recalling. They also noticed that the difference between high knowledge and low knowledge subjects' acquisition of the new information depends on the difference of knowledge structure high and low knowledge individuals possess. Also, high knowledge individuals are better than low knowledge individuals in the use of context for new information processing.

Afflerbach (1990) studied the influence of prior knowledge on the strategies expert readers used to identify main idea when it is not explicit in the text. In this study, he investigated: a) the effect of prior knowledge of the content area of a text on the specific strategies used to construct a main idea; b) if main idea is constructed more automatically from a passage on a known topic or on an unknown topic; c) whether the influence of prior knowledge on main idea construction might be altered by the interference of other comprehension processes such as word identification and assignment of importance or not. Afflerbach (1990) found that texts on familiar topics facilitate automatic main idea construction for expert readers. Taking this finding into consideration, we can draw the conclusion that main idea construction for unfamiliar texts may require the use of strategies to overcome this unfamiliarity. Another conclusion is that lack of prior knowledge demands strategy use for the text to be understood. Since these strategies are consciously applied to the text, they allocate more resources in working memory, and, consequently, the cognitive resources involved in automatic main idea construction are reduced. Familiar topics, on the other hand, usually make resources from the appropriate schemata be automatically applied to the

task at hand. Readers' prior knowledge, then, contributes to the generation of an initial hypothesis. Then, the initial hypothesis is checked, putting monitoring strategies into action, and, thus, facilitating the automatic construction of the text main idea. Afflerbach (1990) also found that four strategies are used by expert readers in the construction of main idea statements: *draft-and-revision*, *topic/comment*, *initial hypothesis*, and *listing*. He also noticed that readers used metacognitive strategies successfully and more often than automatic skills in main idea construction.

The studies included in this section give support to the central role of prior knowledge in the acquisition of new information and its influence on the strategies which activate the processing of main idea identification. In fact, findings show that individuals who possess a high developed schemata on a certain topic are more competent at integrating new information, drawing conclusions about texts, and recalling more easily. Also, high prior knowledge on text topics facilitates automatic main idea construction, while low prior knowledge demands the use of metacognitive strategies for main idea construction.

2.2.3. TEXT STRUCTURE

Speculating upon a probable reason for researchers' dissatisfaction with main idea instruction, Hare, Rabinowitz, and Shieble (1989) thought it could be attributed to two factors: the confusion about main idea definition and, also, to the difficulty in teaching students to transfer main idea strategies from *contrived texts*, main idea instructional texts, to *naturally ocurring texts*. They hypothesized that finding main idea in contrived texts is an easier task because this kind of texts are constructed to facilitate main idea identification for the students in terms of main idea position and text structure. On the

other hand, it is more difficult for students to identify main idea in naturally ocurring texts because their structure is more complex and the content is usually new.

Two studies were, then, applied to fourth, sixth, and eleventh grade students (native speakers of English). Study 1 compared a simple listing text (LIST) and a listing text with extra information (LIST+). In the LIST+ case, students should apply a *delete* rule (van Dijk & Kintsch, 1983) first to eliminate the extra information, prior to applying a *select* or *construct* mapping rule (van Dijk & Kintsch, 1983) to find main ideas. They also examined how main idea position would affect main idea comprehension. Considering main idea medial and final position, they expected that subjects would find main idea more easily in LIST rather than in LIST+ texts, due to these second texts' more complex structure.

Study 2 was designed to check subjects' main idea of texts of four different text structures. The researchers expected that subjects' difficulties in identifying main idea would increase according to this order of text structure: *listing, sequence, comparison/contrast, and cause/effect* texts. They also wanted to check if subjects would have more difficulty in identifying an implicit main idea rather than an explicit main idea, because in implicit main idea identification, subjects should use a *construction* rule which is cognitively more demanding than a *select* rule.

They found that, in general, text organization affects main idea identification. Study 1 revealed that finding main idea in the first position of a simple listing text was an easy task even for the youngest subjects (Winograd & Bridge, 1986). Therefore, the difficulty in main idea identification increased even for intermediate grade subjects when main idea came in other positions, because they have to *construct* a main idea at the beginning for further confirmation, rather than *select* a main idea.

In relation to main idea position in texts, they verified that subjects had more difficulties in finding main idea in initial and final position of LIST+ texts than in the LIST texts, while main idea in medial position was difficult in both types of texts. In general, subjects did not perform well main idea identification in medial position in both LIST and LIST+ texts.

Findings in Study 2 showed that subjects had much more difficulty in finding implicit main idea than explicit main idea in all text structures (Williams, 1988). They also found that, apart from *sequence* structure, *comparison/contrast* and *cause/effect* structures caused more difficulty for subjects to find main idea than *listing* texts. Also, constructing *implicit* main idea is particularly difficult for text of *all* structures.

Two difficulties associated with transfer of main idea skills from contrived texts to naturally occurring texts is that contrived texts are purposefully well-structured, what facilitates main idea identification, while naturally occurring texts are not. Also, we have to take into consideration that students in the fourth, sixth, and eleventh grades are still developing their schemata about science and social studies content.

The researchers' recommendation for a successful main idea identification instruction is the inclusion of naturally ocurring texts in the students' training material for main idea identification.

Carrell (1992) investigated the differences between the *use* and *recognition* of different kinds of text structure. She found that readers who *used* text structure to organize their written recalls, recalled more of the top-level (main ideas) and high-level ideas than those who did not. On the other hand, those who *recognized* text structure did not recall more than those who did not recognize the structure. Thus, structure use can result in better recalls qualitatively and quantitatively speaking.

Taylor (1992) focused on the importance of awareness of text structure as a tool for helping readers to understand texts and memorize the most important ideas in texts. She defines text structure as "the organization of ideas in text" (p.221) which comprises patterns that organize the text within certain textual characteristics, and the way main ideas and supporting details are organized to establish a hierarchical relationship according to propositional importance.

She points out that text structure facilitates text comprehension and content recall. Adult readers tend to elaborate their summaries using the same text structure of the original text, what demonstrates awareness of structure. This awareness of structure also helps expert readers select and recall ideas according to their importance in the text (Winograd & Bridge, 1986). Often, non-adult readers are not able to use text organization as a way of developing their comprehension of texts and memorization of texts' content. They have difficulties finding main ideas of expository texts due to their inability to deal with text structure.

Chambliss (1995) investigated the text cues and strategies expert readers use to construct the gist of lengthy written arguments which are formed of three parts: *claim*, a superordinate sentence which can be placed in different positions in the text; *evidence*, facts and examples that give support to the claim; and *warrant*, a conceptualized version of the evidence that links the two other parts of the argument. She used texts with different argument structure, content familiarity and argument signaling to verify subjects' ability to recognize the argument pattern, identify the claim and evidence in the argument, and construct a gist representation from the argument text. For this purpose, subjects performed tasks such as think-aloud protocols and written surveys to complete. The results supported the initial hypothesis: subjects who were expert readers identified the argument structure, looked for text cues, and used strategies to construct a

gist from the text similar to the argument structure used by the writer. The researcher also noticed that the relationship between the claim and the evidence was very important for subjects' performance. However, the familiarity of the content and the position of the argument parts in the text seemed not to interfere in the readers' comprehension of the text. It also seemed that the lack of content and position of the argument parts did not affect subjects' recognition of the text as an argument if they recognized the claim/evidence relationship. Warrants were not recognized by the subjects as an important argument part. The reseacher noticed that subjects in this study behaved more strategically than expected. As a matter of fact, they adapted their strategies to the cues they found in the text. Identifying a possible claim to check the correct evidence, and predict a claim and check its identification after completing text reading were the two most used strategies. These strategies were used for linking the hierarchically higher sentence to its supporting facts and examples and for identifying it as the authors'claim. She also noticed the central role played by schemata in the comprehension of lengthy texts as subjects seemed to rely on an argument schema to summarize the text hierarchically into a gist.

Connor (1984) examined the differences between native English speakers and second language readers' recall when reading an English passage. She hypothesized that ESL readers who were not used to reading expository texts in English could not be aware of text structure of expository text. Thus, these readers could find difficulty in recognizing, retaining, and recalling superordinate ideas and their related subordinate ideas from texts. In her study, she found that, firstly, native subjects remembered more propositions from texts than ESL subjects. Secondly, there was no difference in the recall of superordinate ideas for native and ESL subjects. However, subordinate ideas were better recalled by native subjects than ESL subjects.

Tomitch (1996) investigated Brazilian EFL better readers' and weaker readers' awareness in relation to the *problem/solution* structure of texts. She found that better readers are able to both recognize the structure and use it to regulate text processing, thus preventing working memory from being overloaded. In her study, she found that better readers tended to perceive and identify distortions more easily than weaker readers, even though both better and weaker readers recognized the structure of the text as *problem/solution*. However, better readers followed the structure of the text to organize their recalls more often than weaker readers. She also found that their ability to recognize the structure of the text did not mean that they would use it in their recalls, that is, even though they have declarative knowledge on the matter, they did not display the procedural knowledge necessary to include the structure in their recalls.

The literature reviewed in this section shows that, in general, text organization affects main idea identification and recall. The findings of a number of studies show that subjects had more difficulty finding main idea in positions other than the first sentence. Also, implicit main idea seems more difficult to be identified probably because readers have to apply the construction rule which is cognitively more demanding for the reader. Moreover, with regard to the instructional context, subjects seemed to find more difficulty in the transfer of main idea skills from instructional texts to less constrained texts probably because instructional texts are usually better structured, and this fact facilitates main idea identification. In relation to recall, it was found that subjects who are aware of text structure, and use it to organize their written recall tend to remember more important information from passages. Text structure also seems to be efficient in compensating for the lack of content schemata, and in facilitating strategy use for expert readers' identification of main idea of lengthy

argumentative texts. Another positive finding is that L2 readers also seem able to transfer their knowledge of text structure from first to second language.

2.3. METACOGNITION

Stuart and Tei (1983) call attention to the distinction between *cognition* and *metacognition*. Cognition involves people's knowledge, while metacognition involves what Garner (1988, 1992) defined as "cognition about cognition" (Garner, 1988, p.16), i.e., one's reflection about thinking, which involves development and instruction (Paris, Wasik & Turner, 1991; Paris, Lipson & Wixson, 1983). Brown (1980) refers to metacognition as the "deliberate conscious control of one's cognitive actions" (p.453) which is applicable on every situation in daily life since it involves people's decisions about how to approach a task.

Gagné, Yekovich and Yekovich (1993) described metacognition as the process involved in comprehension monitoring, i.e., the active and conscious control that readers exert over the processes which make their reading successful. It includes the setting of a goal for the reading, and the selection of a strategy to pursue this goal. Skilled readers do this first part fairly automatically. However, if there is any disruption in comprehension, the goal-checking processes stops the flow of reading to activate the remediation strategies which restore comprehension to make all processing go on (Dole et al., 1991).

Paris, Lipson and Wixson (1983) observe that when learners become experts, i.e., they control their own learning, they acquire different types of knowledge which are fundamental for someone to be strategic. When someone is aware of *what* is happening, s/he is using her/his *declarative knowledge*, which includes propositions about task structure and task goals. Also, one has to have *procedural knowledge*, that is, has to

know *how* to perform tasks, e.g., how to identify main ideas. We can learn *how* to do things from direct instruction or from our own experience. And, finally, one has to know *when* and *why* to apply strategies to achieve the proposed goals.

The studies reviewed in this section account for the theorethical background which shows the importance of metacognition at enabling readers to become efficient and independent learners. Metacognition is deeply involved with the concepts of *skill* and *strategy*.

2.3.1. SKILLS AND STRATEGIES

Paris, Wasik and Turner (1991) state that the basic difference between skills and strategies is *awareness*. They define skills as automatic information processing that readers apply unconsciously to texts. Strategies, on the other hand, are deliberate actions, i.e., they are under readers' control, and can be used according to their need and choice to achieve a certain goal. They point out that strategies involve *metacognition* and *motivation* because readers must be conscious of the value and utility of a strategy before selecting it. Another point is that skills and strategies share the same nature, thus, a skill may become a strategy if the reader decides to select and apply it to understand something specific in a text. Paris, Lipson and Wixson (1983) suggest that a situation for a skill to shift to a strategy could occur when the task becomes too difficult and the readers' automatic resources are not enough.

Garner (1992) points out that something important about strategies is the distinction between readers' *knowledge* and *use* of a strategy. In other words, readers may sometimes know the advantages of using a certain strategy, but they do not know how to use it effectivelly.

Brown (1980) points out that even our recall of the gist of a passage is quite automatic, we can use metacognitive strategies to enlarge our understanding of passages and to have a richer recall. She adds that *taking notes* and *underlining of texts* are two strategies students use often and spontaneously when studying to highlight the information related to the theme, which also increases their recall of central information for texts (Baker & Brown, 1984).

According to Paris, Lipson and Wixson (1983), students learn to be strategic either by themselves as they develop their own strategies intuitively, or at school through instruction. They also observe that the best age for children to develop strategic behavior is when they are between 5 and 12 years old. Strategic behavior helps children to communicate, read, write, and remember better.

Studies in this section have shown that metacognition is deeply involved with the concepts of skill and strategy, since awareness is the factor which makes the difference when an automatic comprehension process is deliberately applied to a text, so that the reader can understand it, even understand it deeply for a better recall. However, just knowing the value of strategy use is not enough. Readers need to develop a strategic behavior to become efficient, and, consenquently, efficient to identify main idea in texts.

2.4. SKILLED AND LESS SKILLED READERS

Researchers have agreed that identifying main ideas is difficult for less skilled or novice readers (Williams, 1986,1988; Block, 1980; Baumann, 1984; Brown, 1980; among others). However, Afflerbach (1990) pointed out that constructing main idea statements is a particularly difficult task even for skilled readers.

Block (1986) investigated the comprehension strategies used by second language readers. This researcher found that those subjects who had difficulties in integrating text information tended to rely on their personal considerations rather than on the text information to understand the text. They also tended to include details and not main ideas in their retellings and made little use of strategies.

Accordingly, Paris, Lipson and Wixson (1983) observe that poor readers (native speakers of English) do not adjust their strategies easily. Also, the major distinction between skilled and less skilled readers in any content domain is their ability to control their own strategic behavior. Similarly, in a review about individual differences in reading skill, Daneman (1991) mentions that less skilled readers have difficulties in interconnecting a sequence of topics, and in integrating information to construct a macrostructure of a passage. They also show difficulty in making inferences and usually make less inferences in text comprehension.

Winograd (1984) investigated readers' strategic difficulties when summarizing texts. The investigation involved 8th grade students and adults (native English speakers). He discovered that most 8th grade students knew that they should select the important ideas from texts when summarizing them. In relation to readers' sensitivity to importance, his first finding was that skilled readers were better at identifying the information which adults rate as important. However, skilled readers agreed with adults' opinion about the importance of information. Second, even though less skilled readers considered important information differently from adults, they showed consistency in their judgement because less skilled readers' understanding of importance was different from adults' understanding. In relation to this, Winograd suggested that less skilled readers could have based their choice of important ideas on personal reasons and interests. Another significant finding was that sensitivity to importance could be

affecting comprehension and summarization results in the study, suggesting that main idea identification is a fundamentally strategic skill as far as summarization and comprehension are concerned. In addition to this, Winograd and Bridge (1986) found that fluent readers tend to recall superordinate ideas rather than subordinate ideas.

Studies in this section show that main idea identification is a difficult task for less skilled readers, mainly if readers have to *construct* main ideas. The literature shows that skilled readers have control over their use of strategies. They are able to integrate ideas to construct a macrostructure for the text, and tend to recall the top ideas of texts rather than supporting ideas. On the other hand, less skilled readers have difficulty in adapting strategies: they often fail at integrating ideas, and tend to include details and not main ideas in their written recalls. Besides, they consider importance of text information differently from adults' view of importance. They usually relate information importance to their personal goals and interest.

2.5. MAIN IDEA IDENTIFICATION INSTRUCTION – THE TEACHER'S ROLE

Dole, Duffy, Roehler and Pearson (1991) wrote a review about comprehension processes, comprehension strategies, and teaching strategies which gives a very clear overview of the traditional and current instructional tendencies in reading comprehension. With this article, they intended to shed some light on reading curriculum and reading instruction under a cognitively based view of reading comprehension. According to this view, reading comprehension is understood "as an active process in which readers select from a range of cues emanating from the text and the situational context to construct a model of meaning that represents, to some degree, the meaning intended by the writer" (p.255). Thus, readers develop their reading ability

by using strategies to approach texts under teachers' scaffolding. This scaffolding tends to retract to the extent that readers become more mature and secure of their expertise and able to assume the responsability for their own learning. In fact, the interaction between teachers and students ought to contribute to the construction of a successful teaching/learning relationship through mediation and meaning negotiation from instructional context.

Dole, Duffy, Roehler, and Pearson's (1991) cognitive instructional model emphasizes the teaching of a set of strategies which are consistent with the cognitive view of reading comprehension, with establishing the difference between skilled and less skilled readers, and with instructional feasibility: *determining importance* (or *main idea identification*), *summarizing information*, *drawing inferences*, *generating questions*, and *monitoring comprehension*.

They also highligth the teacher's role in the mediation between readers and texts. Teachers are expected to help their students to understand the text content, the use of adequate strategies to approach the text, and the nature of the reading process itself. Thus, they pursue these goals through four kinds of instructional actions: *planning*, *selecting academic work*, *providing information*, and *restructuring students' understanding*.

Carriedo and Alonso-Tapia (1996) designed a programme to teach main idea identification in the classroom context to improve main idea comprehension through the use of cognitive and metacognitive strategies, the direct instruction method (Baumann, 1984), and some contextual factors (the subjects' classroom, their classmates, their regular teacher, and the usual textbooks). This programme would be performed by teachers in the context of their own classroom, within their own timetable and their content area. The teachers should teach strategies by modelling, explaining, and

promoting both guided and independent practice. The strategies that teachers should teach to their students were: *previous knowledge activation about the content of the text, text structure strategy knowledge, hierarchical representation of the ideas in the text, and text composition.* The teachers were trained in the strategies used to find main idea, and how to teach them in their normal classrooms. Then, teachers were expected to be ready to put the programme into action. The researchers could acknowledge that the programme was quite effective. Subjects in the experimental group showed better results in metacognitive knowledge about reading comprehension, hierarchical representation of text ideas, and the processes related to topic and main idea identification in relation to a control group that received only traditional reading comprehension training. Also, the trained teachers really modified their teaching habits and behaviors. By analysing subjects data, they also found that the programme can push students' development for those who are in the "near development zone" (p.143), and need scaffolding to achieve the proposed goals. They mentioned 7th grade (aged 12-13) and, mainly, 8th grade (aged 13-14) as the best students' ages for the application of the programme. They also emphasized that the hierarchical representation strategy is the most valuable for main idea identification instruction because it clearly establishes levels of importance for text ideas.

Sarig (1989), however, claimed that the widely accepted assumption that the set of strategies used by skilled readers and usually taught to less skilled readers as the solution to these readers' reading comprehension problems may not mean success or failure in the less skilled readers' reading comprehension. She pointed out that the combination of strategies used by readers to process texts is highly individual and there is no guarantee of success when a certain set of reading comprehension strategies is taught to a less skilled reader. For this reason, readears should have their reading

comprehension processing analysed and diagnosed individually by the teacher before being submitted to a reading remedial programme. In this article, she also suggested "conditions for optimizing the use of comprehension-promoting strategies and a *corrective-interactive view of text-processing*" (p.43-44), which is based on a sequence of interactions among its three main components: the *assessor* , the *planner*, and the *operator*, all of them controlling and monitoring readers' comprehension process.

Baumann (1984) said in his study that the difficulty students face comprehending main ideas when reading real texts at school attest to the fact that main idea should be taught effectivelly and sistematically. In this article, he shows a direct instruction model he developed for teaching main idea comprehension for sixth grade students. As parameters for his model effectiveness, he used a group that received traditional instruction on main idea, and another group that did not receive any instruction. He emphasized that *direct instruction* is centered on the teacher, who is responsible for explaining the concept of main idea, demonstrating how to identify or state it, monitoring students' performance and giving them feedback. Then, the teacher promotes the gradual transfer of responsability for students' learning from the teacher to the students. Baumann (1984) designed a sequence of eight lessons on main idea comprehension, each one comprising five steps: a) the teacher introduces main idea; b) provides an example; c) teaches main idea directly; d) provides exercises for practice, transfer, and feedback when necessary; e) apply exercises for independent practice. This model puts emphasis on students' practice in new contexts, i.e., texts other than those found in instructional textbooks (Hare, Rabinowitz & Shieble, 1989), and on students' production of main idea statements rather than main idea recognition of correct statements. As a result, Baumann (1984) found that direct instruction of main idea is more effective than main idea instructional textbook. The direct instruction group

performed better than the control group at recognizing explicit and implicit main ideas in paragraphs and passages, as well as details that support main ideas. They were also better able to construct main idea statements of paragraphs and passages for a main idea outline.

Cunningham and Moore (1986) suggest that instruction through tasks on different levels of generalization of main idea could provide readers with successful achievement on main idea identification.

Based on evidence from his own research, Aulls (1986) states that both average and less skilled readers in the middle grades can develop into experts in identifying the central topic of an expository paragraph or selection through direct instruction which includes training in categorizing and classifying words, phrases, sentences, and topics of paragraphs.

Afflerbach (1990) called attention to important points in main idea construction instruction. First, main idea construction is usually a difficult task. It frequently requires metacognitive strategy use, and current instruction is not very clear when it establishes the difference between *selecting* and *constructing* (or *inventing)* strategy. Second, main idea construction statements demand more time from readers to be performed. Third, as main idea construction is more difficult with unfamiliar texts, readers should be previously acquainted with the content of the text to be read. Fourth, teachers should mediate main idea construction statements by modelling main idea construction strategies such as *draft-and-revision* or *topic/comment,* and other related comprehension strategies for main idea construction tasks. Teachers should also show how prior knowledge could be useful for main idea construction.

Tomitch (in press A) discusses the inclusion of clear instruction on main idea identification in EFL textbooks from a cognitive psychology perspective. Eleven

textbooks were analysed: nine out of these textbooks were not published in Brazil. The researcher had her predictions confirmed: only three in the eleven books analysed gave some clear instructions. The others only presented exercises which deal with main ideas without making it explicit for the reader which procedures to follow to get the main point(s) of a passage. In these last eight books, students are not taught about how to get the main idea, but they are given an opportunity to practice a main idea identification skill according to their own concept of that skill. Therefore, less skilled readers just go on without getting a clear view about main idea as they did not receive any real instruction on an effective procedure toward "getting the main idea". Research has not yet succeeded in establishing a clear criteria on what a main idea is. According to Tomitch, the criteria for identifying main ideas remain unclear, (from a cognitive psychology perspective) because the notion of importance "seems to be intuitive, that is, it is procedural, not easily verbalizable, not declarative" (p.6). This can explain why we are able to recognize what is important in a text, but we cannot say why it is like that. She adds that main idea tasks should be better structured as the steps to follow toward performance are not described satisfactorily.

All the studies in this section contributed to the evidence that the instruction on main idea identification is based on direct instruction. According to this view, teachers mediate the interaction between students and main idea tasks by explaining the concept of main idea, modelling the strategies to find it, and giving them assistance for practice, feedback, and gradual transfer of learning responsability. However, in terms of EFL instructional material, it is not an easy task to find available textbooks which include main idea instruction.

2.6. A BRIEF SUMMARY OF THE CHAPTER

The studies reviewed in this chapter give support to the belief that main idea identification and the metacognitive strategies used for this purpose are instructionally feasible and highly advisable. In fact, such instruction seems to be able to contribute greatly for readers' improvement on reading comprehension and content recall of expository texts.

CHAPTER THREE

METHOD

3.1. Subjects

The subjects who initially took part in the study were twenty-eight students – sixteen girls and twelve boys – enrolled in the third year of the secondary course at *Instituto Estadual de Educação* (IEE), Florianópolis, SC, a huge coeducational state school which comprises students from kindergarten to high school. Their ages ranged from 16 to 19, and most of them reported to be taking the entrance exam to the university at the end of the year. All of them were Brazilian native speakers of Portuguese who were attending classes of English as a foreign language at school. At IEE, foreign language teaching has gone through the following: until 1997, foreign language had been a curricular component at IEE from the seventh year of the first grade course on up to the third year of the secondary course. Since 1998, though, foreign language as a curricular discipline has been taught from the fifth year of the first grade onto high school.

3.2. Design

This research was carried out in two stages from mid September to mid October/1998. The first one was developed in the subjects' classroom. During this period, the researcher attended L1 and L2 classes for a week in the target classroom in order to make her presence become familiar to the subjects. The date for the main idea identification test was arranged for the subsequent week. Then 10 (ten) subjects were selected at random for the second stage of the study (the verbal protocol). The purpose

of the random selection of subjects was to have an overview of secondary students' main idea identification skill and the metacognitive strategies they would use in order to identify main ideas. Thus, in the second stage, the selected subjects were requested to provide data for the verbal protocol. They performed their tasks in individual sessions which were arranged according to their availability. The sessions consisted of a training followed by the activity itself, under the researcher's supervision. For both activities, the subjects were allowed to give responses in their mother tongue as the reseacher understood that the data collected would be more accurate.

3.3. INSTRUMENTS AND PROCEDURE FOR DATA COLLECTION

Before being asked to report verbally their reading metacognitive strategies while reading a text, subjects received a pack containing a main idea identification test (see Appendix A) designed to measure subjects' ability to identify main ideas in expository texts.

3.3.1. Main Idea Identification Test

The Main Idea Identification Test consisted of two one-paragraph texts in English and two in Portuguese which were selected according to certain specifications (see Appendix A). Firstly, measuring material should be taken from naturally ocurring texts as this is the condition current school texts are found (Hare, Rabinowitz & Schieble, 1989, p.74). Secondly, texts 1 (Portuguese) and 4 (English) should have their main ideas clearly expressed in one sentence, so subjects were supposed to underline them. On the other hand, texts 2 (Portuguese) and 3 (English) would have their main ideas implicit, so subjects were expected to construct main idea statements for this second pair of texts.

Thirdly, all texts should be approximately of the same level of complexity. Fourthly, as texts had their main ideas either explicit or implicit, textual cues such as titles and subheadings were removed from them (Afflerbach, 1990) in order to avoid unbalance in subjects' main idea identification process, since the idea was to assess their notion of importance of the information included in each paragraph. Also, considering that the main purpose of this test was to check the subjects' ability to identify explicit and implicit main ideas in Portuguese and English texts, the order of presentation of texts should be unbalanced in some way to give more credibility to the test. In fact, just two possibilities were considered in this case: the language used in each group of texts, that is, either in Portuguese or in English, and the way the main ideas came in these texts, whether explicit or implicit. Thus, the presentation of the texts followed these criteria: first, the texts in Portuguese, in order to give the subjects an oportunity to think first in their mother tongue, and then, came the texts in English. However, the order of presentation of the texts with explicit and implicit main ideas in Portuguese and in English was purposefully modified in order not to give the subjects the same pattern of presentation for both groups of texts. Thus, the sequence of texts happened as follows: text 1 in Portuguese, with explicit main idea; text 2 in Portuguese, with implicit main idea; text 3 in English, with implicit main idea; and, text 4 in English, with explicit main idea. Finally, the contents of the texts should be on topics supposedly familiar to high school students as they would belong to knowledge domains closely related to high school curricula components. Hence, the experimental one-paragraph texts 1, 2, 3, and 4 used in this study were related to the following knowledge domains respectively: Biology, Physics, Geography and Hygiene. Subjects had one hour and thirty-six minutes (two classes) to carry out this first part.

Taking into consideration the exposed requirements, the paragraphs were extracted from issues published in popular magazines in Portuguese and in English on current affairs, cultural and scientific matters such as *Veja, Speak Up* and *Readers' Digest,* and also from *Enciclopédia Barsa* which is a branch of *Encyclopaedia Britannica.* Texts ranged between 118 and 188 words.

The first two texts were written in Portuguese. Text one was taken from an article on medicine published in *Veja* (August, 19, 1998) whose title was "A Força da Mente". The text explained how our brain, when positively stimulated by tasks such as reading, language learning, math problem solving or even work routine, can enlarge our life time span or prevent us against typical old age deseases such as senility and memory loss. Since this text was extracted from a newsmagazine, it presents the textual characteristics of informational texts: it is a short paragraph, its main idea came clearly expressed in the first topical sentence and supported by specific details (Aebersold & Field, 1997) such as examples, comments, and a quoted opinion of an expert on the matter. In this specific paragraph, the last sentence, which is also the quoted expert's opinion, happened to reinforce the main idea that came stated in the topical sentence. The second text in Portuguese was extracted from volume six of *Enciclopédia Barsa* (1989, 24th edition) and listed the sources of energy ever used sequentially by mankind through the times. Main idea came implicit in this text.

The following texts were written in English. Text three which was taken from an article published in July' 98 issue of *Speak Up* magazine called "Hell Niño", was a collection of catastrophes caused by the meteorological phenomenon known as "El Niño" which took place in California and Florida, USA. The main idea in this passage was not clearly expressed. Text four, on the other hand, was extracted from the March 1996 issue of the *Reader's Digest* magazine and had its main idea explicit. It stated that

the nail-biting habit may be injuring the teeth of those thirty per cent of Americans that bite their nails.

Thus, the Main Idea Identification Test was given to subjects in their own environment, i.e., in their own classroom, within time length of two sequential Portuguese Language classes (96 minutes). Subjects were required to read the directions for the task carefully and ask the researcher any needed clarifications about the test procedure.

Finally, fifteen (15) subjects who did not complete the four tasks of this first test were eliminated from the study. Thus, the analysis was made on thirteen (13) subjects' responses.

3.3.2. Pause Protocol

Subjects' verbal report on thinking, a technique borrowed from Problem Solving Theory (Cavalcanti, 1987), has been considered the main source of information on underlying cognitive processes by researchers who are interested in describing how thought processes take place in readers' minds (Ericsson & Simon, 1987). Therefore, to produce verbal protocols on thinking for reading purposes, subjects are asked to think aloud while reading a text. Verbal protocols have turned into a very frequently used method for qualitative reading strategies investigation since they started being considered a reliable tool for inferring the reading process from reports which describe readers' behavior in their interactions with texts (Cavalcanti, 1987).

The technique used in this study was based on Tomitch's (1995) adaptation of a method developed by Cavalcanti (1987) to obtain data for a study of grown-up Brazilian informants. Cavalcanti's (1987) method was designed in order not to interfere with the subjects' reading process or, at least, to reduce the interference to a minimum. Hence,

she analysed several methods seeking her own investigation tool which could reveal with reliability subjects' reading processes, bearing in mind certain protective specifications such as: a) a private and calm environment for data collection; b) minimum use of eletronic equipment; b) a technique which could tap readers' ongoing cognitive processes; c) naturally occurring and complete texts should be used in the experiment and not chunks; d) native and also foreign language would be used (Cavalcanti, 1987, p.231). She called her adaptation *pause protocol* as it establishes that subjects under investigation should be encouraged to read the text silently and to comment loudly either when a pause occurs, i.e., when subjects identify any difficulty which produces a stop or slows down the reading flow, or when they find coloured dots at the end of a text paragraph. At these coloured dots, subjects are asked to make retrospective comments about the paragraph content. A training prior to the activity is required so that subjects can be acquainted with the procedure. Also, an oral account is asked from subjects just after they finish their reading of the whole passage.

In this study, the whole activity aimed to detect the strategies subjects used to identify the main idea in two passages. The first in Portuguese and the second in English. Subjects performed their tasks individually, in a private place (an empty classroom) and in the presence of the researcher. Both subject and researcher sat face to face at a table in an interview-like position, so the researcher could control the activity more easily. Each session was recorded on tape and developed as follows: firstly, subjects received a manual with instructions containing all the steps to be followed in the activity and two texts for training. After understanding how the process would happen, subjects received a pack containing directions for the development of the activity (the same they had read before during the training session) and two texts for the

think-aloud activity, the first in Portuguese and the second in English. At the end of the think-aloud activity, subjects were required to state the main idea for the whole passage.

The texts were selected following these criteria: a) they should be complete naturally occurring passages approximatly of the same length and level of difficulty; b) their topics should approach a content related to students' school curriculum (see Appendix B).

Thus, text 1, taken out from the magazine *Ciência Hoje – Revista de Divulgação Científica da Sociedade Brasileira para o Progresso da Ciência,* was 194 words and four paragraphs long. Its title "Antimalárico Superconcentrado" predicts what the passage is about: the development, through genetic alteration, of a variety of *artemisia,* plant used in the treatment for malaria, with higher concentration of the active substance that fights that disease. The second text "Vitamin-A Alert !", a passage which contained 200 words and three paragraphs, was extracted from the March 1996' issue of the *Reader's Digest* magazine. Since its title, the passage warned readers against the malformations that excessive amounts of vitamin A can cause to unborn children when taken by their mothers early in pregnancy. Both passages brought their main ideas clearly expressed in their first paragraphs and their titles played a great role as main idea predictors (see Appendix C).

3.4. Data Analysis

3.4.1. Main Idea Identification Test

The analysis was based on three independent raters' main idea identification of the four texts mentioned above. The subjects' responses to each text were scored according to the criteria established as follows (based on Torres, 1998):

(1) *Full* – for underlined or paraphrased topical sentence, statements constructed for implicit main ideas, all considered conveniently accurate;

(2) *Partial* – for partially accurate responses, i.e., when responses (paraphrased or constructed main ideas) expressed part of the ideas that should be included in the main idea statements;

(3) *None* – for main idea statements which did not fit the expected patterns.

Moreover, taking into account the criteria established above to score the subjects responses to the Main Idea Identification Test, the scales displayed on Tables 1, 2, 3, and 4 were designed to assess the subjects' ability to identify explicit and implicit main idea in the L1 and L2 texts selected for this test (see section 4.1, Chapter 4).

3.4.2. Pause Protocol Analysis

The analysis of the pause protocol was based on Block's (1986) list of comprehension strategies categorized into two levels: *general comprehension* strategies, that is, strategies used to get the overall meaning of the text, and *local comprehension* strategies, used for specific linguistic understanding. Data were analysed *quantitatively*, by counting on them, and *qualitatively*, by describing their application. Also, she included in the analysis the *mode of response*, i.e., "the way readers approach the text" (p.471).

3.4.3. Main Idea Identification in the Pause Protocol

The identification of the texts' main ideas was analysed considering the "idea units" contained in the texts, based on Riley and Lee's (1996), and Carrell's (1992) idea units analyses, and adapted by Baretta (1998) and Torres (1998) in their respective M.A. theses.

The idea unit analysis in this study followed a syntatic cryterion, and, for the purposes of this work, each idea unit can be represented by (a) a single clause containing a verb, (b) a group of words forming a phrase, or, (c) a single word, all of them expressing an idea.

Thus, both texts, "Antimalárico Superconcentrado" and "Vitamin-A alert!", were divided into 33 idea units each, and rated independently by this researcher and an external judge into main ideas (MI), supporting ideas (SI), and details (D), according to their level of importance within the texts' structure (see Appendix D).

In order to analyse the subjects' performance in relation to main idea identification in the L1 and L2 texts, subjects' main idea statements were matched with the categorization of the idea units found in those texts (see Appendix E). Thus, the idea units of the two texts were organized into lists, since they do not follow exactly the same sequence of the sentences in the texts. Then, parentheses were inserted at the beginning of each idea units on the lists. These parentheses would be marked with an "X" if they matched with the corresponding ideas contained in the subjects' main idea identification statements in the pause protocol. This method of idea unit identification was based on the method developed by Tomitch (1995) in her doctoral dissertation, and adopted by Baretta (1998) and Torres (1998).

Finally, the subjects' responses were scored according to the same criteria established for the Main Idea Identification Test (section 3.4.1, in this chapter), that is *full* for complete achievement, *partial* for partially accurate responses, and *none* for responses different from the expected ones. Then, two scales (see Tables 10 and 11, section 4.4, Chapter 4) were constructed to classify the subjects' performance in relation to the main idea identification in the L1 and L2 texts used in the Pause Protocol.

CHAPTER 4

RESULTS AND DISCUSSION

In this chapter the results of the main idea identification test and the verbal protocol reports will be discussed in order to answer the research questions raised in chapter 1.

4.1. Analysis of the Main Idea Identification Test

The Main Idea Identification Test (see Appendix A) was the first to be given to subjects, as its purpose was to check subjects' ability to identify main ideas from both L1 and L2 expository texts. Besides the texts which were used for testing subjects' ability to identify main ideas, the pack contained directions for their task performance. However, they were not given any instruction on the task to be performed other than "to identify the main idea in the texts". The idea was *to assess their ability to recognize the most important information* contained in the passages, i.e., they should consider the writer's organization of the information in the texts (Cunningham & Moore, 1986; Winograd & Bridge, 1986; Williams, 1988; Carrell, 1992).

According to Aulls (1978, in Aulls 1986, p.97), a fundamental notion to establish *the importance of the information* contained in the text is the knowledge about the difference between what a *topic* is and what the *explicit or implicit main idea statement* is. He explains that we can primarily establish this difference by asking *"What is this chapter, article, or pararagraph about ?"* for topics, and *"What is the most important idea the writer is trying to explain with regards to the subject?"* for implicit or explicit main idea statements. Thus, Aulls' (1978, in Aulls 1986, p.97) characterization of main

idea statements transcribed above and commented in the paragraph below will be taken as the parameter for the analysis of the Main Identification Test in this study.

In addition to the crucial difference established by those two questions posed above, Aulls (1978, 1986) characterized the main idea of a paragraph as *the most important statement* that contains the basic idea to which all the sentences in the passage refer. It may be developed in either one or two sentences which contain more information than the topic of the passage, usually represented by a word or phrase. Also, it may come implicit or explicitly stated, and may appear at any place in the paragraph. When implied, the main idea can be inferred as the superordinate idea which emcompasses all the others in the passage. Thus, although readers just *select* the explicit main idea stated in the paragraph, they are expected to *construct* a main idea statement when it comes implied in the passage (van Dijk & Kintsch, 1983; Afflerbach & Johnston, 1986; Afflerbach, 1990; Williams, 1986, 1988; Aulls, 1986).

Considering the parameters stated above, the results of the main idea test were, then, rated according to the criteria established in the previous chapter, i.e., *full* for complete achievement, *partial* for partially accurate responses and *none* for responses different from the expected ones. The following scales were designed to assess subjects' ability to identify main ideas in each text.

Table 1 - Scale for Text 1

Ability to identify Explicit Main Idea in L1 text	Explicit Main Idea statements
Full	(a) Underlined *topical sentence*: "O cérebro bem estimulado em tarefas como leitura, aprendizado de novas línguas, resolução de problemas matemáticos ou mesmo em tarefas rotineiras no trabalho pode esticar a longevidade de uma pessoa e evitar que ela sofra de problemas típicos da velhice, como a senilidade ou perda de memória."
	(b) *Paraphrased topical sentence* expressing a main idea statement compatible with the topical sentence transcribed in the (a) section above in this scale.
Partial	(a) Main idea statement following *cause/effect* text structure pattern, with *cause* related either to the brain being stimulated or the stimuli themselves, and as *effect* either the enlargement of people's life span or the prevention against typical old age problems.
	(b) Main idea statement following *cause/effect* text structure pattern, with *cause* related either to the brain being stimulated or the stimuli themselves, and a healthy life as *effect*.
None	(a) Main idea not fitting into the expected patterns.

Table 2 – Scale for Text 2

Ability to construct Main Idea statements for L1 text	Implicit Main Idea statements
Full	(a) Main idea constructed from a *collection of ideas sequentially summarized* into a statement expressing "the sources of energy ever used by mankind through the times".
Partial	(a) At least, a statement expressing "sources of energy".
None	(a) Main idea statement not fitting into the expected patterns.

Table 3 – Scale for Text 3

Ability to construct Main Idea statements for L2 text	Implicit Main Idea statements
Full	(a) Main idea constructed from a group of ideas organized in a *cause/effect* relationship as a statement expressing "the catastrophes caused by 'El Niño' in the USA".
Partial	(a) The same as in (a) above, but not mentioning "in the USA".
None	(a) Main idea statement not fitting into the expected patterns.

Table 4 – Scale for Text 4

Ability to identify Explicit Main Idea in L2 text	Explicit Main Idea statements
Full	(a) Underlined *topical sentence*: "Thirty per cent of Americans ages 4 to 30 bite their nails – and the habit may be injuring their teeth."
	(b) *Paraphrased topical sentence* expressing a main idea statement compatible with the topical sentence transcribed in the (a) section above in this scale.
Partial	(a) Main idea statement following *cause effect* text structure pattern, with cause related to the nail-biting habit that may produce injured teeth as effect.
	(a) Main idea statement following *cause/effect* text structure pattern, with cause related to the nail-biting habit that may produce health problems.
None	(a) Main idea statement not fitting into the expected patterns.

4.1.1. Research question related to the Main Idea Identification Test

***1st Research Question*: Are Brazilian students finishing secondary school able to identify main ideas in both L1 and L2 expository texts ?**

Subjects were expected to perform the Main Idea Identification Test by selecting the explicit main idea statements of texts 1 and 4, and by constructing statements for the implicit main ideas of texts 2 and 3. These four texts were scored according to the scales presented in the tables 1, 2, 3, and 4 above. The results were calculated in percentage terms.

Table 5 – Result of subjects' main idea identification test concerning explicit main idea identification.

Ability to identify Explicit Main Idea		TEXT 1 (Portuguese)			TEXT 4 (English)		
		Subjs.	*Total Subjs.*	*%*	*Subjs.*	*Total Subjs.*	*%*
Full	- underlined - paraphrased	1 5	6	46.15	- 2	2	15.38
Partial			2	15.38		4	30.76
None			5	38.46		7	53.84

Table 6 – Result of subjects' main idea identification test concerning implicit main idea identification.

Ability to construct Implicit Main Idea statements	TEXT 2 (Portuguese)		TEXT 3 (English)	
	Subj.	%	Subj.	%
Full	4	30.76	4	30.76
Partial	4	30.76	5	38.46
None	5	38.46	4	30.76

The results in tables 5 and 6 indicate that the subjects found it difficult to identify both explicit and implicit main ideas in both L1 and L2 passages: 38.46 % of subjects failed to identify explicit and implicit main ideas in both L1 passages, while 53.84 % and 30.76 % were unable to identify explicit and implicit main ideas respectively in both L2 passages (see Appendix A for texts and B for responses).

Consequently, the number of subjects who fully identified *explicit* main ideas by either underlining or paraphrasing them was rather low (46.15 %, less than half of the whole group) for the L1 text, and much lower for the L2 text (15.38 %). However, the number of partially accurate explicit main idea identification was higher for the L2 text (30.76 %) than for the L1 text (15.38 %). On the other hand, the number of subjects who constructed fully and partially accurate statements for the implicit main ideas in the L1 and L2 texts was pratically the same: 30.76 % of subjects constructed fully accurate statements for the implicit main ideas of the L1 and L2 texts, while 30.76 % and 38.46 % of the subjects constructed partially accurate statements for the implicit main ideas of L1 and L2 texts, respectively.

Taking them as a whole, these numbers demonstrate that a little more than half of the subjects (61.53 %) somehow identified *explicit* and *implicit* main ideas successfully in L1 paragraphs. With regard to L2 paragraphs, less than half of the subjects were successful: 46.15 % of the subjects fully and partially identified *explicit* main idea (topical sentence), whereas 69.23 % of the subjects fully and partially achieved *implicit* main idea. Thus, concerning subjects' ability to identify main idea in L1 and L2 expository texts in this study, there are some factors which deserve a closer inspection.

Firstly, from the 13 (thirteen) subjects, just one underlined correctly the main idea explicitly stated in the L1 text, and no one underlined the explicit main idea of the L2 text, as they had been asked to do. This fact suggested that subjects may not be *sensitive*

to importance (Williams, 1988; Cunningham & Moore, 1986; Winograd & Bridge, 1986; Afflerbach & Johnston, 1986; others). *Insensitivity to importance* could explain why they seemed not to be aware of the main idea that came explicitly stated in the beginning of an informational paragraph (Text 1) as a *topical sentence* which introduced the superordinate idea of passages (Winograd & Bridge, 1986). In addition to this, the results may be denoting a certain difficulty in dealing with cognitive classification and categorization skills, which are basic to the understanding of the superordination and subordination of ideas in expository texts (Williams, 1986, 1988). Also, even though research has demonstrated that middle grade students besides having difficulty understanding expository texts show difficulty following text organization in order to construct the macrostructure of school content texts (Taylor & Beach, 1984), the content of texts 3 and 4 may have helped the subjects in their tasks. As a matter of fact, the contents of both texts could be easily found in school books, so they would be more familiar to the subjects.

Moreover, texts 1 and 4 were the kind of paragraphs easily found in articles of newspapers and informative magazines, with their main ideas explicitly stated in the topical sentence, and including a quote of an expert in the field to give support to its topical sentence (Aebersold & Field, 1997). However, many subjects demonstrated inability to recognize the format of those paragraphs by taking a supporting statement, which was working as a reinforcement of the main idea explicitly stated in the topical sentence (Tavares, 1991). This fact might suggest, in addition to the lack of instruction on the matter, that these subjects are not used to reading informational issues frequently other than their school textbooks. Accordingly, by performing a study about the frequency and placement of topical sentences in social studies textbooks, Baumann and Serra (1984) found out that texts in school books seem not to be frequently as clear as

they should be. In fact, they discovered that only about one fourth (27%) of all passages and less than half (44%) of all paragraphs examined in school books contained explicit main ideas, and only one fourth (27%) of all paragraphs opened with a topical sentence. These results may be an indication that students have not been adequatly exposed to informative reading material which could enable them to acquire this knowledge declaratively or procedurally. Also, in specific instructional terms, there are poor resources available: examining EFL textbooks, Tomitch (in press A) found out that they are not clear in relation to main idea identification. Within eleven (11) EFL books, only three (3) presented some explicit instruction. The other eight (8) books just presented tasks which "involved" the main ideas of texts, without explicit instruction on how to identify them.

Secondly, some results concerning those subjects who successfully identified both explicit and implicit main ideas of L1 and L2 paragraphs seemed to be contradictory: thus, the subjects' performance is not in accordance to Brown and Day's (1983) finding that it is more difficult for subjects to *construct* main idea statements than *select* them from texts. In this study, the number of subjects who fully and partially identified *explicit* and *implicit* main ideas in the L1 texts were the same. Still more surprising was the finding that the percentage of subjects who fully and partially identified the *implicit* main idea was higher than the percentage of those who fully and partially identified the *explicit* main idea in the L2 texts. Again, these results could be attributed to the already mentioned *insensitivity to importance* of ideas, which may have caused the subjects' difficulty in selecting the explicit main idea stated in a topical sentence, or to their familiarity with those paragraph contents as well, which is known to facilitate comprehension (Kintsch & van Dijk, 1978, 1983; Smith, 1978; Squire, 1983; Afflerbach, 1990; Dole, Duffy, Roehler & Pearson, 1991). Moreover, two other factors

may have contributed to this contradiction in relation to the results of the test: the rhetorical structure of the texts and the subjects' threshold in the L2 language. With regard to text structure, Carrell (1984) claimed that some types of text structure are supposed to facilitate readers' understanding of texts, and, consequently, the main idea identification of texts. And, as far as the subjects' threshold in the L2 language is concerned, Devine (1988) and Clarke (1988) suggested that reading problems concerning L2 language may be attributed to readers' poor knowledge of that language.

In addition to this, we can see that there seems to be a kind of similarity in subjects' performance concerning implicit main idea identification in L1 and L2 texts: coincidence of results in relation to full accuracy, closeness of results regarding both partial accuracy and the subjects' failures in that task. As a consequence, this similarity of results seems to indicate that subjects applied the same strategies to the identification of the main idea in the L1 and L2 paragraphs, regardless of the language used. Such results match Block's findings (1986) which show that language background does not interfere with the use of strategies. As it was stated in the previous chapter, that researcher found that strategy use seems not to be related to any particular language specifically. She observes that "*readers of the second language seem to bring with them their knowledge of the reading process and of approaches to task and then apply these to specific language features in the text (...) which indicate that some aspects of reading ability are readily transferred from one language to another.* " (p.485). Thus, as readers seem to be able to transfer their reading strategies from L1 to L2, they could also transfer their reading difficulties as well. This conclusion is supported by Cunningham and Moore (1986) who suggested that their readers, who were native speakers of English, tended to produce the same type of response for all passages (that is, titles, gist, interpretation, and other types which will be discussed in section 4.2.1.1). In other

words, they may be using the same strategies for extracting the main ideas from all passages.

This tendency can be seen in some subjects' responses to the tasks in the Main Idea Identification Test (see Appendix B) such as:

a) Examples of subjects' verbatim responses to Text 1 (Portuguese) and Text 4 (English), both organized according to the *cause/effect* text structure pattern.

Subject 4

P1 – *"A idéia do texto é mostrar que estudo não serve apenas para a pessoa obter mais cultura e informação, mas também serve para a sua saúde."*

P4– *"Estudos mostram que vários americanos roem as unhas e que isso gera vários problemas à saúde."*

Subject 5

P1 – *"Para que se possa ter uma vida saudável devemos manter em nosso cérebro armazenadas muitas informações instrutivas."*

P4 – *"Para se ter uma boa saúde devemos cuidar-nos sendo na alimentação, exercícios físicos e indo ao médico regularmente. Nesse caso o dentista."*

b) Examples of subjects' verbatim responses to Text 2 (Portuguese) with *sequence* text structure pattern and Text 3 (English) with *cause/effect* text structure pattern (Meyer, Brandt & Bluth, 1980).

Subject 6

P2 – *"A energia é uma maneira que temos para adquirir força muscular ou mecânica, para realizar uma tarefa ou trabalho."*

P3 – *"O fenômeno chamado de El Niño é uma demonstração de força da natureza que descontrolou o tempo e o clima em todo o mundo, fazendo inclusive várias vítimas no decorrer deste periodo."*

Subject 7

P1 – "*O cérebro*"

P2 – *"Fontes de energia (força)"*

P3 – "*Uma tempestade mortal.*"

Subject 8

P2 – "*Meios utilizados pelo homem como fontes de energia em toda a sua vida.*"

P3 – *"Catástrofe(s) causadas pelo El Niño."*

Subject 9

P2 – "*A Evolução do Homem.*"

P3 – "*A Natureza em Relação ao Homem.*"

4.1.2. Conclusion

As a whole, the results in this section seem to confirm that subjects had difficulties in identifying both the explicit and implicit main idea in both L1 and L2 expository paragraphs. As a matter of fact, 38.46 % failed to identify explicit and implicit main ideas in the L1 paragraphs, and 53.84 % and 30.76 % failed to find explicit and implicit main ideas respectively, in the L2 paragraphs. This conclusion is consistent with Taylor and Beach (1984) who said that middle grade students have difficulties in constructing the macrostructure of school texts due to their inability to cope with text structure of expository texts. Accordingly, there are indications that some factors influenced these subjects' ability.

Firstly, many subjects in this study seemed not to have a clear notion of the *importance* of *information* in expository texts. Secondly, most of the fully and partially successful subjects demonstrated more ability to *construct* than *select* main ideas. Thirdly, the similarity of results in subjects' performance concerning the identification of explicit and implicit main idea in both L1 and L2 texts suggests that subjects applied the same strategies to the main idea identification in both L1 and L2 texts. Moreover, the rhetorical structure of texts and the subjects' threshold in the L2 language may have influenced their performance in the test.

4.2. Analysis of the Main Idea Identification Test statements

In this study, we can see that the subjects involved in the first part of the study, the Main Idea Identification Test, produced a diversity of responses (see Appendix B) which may reflect lack of clear criteria on both what they might consider important to include in their main idea statements and the degree of generalization of the ideas included in the statements. This generalization was determined by the purpose of the task at hand stated in the directions for the test: "give the main idea of the text".

In this study, subjects' responses to the Main Idea Identification Test (see Appendix B) were also analysed and classified according to Cunningham and Moore's (1986) definitions of main idea, in order to understand subjects' notions on the matter. In section 4.2.1, the analysis, classification, and definition of students responses – samples of main idea statements – will be displayed, and possible answers to research question two will be pointed out.

4.2.1. Research question related to the classification, definitions, and samples of subjects' main idea statements.

2nd Research Question: **What kind of response do subjects produce when asked to give the main idea of a passage?**

In the list below, definitions and samples of subjects' responses were transcribed and displayed. Some of subjects' responses were transcribed verbatim. Others had some alterations for better understanding: for example, added words came between square brackets [...].

(1) Gist – the superordinate idea expressed in a statement which comprises all the others ideas existing in the text.

a) *"A importância do cérebro em constante funcionamento para uma longa vida saudável."* (S 8)

b) "*30 % dos americanos [de 4 a 30 anos] roem unha causando problemas aos seus dentes.*" (S12)

(2) Interpretation – subjects' personal view of the most important idea in the text. Also, ideas inferred from the passage by the subjects, or taken from their experience of the world may have been added.

a) "*As pessoas para expor sua tensão têm vários costumes um deles é roer as unhas, isto prejudica a arcada dentária, pois pode provocar a quebra dos dentes, o desalinhamento, e o enfraquecimento da raiz dos mesmos, além de inflamar a gengiva, ficar com as unhas feias e ser um costume feio.*" (S 5)

b) "*Para que se possa ter uma vida saudável devemos manter [em] nosso cérebro armazenadas muitas informações objetivas e instrutivas.*" (S 4)

c) "*O fenômeno chamado de El Niño é uma demonstração de força da natureza que descontrolou o tempo em todo o mundo, fazendo inclusive várias vitimas no decorrer deste periodo.*"

(3) Key Word – A single word or term used to synthesize the most important information in the text. However, the subjects of this study did not produce it. Examples of key words could be "energia" for paragraph 2, "El Niño" for passage 3, or "nail-biting" for paragraph 4.

(4) Selective Summary – A summary of the most important explicit ideas selected from the passage, which contributed to give a better understanding of the superordinate idea in that passage. Subjects may paraphrase the words and expressions found in the text.

a) "*Muitas pessoas possuem problemas como inchaço nas gengivas, dentes tortos, perda de dentes, por falta de cuidados e por machucar seus dentes.*" (S 2)

b)"*A idéia central do texto é alertar sobre o vicio de roer unhas e o mal que isso causa aos dentes, deixando-os com graves problemas.*" (S 3)

(5) Theme – A wider generalization about life or about the world that somehow involves the content of the passage.

a) "*A idéia do texto é mostrar que o estudo não serve apenas para a pessoa obter mais cultura e informação, mas também serve para a sua saúde.*" (S 11)

b)"*Pesquisa medicinal (dentista) sobre os hábitos americanos.*"

(6) Title – The name given by the subject to the passage.

a) "*Uma tempestade mortal.*" (S 7)

b) "*O cérebro.*" (S 12)

(7) Topic – A phrase which expresses what the passage is about, that is, which mentions the general meaning of the passage.

a) *"Ao que pode levar o vício de roer unhas."* (S 10)

(8) Topic issue – An expression (word, term, phrase) which labels an idea related to the context of the passage.

a) "*As diversas fontes de energia.*" (S 10)

b) "*Fontes de energia*" (S 1)

(9) Topic sentence – A single sentence which carries the main idea of the passage, i.e., that sentence which states the most important idea about the text topic.

a) "*O cérebro bem estimulado em tarefas como leitura, aprendizado de novas línguas, resolução de problemas matemáticos ou mesmo em tarefas rotineiras no trabalho pode esticar a longevidade de uma pessoa e evitar que ela sofra de problemas típicos da velhice, como a senilidade e a perda de memória.*" (S 3)

However, some subjects in this study selected other formats for their responses which express their notions of importance regarding the information contained in the paragraphs. In fact, some of these responses were not considered adequate as they missed the target and did not mirror the most important idea in the text, as we can see in number (11) below.

(10) Quote of an expert in the field – Some paragraphs from informative articles found in newspapers, for instance, have their main idea given at the beginning as a topical sentence, followed by supporting details and a quote of an expert on the matter to reinforce the superordinate idea (Aebersold & Field, 1997). In this study, paragraph 1, for instance, presented these characteristics. In this case, the subjects selected the quote they thought represented the superordinate idea in the passage, what shows their lack of sensitivity to importance, and/or lack of instruction on the matter.

a) "*Quem estuda ou tem uma vida intelectualmente ativa vive melhor e geralmente mais.*" (Ss 9, 10, 13)

(11) Supporting ideas – Some ideas in passages are categorized as "supporting" because they "are not examples of the most general propositions intended to serve as the main idea" (Pearson & Johnson, 1978, p.90). In this study, some supporting ideas were inappropriately picked out as main idea statements. Ex.:

a) "*O cérebro é uma máquina para usar e gastar.*" (Ss 6 and 7)

b) "*Nine people in California and 39 in Florida have died this year in storms produced by El Niño.*" (S 3)

4.2.2. Conclusion

In this section, I examined the responses given by the subjects in this study when they were asked to give the main idea of a passage. As we can see in the specific literature (Cunningham & Moore, 1986; Williams, 1988; Dole, Duffy, Roehler & Pearson, 1991, Tomitch, in press), there is not a clear-cut definition about what exactly a main idea is, due to the indefinitions both in instructional books and in teachers' instructions on the matter. Also, teachers' first step toward providing students with effective scaffolding (Dole, Duffy, Roehler & Pearson, 1991) for main idea identification could be finding out their concepts about it. Thus, they would be able to make their students understand and use conveniently the different tasks involving main idea (Cunningham & Moore, 1986).

In this study, subjects produced different formats of main idea statements with different levels of generalization that reflected their personal conceptions of main idea identification tasks.

This analysis followed Cunningham and Moore's (1986) definitions of main idea responses. However, two other definitions of subjects' response formats were included, since they were used by subjects to respond to the main idea tasks in this study.

4.3. The Verbal Protocols

Besides knowing the final product of reading in terms of main idea identification, knowing what is going on in the readers' mind when they read for main ideas is essential for the success of any reading curriculum (Cohen, 1987). Thus, process-oriented research, which has become very important as a source of information of metacognitive strategies (Block, 1986), has been collecting information through verbal protocols. In fact, they have turned out to be very effective tools for tapping *retrospectively* or *introspectively* those strategies involved in reading comprehension (Ericsson & Simon, 1987; Block, 1986; Cavalcanti, 1987; Cohen, 1987, 1995, Pressley & Afflerbach, 1995).

Data from *retrospective verbal protocols* are obtained *after* subjects complete their reading tasks. Thus, after reading a text, subjects may *self-observe* to describe the strategies they used to understand that text. On the other hand, the term *self-revelation* refers to *introspective verbal protocol* data which are produced *during* subjects' reading, that is, they "think aloud" while they read a text. Also, subjects may make use of *self-report*, that is the description of both their usual strategic behavior, or, their beliefs about themselves as readers (Cohen, 1987, 1995; Block, 1986; Pressley & Afflerbach, 1995).

Data produced by these different kinds of verbal protocol give descriptions of the mental processes from different perspectives. While *self-report* and *self-observation* provide descriptions of the process from the subjects' perspective, *self-revelation* or "think-alouds" provide raw data, i.e., data produced without the interference of subjects' analysis on their own mental processes (Cohen, 1987).

In this study, data from these three types of verbal protocol will be analysed in order to investigate the metacognitive strategies subjects used towards main idea

identification of expository texts. Also, as it was described in the previous chapter, the *self-revelation* report data were produced through Cavalcanti's (1987) *pause protocols.* In addition to the *self-revelation, self-report* and *self-observation* protocols were spontaneously produced by Subject 4, Subject 5, and Subject 8 during the processing of the L2 text. Thus, they came included in those subjects' responses to the pause protocol (see Appendix F).

4.3.1. The Pause Protocols: Data Analysis

Subjects' think-aloud data were analysed considering both the *process* and the *product*, i.e., the strategies used by the subjects to process the text in order to identify its main idea and their achievement in terms of main idea identification respectively.

With regard to the *process* used by the subjects in this study, data analysis followed Block's (1986) code system which classified subjects' responses considering the *mode of response* and the kind of *strategies* used.

4.3.1.1. Subjects' Mode of Response

With regard to mode of response applied to reading, it was defined by Block (1986) as "the way readers approach the text" (p.471). Thus, readers may approach the text in the *reflexive mode*, that is, they read the text looking for links between the ideas in the text and their own experience and knowledge of the world, in an affective and personal fashion. Also, they assess the ideas in the text from the perspective of their own thoughts and feelings. They also tend to respond to the task in the 1st or 2nd person. These are samples of the *reflexive mode* in this study:

a) "*IUs? Unidade internacional. Sistema internacional que a gente usa aqui.*" (S 2, text 2)

b) "*Só que dos países desenvolvidos eu não tinha ouvido falar, assim, mas do último ali já sabia alguma coisa.*" (S 4, text 1)

However, if the readers approach the text in the *extensive mode*, it means that they have their attention directed to the author's ideas trying to understand the message contained in the text. In this case, readers frequently use the 3rd person in their think-aloud tasks. Ex.:

a) "*Aí aqui ele dá uma explicada, né, que o trabalho dele não foi publicado ainda porque ...*" (S 6, text 1)

b) "*E na última linha está falando aqui que eles recomendam que a mulher, né, consuma mais vitamina A, né?*" (S 5, text 2)

4.3.1.2. Subjects' Strategy use

In relation to the strategies used, strategies were divided, as we can see in Block (1986), into two categories: *general comprehension strategies*, which were used to get the overall meaning of the text, and *local linguistic strategies*, which were used to solve particular linguistic problems during reading. However, the strategy "*react to text*" was eliminated from the list, since no occurrence was registered in this study. On the other hand, the strategy "*questioning task procedure*", which does not appear in Block's (1986) list, was picked from Baretta's (1998) strategy categorization who borrowed it from Pritchard's (1990) *taxonomy of processing strategies*. Moreover, two other local level strategies were added to the list: (a) *reading aloud* (strategy 6); (b) *sub-vocalizing* (strategy 7), both of them borrowed from Baretta's (1998) categorization due to the similarities in the subjects' behavior in both studies in relation to the think-aloud task. Besides, another strategy, (d) *reading ahead*, was also borrowed from Prichard's (1990) *taxonomy of processing strategies.*

Thus, the general strategies, which comprise comprehension-gathering and comprehension-monitoring strategies, were examined in this study and listed below. Also, descriptions of their use were added, as well as examples of subjects' verbalizations taken out of the pause protocols, in order to clarify how subjects processed L1 and L2 texts for grasping their global meaning.

General strategies

Questioning task procedure – subjects asked about the procedure (s) to follow in order to complete the task. These questions were usually made for (a) directions, (b) confirmation, or (c) clarification. In this study, responses occurred in the extensive mode. Ex.:

a) *O que devo fazer agora* ? (S 2, text 1)

b) *E ai cada ponto tem que comentar*? (S 7, text 1)

c) *Esse vocabulário está em ordem assim [da]- do andamento da frase ? Ou não* ? (S 4, text 2)

Anticipating content – predictions were made about the content of the text. Responses were in the extensive mode. Ex.:

a) *Bom, já o título aqui, "antimalárico", alguma coisa que é, [como é]- como é que eu vou explicar, é "anti-" alguma coisa.* (S 3, text 1)

b) *O texto é sobre vitaminas, né* ? (S6, text 2)

Recognize text structure – subjects identified (a) important information, (b) discussed the purpose of the information, and (c) (d) made comments about the organization of the information in the text, and (e) recognized text structure of expository texts. Responses occurred in the extensive mode. Ex.:

a) *Esta é a idéia central, né? Do texto.* (S 1. Text 1)

b) *E dá pra visualizar pelo texto que é um alerta, né* ? (S 5, text 2)

c) *Tá, esse segundo parágrafo está dizendo assim que eles...* (S 4, text 1)

d) *E depois ele dá mais uma explicação aqui sobre o que...* (S 5, text 1)

e) *...esse segundo parágrafo está dizendo assim que eles estão tentando inventar, solucionar mais, passar um obstáculo assim, solucionar esse problema* ...(S 4, text 1)

Integrate Information – Subjects related the incoming information to the information previously stated in the text and, thus, established a connection between different parts of the text. Responses occurred in the extensive mode. Ex.:

a) *É, voltei pra ler, pra ver aqui no começo. Eu queria ver se ele estava usando no Brasil, mas nada.* (S 10, text 1)

b) *Tá, este último parágrafo,ahn, acho que torna a falar que as mulheres consomem cerca de dez mil IUs por dia...* (S 3, text 2)

Question information in the text – Subjects asked questions about the information in the text to check its (a) veracity or (b) significance. Responses occurred in the extensive mode.

a) *Eles estão falando alguma coisa do tipo que doses excessivas de vitamina podem trazer má formação do feto ? Ou foi por falta ? Por falta ou por excesso* ? (S 2, text 2)

b) *Antimalárico é uma vacina contra a malária* ? (S 7, text 1)

Interpret the text – Subjects (a) inferred text information, (b) arrived to conclusions, or (c) hypothesized on the text. In this study, responses occurred in the extensive mode.

a) *Aqui eles estão pesquisando então a malária pra – mais pros países subdesenvolvidos que têm o problema da malária, né ? Isso. Os mais desenvolvidos não têm (esse) problema.* (S 10, text 1)

b) *Mas precisa de muita planta pra pouco extrato. Isso quer dizer não vai dar muita coisa* (S 9, text 1)

c) *Então eu acho estranho porque o excesso (de vitamina A) vai causar má-formação. De repente, (com) a vitamina A não ocorre isso então. O excesso não traz prejuízo.* (S 2, text2)

Use general knowledge and associations – subjects used their prior knowledge and experience (a) to explain, (b) extend, and (c) clarify text information; (d) to evaluate the veracity of text information; (e) to react to the new information. In this case, the subject's reaction did not sound like an emotional involvement with the text. Rather, it seemed to mean the subject's approval to the action conveyed by the sentence. In this study, responses occurred in the extensive mode.

a)*...que as mulheres precisam de vitaminas até pros seus próprios bebês, né, (...) Pros bebês nascerem mais sadios e mais fortes, sem problemas.* (S 5, text 2)

b) *Bom, assim como a nova soja, ela também é feita por alterações genéticas.* (S 9, text 1)

c) *Ah, é um professor, né* ? (S 1, text 1)

d) *Até porque eu acho assim que dizem que algumas vitaminas, o excesso é eliminado. Então eu acho estranho porque o excesso vai causar má formação.* (S 2, text2)

e) *Que bom que tem gente investindo no projeto* ! (S 10, text 1)

Comment on behavior or process – Subjects described strategy use showing awareness of the process by reporting how successful they were in dealing with the information in the text. Due to these characteristics, this strategy was not classified by mode. Ex.:

a) *Inglês eu não sei muito, então tenho que pegar mais ou menos o sentido. É que quando* **eu** *vou fazer um texto em inglês, eu assim, eu faço cada palavra. Procuro as mais fáceis, assim, marco e depois eu vou procurar as mais difíceis.* (S 4, text 1)

b) *Tá, eu não soube o significado da palavra artemísia, tá, mas agora já – assim, já tenho o significado, né* ? (S 2, text 1)

Monitor comprehension – Students evaluated their understanding of the information in the text. By monitoring their comprehension, subjects were able to adjust their strategies when comprehension failed (Dole, Duffy, Roehler & Pearson, 1991; Aebersold & Field, 1997; Baker & Brown, 1984). Responses occurred in the extensive mode. Ex.:

a) *Artemísia eu não sei.O que é*? (S 1, text 1)

b) *Mesmo que certas dosagens sejam revertidas pro fígado, ao menos, talvez, seja uma coisa assim.* (S 2, text 2)

Correct behavior – When subjects realized their understanding of text information did not fit the text meaning, they corrected it immediately, or, at least, made attempts to do it. Ex.:

a)*...ele diz que as verbas são tanto privadas quanto públicas. Não, o trabalho público não foi envolvido, só o privado.* (S 3, text 1)

b)*... acho que eles dizem que segundo os estudos da Universidade de Medicina, da Escola de Medicina, né ? Universidade da Escola de Medicina.* (S 10, text 2)

In the sequence, we will have descriptions of those local strategies subjects applied to texts to promote comprehension at specific linguistic level. In this study, all of them ocurred in the *extensive mode.* Such descriptions were illustrated with samples from subjects' verbalization.

Local strategies

Paraphrasing – subjects retold portions of the text, using different words, but keeping the same meaning. In this study, paraprases were considered (a) adequate [P+] or (b) inadequate [P-]. Ex.:

a) Extract from L2 text:

"When taken correctly during pregnancy, vitamin A is an essential nutrient in the baby's development."

Estavam falando que era correto durante a gravidez tomar essa vitamina A porque era essencial e nutriente para o bebê e seu desenvolvimento. [P+] – (S4, text 2)

b) Extract from L2 text:

"Given the Boston University study's findings, co-author Lynn L. Moore recommends that these women consult with their physicians before taking vitamin-A supplements exceeding 8000 IUs."

Aí a Universidade mesmo de Boston, que recomenda que várias mulheres que têm essa mania de consumir mesmo, procurem um psicanalista que pode ser algum problema.[P-] – (S6, text 2)

Rereading – In general, subjects reread parts of the text for meaning, when they faced a portion or word in the text they did not understand. Ex.:

a) *Birth. Ah, tá ! Espera aí, deixa eu voltar.* (S 10, text 2)

b*) Isso eu não entendi, então voltei.* (S 8, text 1)

c) *Antimalárico é ...Tá, vou ler de novo.* (S 4, text 1)

Reading aloud – In this case, subjects read aloud extracts from the text (a) to reinforce argumentation or (b) to check sentence meaning.

a)*... o texto está falando, basicamente, sobre essa planta, né? Sobre a cura, não é? E dos países desenvolvidos, né, que têm – é ..., como aqui está dizendo, "os países desenvolvidos não estão interessados em produzir drogas como esta, antimaláricas, por não serem lucrativas", né*? (S 5, text 1)

b) *É por que aqui está dizendo, "por exemplo", que "foram notificados no Brasil cerca de 226 mil casos." Aqui está falando da doença, né? Ou da planta que acharam?*

Reading ahead – Subjects used this strategy to solve vocabulary meaning, trying to grasp from the context the meaning of an unknown word. Ex.:

a) *Aí a palavra que eu tinha dúvida era "artemísia", só que aí eu já, lendo mais, eu vi que era uma planta para o tratamento da malária.*(S 4, text1)

b) *Tá, eu não soube o significado da palavra artemísia, tá, mas agora eu já – (uninteI.) assim, já tenho o significado, né ?* (S 2, text 1)

Question meaning of a phrase, clause or sentence – subjects questioned the meaning of (a) sentences, (b) clauses, or (c) phrases they did not understand.

a) *Tá, qual seria o significado desta frase* ? (S 8, text 2)

b) *Eu queria o significado desta frase. Não sei: "When taking correctly during pregnancy."* (S8, text 2)

c) *A má-formação das crianças e do feto, né ? No caso, na cabeça e no cérebro, né* ? (S 8, text 2)

Question meaning of a word – subjects asked the meaning of words they did not understand. Ex.:

a) *Artemísia eu não sei. O que é* ? (S 1, text 1)

b)*According é – O que é* ? (S7, text 2)

Solve vocabulary problem – subjects found word meaning by (a) inferring it from the context and (b) by looking it up in the glossary attached to the L2 text. In their attempts to solve vocabulary problems by inferring it from the context, subjects in this study used the *rereading strategy* very often (see (a) and (c) in number 12 in this section), and, also, the *reading ahead strategy* (number 14, in this section).

a) *Aí a palavra que eu tinha dúvida era "artemísia", só que aí eu já, lendo mais, eu vi que era uma planta para o tratamento da malária.*(S 4, text1)

b) *Tá, eu só vou ver o que é aquele "correctly"de novo, senão eu esqueço. Peraí, correctly. Não tem essa palavra ai, "correctly". Isto é – correto ?* (S 4, text 2)

Sub-vocalizing – This strategy could be characterized by subjects' words spoken in a whispered, almost soundless voice, and, often, in a very fast way. Due to these

characteristics, it was often difficult to understand exactly what they were saying. However, it seemed that subjects tended to sub-vocalize when (a) they reread parts of the text in order to make sense of the words, or when (b) they made attempts at either retrieving or guessing the meaning of a word, sentence, or clause prior to their going to the glossary attached to the L2 text. Thus, in order to avoid any guessing game, these manifestations were simply labelled as "*whispers*" (Baretta, 1998, p.107) in the think-aloud protocols, while whispered sentences or words came between doubled brackets ((...)). Ex.:

a) *Tá. ((Espera mais um pouquinho.)) – (whispers) – Tá. É, voltei pra ler, pra ver.* (S 10, text 1)

b) *(Hum, hum, esse found também.) // Hum, (whispers) – Ah, tá, Eu descobri. Não é found, também é find, né, to find. É "descobrir".* (S 4, text 2)

4.3.2. Research question related to the *pause* protocol

3rd Research Question: **Do Brazilian secondary students use the same comprehension strategies when reading L1 and L2 texts for main idea identification ?**

In order to answer the 3rd research question, the pause protocol data was analysed both *qualitatively* and *quantitatively*.

In the *qualitative analysis*, data were grouped according to the mode of response and the strategy types listed above, while the *quantitave analysis* comprised the counting of the ocurrences related to each listed strategy.

4.3.2.1. Mode of Response

Mode of response is, in fact, the attitude readers assume when approaching a text (Block, 1986). In other words, *mode of response* translates the readers' reaction to the way writers pose certain topics in that text. However, in terms of main idea identification, readers' way of approaching a text may be influenced by the *purpose* of the task which was assigned to them (Birkmire, 1985; Cunningham & Moore, 1986; Winograd & Bridge, 1986; Williams, 1988; Roller, 1985). According to Cunningham and Moore (1986), main idea tasks demand readers to approach the text looking for the important information. Thus, the importance of a certain piece of information is determined by (a) the directions given to readers prior to their approaching the text, or (b) by the cues left by the author in the text.

In this study, however, subjects did not receive any direction other than "to read for main idea identification", which is vague in itself. Thus, this task was directed by the writer's cues in the text (Winograd & Bridge, 1986; Williams, 1988). Since subjects had to follow the author's cues toward main idea identification, this fact may have influenced subjects' performance in relation to *mode of response*, and may explain the predominance of the *extensive mode* in subjects' responses (see Table 7 below).

Table 7 - Percentage of subjects' use of *modes of response* in L1 and L2 texts.

Subjects	L1 TEXT		L2 TEXT	
	Extensive Mode %	Reflexive Mode %	Extensive Mode %	Reflexive Mode %
1	100	0	100	0
2	100	0	88.8	11.1
3	100	0	100	0
4	94.4	5.5	100	0
5	80	20	100	0
6	100	0	100	0
7	100	0	100	0
8	100	0	100	0
9	90.9	9	100	0
10	100	0	100	0

As a matter of fact, the few responses which are in the *reflexive mode* in this study cannot be considered "classical" *reflexive* responses. In fact, these responses referred to the use of the strategy related to the subjects' experiences, since they used the 1st person singular and plural to respond (see section 4.2.1.1. for samples), but they did not "*direct their attention away from the text and toward themselves, and focus on their own thoughts and feelings rather than on the information in the text.*" (Block, 1986, pp. 471-472). On the contrary, there is a high possibility that subjects in this study used a *reflexive* way of responding in order to assess the importance of the incoming information by comparing it to their own knowledge on the matter (Afflerbach, 1990).

4.3.2.2. Strategy Use: Frequence and Incidence

In relation to *strategy use*, we could point out two important initial considerations about the comprehension strategies used by subjects to process both L1 and L2 texts toward main idea identification.

Firstly, the amount of ocurrences of general and local strategies used to process the L2 text is larger than that used in the processing of the L1 text. This first result was reinforced by the larger amount of time subjects spent on the processing of the L2 text: while the L1 text processing took from 02'28" to 05'01" and an average time of 03'29" to be carried out, subjects spent from 02'24" to 11'48" with an average time of 07'8" on L2 text processing. Also relevant was the frequency of *long pauses* (30 seconds approximately) and *very long pauses* (over 30 seconds) during this processing (see table 8 below): subjects produced 18 long pauses and 38 very long pauses along the L1 text processing against 42 long pauses and 70 very long pauses during the L2 text processing (see table 8 below). Block (1986) suggests that subjects use longer silent reading time to

think about text meaning or decide what to say, while shorter silent reading times may indicate subjects' complete responses. Accordingly, the analysis of these data suggests that subjects in this study used their silent reading time applying their cognitive resources to overcome the obstacles which blocked their understanding of both L1 and L2 texts. This conclusion is in agreement with Brown (1980) who says that readers' processing of texts goes on automatically until a "triggering event" signals that a failure in comprehension has taken place. Thus, readers slow down this continuous process to provide more time and effort to put their strategies into action in order to make text comprehension flow again. Still in accordance with Brown (1980), the difference in time and effort required by subjects to understand texts indicates either *automatic*, i.e., fast, easy and unconscious, processing, or *strategic*, i.e., deliberately hard-working, conscious processing of texts.

Table 8 - Reading times, long and very long pauses for L1 and L2 texts.

Subjects	L1 TEXT			L2 TEXT		
	Time	Long Pauses	Very Long Pauses	Time	Long Pauses	Very Long Pauses
1	*2:28	1	2	7:27	6	7
2	2:56	-	2	-11:48	9	17
3	2:52	4	2	3:38	-	5
4	4:56	5	7	10:27	9	5
5	3:07	-	2	4:46	1	5
6	2:47	2	3	*2:24	-	2
7	-5:01	2	7	6:25	1	6
8	3:47	1	3	7:51	4	9
9	3:08	2	3	5:40	8	5
10	3:47	1	7	9:52	4	9
Average time	3:29	-	-	7:8	-	-
Total of pauses	-	18	38	-	42	70

* shortest time on task - longest time on task

Secondly, comparing the number of general and local strategies used by subjects to process both L1 and L2 texts (see Table 9 below), we can see that the number of occurrences of local strategies is far larger than the amount of general strategies used for the same purpose. This fact may indicate that comprehension begins at the microstructure level of the text, where the propositions of the text establish their relation sequentially or in parallel to be organized and understood as a whole by readers at the macrostructure level (Kintsch & van Dijk, 1978). This processing is crucial for main idea identification of texts, since the microlevel processing of text propositions determines the hierarchy (superordination) of propositions in texts. In other words, this processing cause propositions to be categorized according to the degree of importance they occupy in the text structure (Kintsch & van Dijk, 1978, 1983, Williams, 1988).

Table 9 – Total number of strategies used by subjects while reading L1 and L2 texts.

STRATEGY TYPE		L 1 TEXT	L 2 TEXT
General Strategies			
1. Questioning task procedures		7	6
2. Antecipating content		1	1
3. Recognizing text structure		14	25
4. Integrating information		1	4
5. Questioning text information		7	7
6. Interpreting the text		6	3
7. Using general knowledge / association		12	9
8.Commenting on behavior / process		12	20
9. Monitoring comprehension		24	70
10. Correcting behavior		2	6
TOTAL		86	151
Local Strategies			
11.Paraphrasing	P+	31	13
	P-	12	22
12. Reading aloud		2	-
13. Rereading (backtracking)		6	5
14. Reading ahead		8	-
15. Questioning phrase, clause or sentence meaning		-	4
16. Questioning word meaning		3	86
17. Solving vocabulary problem		9	25
18. Subvocalizing		23	73
TOTAL		94	228

In other words, in relation to strategy use, the result of the pause protocol data analysis indicates, as it was mentioned before, that *qualitatively*, subjects seemed to use the same kind of strategies for L1 and L2 texts, whereas *quantitatively*, L2 text processing as a whole required much more cognitive effort and time from subjects. Thus, the metacognitive resources applied to the understanding of the L2 text can be visualized through the larger amount of general and local comprehension strategies involved in that processing.

General Comprehension Strategy Analysis

Considering the *general strategies*, i.e., those which promote *comprehension-gathering* and *comprehension-monitoring* (Block, 1986) in texts, we can see that

subjects in this study used the same strategies to process L1 and L2 texts, but the number of occurrences differed in relation to each language.

In order to make the analysis of the comprehension strategies more understandable, the strategies were grouped according to their frequency and similarity of the subjects' use in the processing of the L1 and L2 texts in this study.

First, with regard to *questioning task procedure, antecipating content,* and *questioning text information* strategies, there was no relevant difference in their use in the two texts. In fact, the number of occurrences in both L1 and L2 texts was exactly the same in the case of *antecipating content* and *questioning text information* strategies, and was quite close in relation to *questioning task procedure* strategy. This similarity in the number of occurrences of these strategies for both texts may have happened because these strategies are a kind of preparation for the construction of meaning in texts: subjects attempt to confirm what procedure to follow (*questioning task procedure*), hypothesize about the content of the text (*antecipating content*), and express their perplexity or disbelief at the author's ideas conveyed in the text (*questioning text information*). However, the little use of the *antecipating content* strategy (just one occurrence in each text processing) also suggests that most subjects did not pay attention to *structural signals* such as *the title of the text*. Structural signals can facilitate comprehension as they give support to the comprehension strategies which are responsible for the reader's construction of the macrostructure of texts (van Dijk & Kintsch, 1983, p.54).

A second group of strategies formed by *interpreting the text* and *using general knowledge/association* strategies clearly presented more occurrences in the L1 text processing. When processing L1 texts, readers seemed not to have many local linguistic problems, thus, a *top-down* reading processing using strategies like those mentioned

above which make connections between the readers' prior knowledge and the input information from the text (Gagné, Yekovich & Yekovich, 1993) was likely to have been activated (Meurer, 1985). However, in L2 processing, most of the subjects' cognitive effort seemed to have been spent at the local level (microstructure) processing while subjects used *bottom-up* resources to get meaning from the words in the text (see *questioning word meaning, solving vocabulary problem,* and *subvocalizing* strategies in Table 9 above). The effort applied on translating and memorizing the L2 words may have overloaded their working memory, narrowing their L2 processing capacity (Kintsch & van Dijk, 1978; Just & Carpenter, 1987; Daneman & Carpenter, 1980; Meurer, 1985; Afflerbach, 1990; Tomitch, 1996, in press B).

A third group of strategies was formed by those strategies which gathered more occurrences in the L2 than in L1 text processing: *recognizing text structure* and *integrating information* strategies.

In relation to *recognizing text structure* strategy, research has shown the relevance of text structure awareness for reading comprehension (Block, 1986; Hare, Rabinowitz, and Schieble, 1989; Carrell, 1992; Gagné, Yekovich & Yekovich, 1993; Tomitch, 1996; and others). As a matter of fact, the subjects used this strategy more frequently in the processing of the L2 text maybe due to the fact that the L2 text was organized according to the *cause/effect* text structure, which belongs to the kind of text structure that organizes better the information in the text. Thus, the recognition of such a structure becomes easier to the readers (Carrell, 1984). Another fact that may have facilitated the recognition of the organizational structure of the text was the placement of the main idea, which was organized in terms of *cause/effect*, and explicitly stated in the initial position. Main ideas in initial position may be identified more easily (Winograd & Bridge, 1986).

In this study, some subjects were able to recognize topic sentences (Subjects 1 and 7, text 1), patterns of text organization such as main points in paragraphs in the text, organizational text patterns such as *cause/effect* and *problem/solution* (Meyer, Brandt, & Bluth, 1980). In fact, Subjects 2, 4, and 6 recognized the *problem/solution* pattern in the L1 text, even though only Subject 6 followed it in his main idea statement. In relation to Subject 2 and 4's recognition of the *problem/solution* structure pattern of expository texts, they *recognized* it in the L1 text but were not able to *use* it (Carrell, 1992) in the main idea statement of the L1 text.

Moreover, regarding the text structure of the L2 text, 04 subjects followed the *cause/effect* text structure pattern of that text in their main idea statements rather intuitively, since they did not give any indication of conscious recognition of that text structure pattern while they were examining the text, but used it for stating the main idea of the text. Somehow this result agrees with Carrell's (1992) findings which demonstrated that *use* of text structure is statistically more frequent than *recognition*: while the use is subconscious, *procedural* knowledge, recognition is conscious, *declarative* knowledge.

With regard to the *integrating information* strategy, which retains and connects information from different parts of the text (Block, 1986) under the guidance of the reader's schematic resources (Gagné, Yekovich & Yekovich, 1993), had just a few occurrences verbalized: 01 subject in the L1 processing, and 04 in the processing of the L2 text.

However, the results in relation to *recognizing text structure* and *integrating information* strategies may not be showing what is really going on in the subjects' minds. It is possible that such an absence of occurrences of these strategies in the pause protocols with regard to the processing of the L1 text can be attributed to the subjects'

proficiency in their native language, which would have made the subjects' reading comprehension run on quite automatically, that is, unconsciously (Paris, Wasik & Turner, 1991). Thus, similar inferential processes may have occurred, but were not verbalized since they "went on below the level of conscious introspection" (Brown, 1980, p.455). This analysis is supported by Baretta's (1998) finding in relation to *integrating information* strategy. She also attributed the low number of occurrences of this strategy to the automatic text processing of the skilled readers who were the subjects of her study.

The last group of general comprehension strategies was formed by those strategies subjects used to control comprehension consciously: *commenting on behavior/process, monitoring comprehension,* and *correcting behavior.* These three strategies, which are deeply connected, ocurred mostly in the processing of the L2 text. While *monitoring comprehension* means subjects' permanent checking over the comprehension strategies they are applying on text, *correcting behavior* means subjects' adjustment of strategies for achieving comprehension (Aebersold & Field, 1997; Dole, Duffy, Roehler & Pearson, 1991), and *commenting on behavior* demonstrates subjects' awareness of their own resources in dealing with text comprehension. Among them, *monitoring comprehension* presented a remarkably larger number of occurrences in the L2 text processing, denoting the great effort made by subjects in order to overcome their difficulties in tackling the L2 text at both *macro* and *microstructure* levels (Kintsch & van Dijk, 1978).

Local Linguistic Strategy Analysis

In relation to the *local strategies*, they "deal with attempts to understand specific linguistic units" (Block, 1986, p.473). As it was already said in this study, local

linguistic strategies act at the microstructure of texts, "the structure of the individual propositions and their relations" (Kintsch & van Dijk, 1978, p.365). As it was done with general comprehension strategies, local strategies in this study will be analysed in groups according to their similarity and frequency of use in the processing of the L1 and L2 texts.

The first group of local strategies to be analysed, *questioning sentence meaning, questioning word meaning, solving vocabulary problem,* and *subvocalizing* were used more frequently in the L2 text processing. Also, there was a significant difference between the amount of *questioning word meaning, solving vocabulary problem*, and *subvocalizing* strategy occurrences between the processings of the L1 and L2 text respectively.

In relation to *vocabulary,* subjects, in general, used to question the meaning of isolated words. As we can see in Table 9, *questioning word meaning* was far the most used strategy for the L2 text processing. Its large amount of occurrences contrasted strongly with the small number of occurrences in L1 text processing. This bulk of occurrences may indicate, in fact, subjects' lack of proficiency in their L2 (English), since they had a glossary at hand to help them with the most difficult words. It may also be indicating the subjects' reading behavior in relation to L2 texts: they use word-by-word translation very often and are quite dependent on the teacher's help to solve basic vocabulary problems.

On the other hand, subjects did not use *questioning sentence meaning* often. In fact, they used it only for the L2 text, since the L1 text did not present a high level of difficulty for a native speaker of Portuguese. Also, subjects applied this strategy in situations when they were not able to recognize any of the words in a sentence or

clause, or wanted to check their understanding of that clause or sentence. However, this strategy was not significantly used, even though Subject 8 used it twice.

Even having showed up consistently in the processing of the L1 text, *sub-vocalization* was much more used in the L2 text processing. In the subjects' protocols, it was clear that they subvocalized when they were either rereading to overcome a comprehension failure or looking up the glossary for word meaning. Subject 10 was the one who used this strategy most for both L1 and L2 texts, and in her pause protocol, this strategy came frequently associated with *rereading* in her attempts to grasp meaning from context. On the other hand, Subject 8 seemed to subvocalize when she felt insecure or anxious in relation to her performance in reading both texts.

The second position is occupied by just one strategy. In a more balanced way, *rereading* did not present a significant difference in the number of occurrences in the processing of both L1 and L2 texts. In fact, subjects did not verbalize this strategy very often. In this study, *rereading* was also associated with *integration of information* (Subject 10, L1 text). *Rereading* is used as a fix-up strategy which is always present as soon as the reading flow stops at any comprehension difficulty, as it has been exaustively reported by researchers (Block, 1986; Baker, 1989; Baker & Brown, 1984; Pitts, 1983; Dole, Duffy, Roehler & Pearson, 1991; Gagné, Yekovich & Yekovich, 1993).

In the third group, we will have those strategies which occurred more frequently in the processing of the L1 text: *reading aloud, reading ahead,* and also, *paraphrasing.*

In relation to the *reading aloud* strategy, subjects used it so rarely in this study, that it was not considered relevant for their comprehension. Only two occurrences were observed with different purposes: while Subject 8 used it associated with *questioning*

sentence meaning, Subject 5 employed it as a reinforcement for his main idea argumentation.

In this study, the *reading ahead* strategy was detected exclusively in the L1 text processing, and just Subject 4 verbalized it. However, it was clearly applied by seven (7) other subjects to get the meaning of the word *artemisia* in the L1 text. Since readers use this strategy to infer meaning from the text by looking *ahead* of the place where the comprehension failure occurred, its use in the L2 text processing would be, in fact, quite improbable to happen due to subjects' lack of L2 proficiency and dependency on the teacher's help, as it was suggested by their frequent questioning of the L2 word meanings. This situation is similar to that described by Baker and Brown (1984) who suggested that poor readers do not use context as a source for solving vocabulary problems, because they have difficulties in decoding the words in the text. Similarly, those subjects who do not understand L2 words are, therefore, unable to use the context in the L2 text to solve their problems with word meaning.

Finally, in relation to *paraphrasing*, subjects did it more and better when reading the L1 text, as it was written in their mother tongue. In fact, the amount of reasonably accurate L1 paraphrasing was more than twice the L2 amount, and the number of inaccurate L1 paraphrasing occurrences were almost half the number of the respective L2 occurrences. Also, *paraphrasing* is a strategy which depends on the other strategies to occur: in order to have an accurate paraphrasing, subjects need to use other strategies to control and correct their understanding of the text. Thus, through *paraphrasing*, subjects translate the text into their own words, giving their own version of it.

4.3.3. Conclusion

In order to answer the 3rd research question **Do Brazilian secondary students use the same comprehension strategies when reading L1 and L2 texts toward main idea identification?**, "think-aloud" verbal reports produced by ten (10) subjects attending secondary school, were analysed. The purpose of this analysis is to find out whether subjects use the same comprehension strategies when reading L1 (Portuguese) and L2 (English) texts for main idea identification.

In this analysis, a list of comprehension strategies organized by Block (1986) was used. They were categorized into two levels: *general comprehension strategies*, responsible for gathering and monitoring comprehension, which promote the construction of readers' mental representation of texts (Kintsch & van Dijk, 1978), and *local linguistic strategies*, which care for the specific linguistic understanding of texts. Moreover, the way readers interact with texts, defined by Block (1986) as *mode of response*, were taken into account.

Those strategies were analysed *quantitatively* by counting them , and *qualitatively* by describing how the subjects in this study used them. The data were compared, and, as a consequence, some conclusions were drawn.

In relation to the *mode of response*, subjects used preferably the *extensive* mode when reading for the main idea of the L1 and L2 texts. In fact, subjects in this study did not approach the texts in a personal way, using their interaction with the text just to highlight their own point of view in relation to the content of the text. Rather, they interacted with the text in a very impersonal way, almost at the position of spectators, as their purpose was "to read for the main idea in the text". Thus, the subjects' goals were mostly to grasp the author's message conveyed by the text, and identify the most important information which synthesized it (Williams, 1988).

With regard to the the *general* and *local comprehension strategies* used in both L1 and L2 texts for main idea identification, the most important conclusion is that, in general, subjects used the same general and local strategies for processing the L1 and the L2 texts. In fact, there were three exceptions: the *reading ahead* and *reading aloud* strategies that occurred only in the processing of the L1 text, and the *questioning sentence meaning* strategy which was used by subjects only in the processing of the L2 text.

However, there was a serious variation in the subjects' use of the comprehension strategies: the *frequency* of their use in the processing of both the L1 and L2 texts. As a matter of fact, the subjects in this study used the local strategies more frequently than the general strategies, mainly in the processing of the L2 text. This fact may be an indication that the subjects had to overcome many difficulties at the *microstructure* level of the text. Regarding L2 texts, their major problem seems to have been the limitations in their L2 proficiency threshold, since the *questioning word meaning* strategy was the most used in this study. In fact, this limitation had already been detected in the subjects' responses to the Main Idea Identification Test, which was previously given to the subjects to assess their ability to identify explicit and implicit main idea in L1 and L2 texts (see section 4.1.1). Moreover, this result seems to agree with Clarke (1988) who observes that a low level in L2 language competence can "short-circuit" reading performance. He adds that it is necessary a certain L2 proficiency level for effective reading comprehension in L2 texts (p.119-121).

Also, the larger amount of *general* and *local* strategy occurrences, long and very long pauses, and time on task happened during the L2 processing. This fact seemed to indicate that the processing of the L2 text demanded more time and effort from subjects.

In addition to this, the subjects did not apply general and local strategies to L1 and L2 texts homogeneously. Rather, they varied greatly in the way they made use of them.

Thus, *antecipating content* and *questioning text information* strategies occurred with the same frequency in both L1 and L2 texts. Also, the frequency in the use of the *questioning task procedure* strategy was quite close in both languages.

The strategies *interpreting the text* and *using general knowledge/ association* had a larger number of occurrences in the processing of the L1 text. Maybe these two strategies occurred in association in the processing of L1 text, due to the interrelation of information facilitated by prior knowledge (Just & Carpenter, 1987). Thus, the subjects could connect the information stored in their minds to the incoming information in order to express their own interpretation of the information contained in the text (Chiesi, Spilich & Voss, 1979).

However, *recognizing text structure* and *integrating information* strategies had a larger amount of occurrences in the processing of the L2 text. This result seems to be in agreement with the *extensive* mode of response usually adopted by the subjects in this study, since, for the purpose of main idea identification, the subjects focused on the message left by the author in the text, rather than on themselves. Thus, the subjects made attempts at following the author's organization of the information, mainly the recognition of some important points contained in the paragraphs, such as descriptions. Also, concerning the recognition of the organizational text structure patterns of expository texts such as *problem/solution* and *cause/effect* in this study, subjects seemed not to be familiar with them.

Thus, according to this analysis, it seems that, due to the amount of the word meanings stored in the working memory during the processing of the L2 text (Kintsch & van Dijk, 1978; Daneman & Carpenter, 1980; Just & Carpenter, 1987; Meurer, 1985,

Afflerbach, 1990; Tomitch, 1996, in press B), it is quite possible that the subjects became more metacognitively strategic, and employed more effort in the processing of the L2 text in order to have the macrostructure, i.e., the overall meaning of the text (Gagné, Yekovich & Yekovich, 1993). On the other hand, when they processed the text in their mother tongue, the subjects' reading comprehension possibly flowed better as they did not have to cope with a large amount of word meaning, as it may have happened in their processing of the L2 text. Thus, in the L1 processing, the subjects' cognitive resources (top-down and bottom-up skills) may have gone on quite "automatically" most of the time (Brown, 1980). This may be the reason for the smaller amount of the subjects' verbalizations in relation to such strategies in the processing of the L1 text.

The subjects in this study also demonstrated by the bulk of occurrences they used for *monitoring* their comprehension, that they had to concentrate much more effort on processing the L2 text. This fact may also explain the larger amount of time they allocated to the processing of that text.

In relation to the *local strategies*, the strategies responsible for the the problems of *vocabulary*, that is, *questioning sentence meaning*, *questioning word meaning*, *and solving vocabulary problem*, were much more used in the processing of the L2 text. Concerning *subvocalizing* and *rereading*, these two strategies had a consistent use in both processings, as they occurred usually in association with other strategies, as it occurred in Subject 10's processing of the L1 text. *Reading ahead* appeared only in the L1 processing, as it depends on the context, and the subjects in this study were limited by their narrow range of L2 vocabulary. With regard to *reading aloud*, its occurrence was quite irrelevant. In relation to *paraphrasing*, the use of this strategy was much more

accurate in relation to the L1 text, probably due to the subjects' proficiency in their mother tongue.

As a conclusion, we can say that the secondary students who were the informants for this study used the same strategies to process both L1 and L2 texts for main idea identification, even though they varied in the frequency of strategy use, which was not homogeneous for both languages. Thus, this variation seemed to have been defined by the different levels of proficiency in L1 and L2 languages. Also, in relation to the interaction with both L1 and L2 texts for main idea identification, we could say that these subjects adopted the *extensive* mode of response, which is best adequate for getting the author's message by following the cues left in the text, as it would be required by a direction such as "give the main idea of the text".

4.4. Main Idea Identification in the Pause Protocols: Analysis of the Subjects' Individual Performance

In relation to the *product* achieved, i.e., the identification of the texts' main ideas, it was analysed considering the *"idea units"* contained in the texts, based on Riley and Lee's (1996) and Carrell's (1992) idea unit analyses, and adapted by Baretta (1998) and Torres (1998) in their respective M.A. theses.

Thus, the idea unit analysis in this text followed a syntatic cryterion, and, for the purposes of this work, each idea unit can be represented by (a) a single clause containing a verb, (b) a group of words forming a phrase, or even (c) a single word, all of them expressing an idea. Hence, both texts, *"Antimalárico superconcentrado"* and *"Vitamin-A alert!"*, were divided into 33 idea units each, and rated independently by this researcher and an external judge into main ideas (MI), supporting ideas (SI), and

details (D), according to their level of importance within the texts' structure (see Appendix D).

In order to analyse the subjects' performance in relation to main idea identification in the L1 and L2 texts, subjects' main idea statements were matched with the categorization of the idea units found in those texts (see Appendix E). Thus, the idea units of the two texts were organized into lists, since they do not follow exactly the same sequence of the sentences in the texts. Then, parentheses were inserted at the begining of idea units on the lists. These parentheses would be marked with an "X" if they matched the correspondent ideas contained in the subjects' main idea identification statements in the pause protocol. This method of idea unit identification was based on the method developed by Tomitch (1995) in her doctoral dissertation, and adopted by Baretta (1998) and Torres (1998).

Based on this categorization of idea units, the scales presented in Tables 10 and 11 were constructed in order to classify subjects' performance in relation to main idea identification in the L1 and L2 texts.

Table 10 – Scale for "Antimalárico superconcentrado"

Score	Main Idea Identification
Full	Main idea statement containing all the idea units, paraphrased or not, categorized as "main idea" (MI) which follow the problem/solution text structure, with *problem* related to the production of an amount of an active substance used in the treatement for malaria , artemisina, large enough for controlling the disease, and, as *solution*, the development of a variety of artemísia, a plant with a higher concentration of that substance.
Partial	Main idea statement containing part of the idea units, paraphrased or not, categorized as "main idea" (MI), related to the development of a variety of artemísia, a plant with a higher concentration of the substance used in the treatment for malaria.
None	Main idea statement not fitting into the expected patterns.

Table 11 - Scale for "Vitamin-A alert !"

Score	Main Idea Identification
Full	Main idea statement containing all the idea units, paraphrased or not, categorized as "main idea" (MI), and identified with the topic sentence of the text, and displayed in the cause/effect pattern of text organization: "Women who take excessive amounts of vitamin A early in pregnancy can cause serious birth defects in their unborn children (..)."
Partial	Main idea statement expressing that "excessive amounts of vitamin-A can cause problems to babies".
None	Main idea statement not fitting into the expected patterns.

4.4.1. Research question related to subjects' individual performances in the pause protocols.

4th Research Question: **How strategic are the secondary students who participated in the present experiment?**

According to the parameters for main idea identification of the texts "Antimalárico superconcentrado" and "Vitamin-A alert!" stated in Tables 10 and 11 above, subjects' performances were classified as follows:

Table 12 – Results of Main Idea Identification of L1 and L2 texts – Pause Protocol

Subjects	TEXT 1			TEXT 2		
	Full	Partial	None	Full	Partial	None
1			X			X
2			X	X		
3			X	X		
4			X	X		
5			X		X	
6	X					X
7			X			X
8			X			X
9			X			X
10			X	X		
N.	1	0	9	4	1	5
TOTAL %	10	0	90	40	10	50

As we can see in Table 12 above, just 10 % of all subjects achieved full and 0 % achieved partial main idea identification in the L1 text, while 50 % achieved full and partial main idea identification in the L2 text. However, 90 % and 50 % did not identify main ideas at all in the L1 and L2 texts respectively (see Appendix G for responses).

Among those who were fully successful, only 01 subject achieved main idea identification of the L1 text, while 04 subjects identified the main idea of the L2 text. The reason for such a result may be attributed to the way main idea came stated in the texts, and to the subjects' conceptions about main idea. The L1 text, in spite of being written in the subjects' mother tongue, follows the *problem/solution* text structure pattern, which usually facilitates recall (Carrell, 1984) (see Appendix C).

On the other hand, the L2 text in the *pause protocol* has the main idea placed in the topic sentence, which facilitates its identification (Williams, 1988), besides being

organized according to the *cause/effect* text organizational pattern, which may also facilitate content recall (Carrell, 1984). Also, the sentence which follows the topical sentence gives details that support the main idea that comes hierarchically placed in the first (topical) sentence of the text. According to Winograd & Bridge (1986), superordinate propositions are remembered better because they are processed again by readers every time a subordinate proposition (detail) is related to them. This may explain why the subjects were more successful in completing this task (see Appendix C).

In fact, the information in expository texts is organized according to a logical disposition of ideas which establishes the degree of importance each idea occupies in a text. (Williams, 1988). Thus, these ideas may follow a *problem/solution, cause/effect, compare/contrast, collection* (which include *sequence*) and *description* (*listing*) text structure (Carrell 1984; Meyer, Brandt & Bluth, 1980; Taylor, 1992). Hence, main idea identification of expository texts requires *sensitivity* to text structure from readers, in order to establish the superordination and subordination of the ideas in the text (Winograd, 1984; Williams, 1988; Taylor, 1992). Thus, the result in relation to the main idea identification in the L1 text may be due to the subjects' lack of sensitivity to text structure, since, according to research, middle-grade students may not be able to follow text structure in order to construct the macrostructure of the text (Taylor & Beach, 1984; Meyer, Brandt & Bluth, 1980).

Also, there is a considerable confusion involving the concept of main idea (Pearson & Johnson, 1978; Cunningham & Moore, 1986). Hence, when asked to give the main idea of a passage, readers are likely to give different kinds of responses with different degrees of generalization, according to their own notion of *importance of information* in the text (Cunningham & Moore, 1986; Winograd & Bridge, 1986;

Pearson & Johnson, 1978), as we could see in the 2nd research question dicussed in this study.

However, some authors think that the core of this confusion is the readers' inability to distinguish *topic* from *main idea* (Aulls, 1986; Duffelmeyer & Duffelmeyer, 1987). According to Aulls (1986), the *topic* of the text refers to the "subject of the discourse" (p.97), while the *main idea* of the text refers to "the most important statement the writer has presented to explain the topic" (p.97).

As research has shown that these three notions are possible to be taught, many authors have said that main idea identification should take part in the school curricula (Aulls, 1986; Baumann, 1984; Williams, 1988; Dole, Duffy, Roehler & Pearson, 1991; Cunningham & Moore, 1986; Pearson & Johnson, 1978; and many others).

Considering these different sources of difficulties, it would not be totally unexpected that so many subjects failed to achieve this task.

4.4.1.1. The Subjects' Strategy Use for Main Idea Identification in the L1 text.

In this section, the reading strategies used by the subjects for main idea identification in the L1 text will be discussed.

In relation to the strategies used by Subject 6, who was the only subject to achieve L1 main idea identification fully, we can see in Table 13 above, that he *recognized text structure* and use it in his main idea statement, approached the text in the *extensive mode*, *paraphrased* quite accurately, *read ahead* for word meaning, and *solved vocabulary problem* on his own, and did not monitor his reading. He was a very "top-down" (Davies, 1995) reader, read very fast, and produced just a few pauses (see Table 8). As we can see, he seemed to be an *automatic reader*, as his cognitive resources

usually went on undetected and non-verbalized in his introspection (Afflerbach, 1990). However, he did not identify the main idea in the L2 rext.

The other subjects, as it was mentioned above, did not manage to identify the main idea of the L1 text. Within (9) subjects (see Table 13 below),

(1) *antecipated and integrated information;*

(2) *corrected reading behavior;*

(3) *questioned text information;*

(4) *recognized some kind of text organization and interpreted the text content;*

(6) *used some kind of knowledge or association and made comments on the text;*

(8) *monitored their comprehension.*

Table 13 - Individual Use of General Strategies in "Antimalárico Superconcentrado"

General Strategies	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	**T**
Question task procedures	1	2					1	1	2		7
Antecipate content			1								**1**
Recognize text structure		1	3	4	1	4					**14**
Integrate information										1	**1**
Question text information							2	3		2	7
Interpret the text		1	1						3	1	**6**
Use general knowledge / associat.	1		2	1	1				4	3	**12**
Comment on behavior/process		1		5	1		2	2		1	**12**
Monitor comprehension	2		2	8	2		2	3	2	3	**24**
Correct behavior			1							1	**2**
TOTAL	**4**	**4**	**10**	**18**	**5**	**5**	**7**	**9**	**11**	**12**	**86**

At the microstructure level (see Table 14 below), all of them

(1) paraphrased *rather accurately;*

(2) read aloud;

(3) *made use of rereading and questioned word meaning;*

(7) *read ahead for word meaning and subvocalized.*

Table 14 - Individual Use of Local Strategies in "Antimalárico Superconcentrado"

Local Strategies		S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	**T**
Paraphrasing	P+	3	3	4	4	3	4	4	1	1	3	**30**
	P-	1	1		4	2	1	1	3			**13**
Reading aloud						1			1			**2**
Rereading					3				2		1	**6**
Reading ahead		1	1	1	1	1	1	1		1		**8**
Quest.sent.meaning												**-**
Quest.word meaning		1						1		1		**3**
Solv.voc.problem			1	1	3	1	1	1			1	**9**
Subvocalizing			1	3	4	2		2	3		8	**23**
TOTAL		**6**	**7**	**9**	**19**	**10**	**7**	**10**	**10**	**3**	**13**	**94**

Subject 1 was the fastest to complete the L1 task (see Table 8). She did not recognize the *problem/solution* structure of the text, and mistakenly took the first sentence as the main idea of the text without reading the whole thing, in an attempt to find it in the beginning of the text. She also used *general knowledge/association strategy* and *monitored comprehension.* At the microstructure level, she *read ahead* for word meaning and *paraphrased* quite accurately. She failed to identify the main idea in both L1 and L2 texts.

Subject 2 made use of *interpreting* and *comment on behavior* strategies. She perceived that there was a problem and an attempt to find out a solution in the text, but did not include it in her main idea statement. She *read ahead* for word meaning, *subvocalized,* and *paraphrased* well. Her reading behavior in the processing of the L2 text will be discussed in the next section.

Subject 3 *paraphrased* correctly and *interpreted* well, and also, made *use of some kind of text organization* but did not identify the main idea in the L1 text. Her reading behavior in relation to the L2 text will be discussed in the next section.

Subject 4 used far more general and local strategies than all the other subjects in relation to L1 processing. In fact, she ploughed through the text preferably in the extensive mode, but made a little use of the reflexive mode. She realized that the text obeyed a *problem/solution* organization, but did not use it to state the main idea. Her reading behavior in the processing of the L2 text will be discussed in the next section.

Firstly, Subject 5 read the text very fast, used few general strategies, and *skimmed* the text for the main idea. However, he failed to perceive the *problem/solution* structure of the text. In fact, he added many supporting ideas to the topic of the text in order to construct the main idea statement, without getting the most specific information in the text (Aulls, 1986).

Subject 7 used the longest time to process the L1 text for the pause protocol. He seemed not to make much use of *context* to get word meaning, and looked for main idea in the first sentences of the L1 text prior to the reading of the whole text. Also, he did not verbalize the use of general strategies such as *text structure recognition*, *integration*, and *general knowledge/association* use. He seemed not to be sensitive to importance, as he did not use the ideas he verbalized from the text to construct the main idea statement, which resulted extremely generic and vague. He failed to identify main idea in both L1 or L2 texts.

Subject 8 seemed to be a very anxious and insecure reader, who had difficulty in verbalizing for the pause protocol. In fact, she made a large use of *questioning*: she questioned word meaning, task procedure and about the information in the text. She did not achieve main idea in either L1 or L2 text. In fact, she misunderstood the message in the text, and self-reported her difficulties with L2 vocabulary, and the need of constant rereading to understand L2 texts.

Subject 9 *interpreted* the L1 text using a lot of *general knowledge* and made many *associations*. But he seemed to lack sensitivity to the importance of the information in the text, and his notion of main idea is quite idiosyncratic and subjective. In fact, he presented a similar reading behavior in the processing of the L2 texts, although he did not achieve the main idea of either of them.

Subject 10 is a quite strategic reader. She *integrated*, used her *general knowledge*, but did not recognize the *problem/solution* structure of the text. Also, she made a large use of *rereading* and *subvocalization* associated with other strategies such as *integration*. Her reading behavior in relation to the processing of the L2 text will be discussed in the next section.

4.4.1.2. The Subjects' Main Idea Identification in the L2 text.

In relation to the main idea identification in the L2 text, Subjects 2, 3, 4, and 10 identified main idea correctly in the topic sentence, and Subject 5 achieved partially the main idea identification of the L2 text (see Appendix G, text 2).

Among those who fully achieved main idea identification, all *monitored* their comprehension, *recognized text structure, questioned text information, paraphrased* quite accurately, *solved vocabulary problems* and *subvocalized*, and *3 (three) out of 5 (five) subjects verbalized integration of information strategy* (see Tables 15 and 16 below).

Table 15 - Individual Use of General Strategies in "Vitamin-A Alert !"

General Strategies	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	**T**
Question task procedures		1		4					1		**6**
Antecipate content					1						**1**
Recognize text structure	1	1	5	1	6	3	3	1		4	**25**
Integrate information			1	1			1			1	**4**
Question text information		1	1	1			1	2		1	**7**
Interpret the text		1		1					1		**3**
Use general knowledge/association		2		1	3	1			2		**9**
Comment on behavior/process		3		5	4			5		3	**20**
Monitor comprehension	5	8	7	10	4		3	17	2	14	**70**
Correct behavior		1		1	1		1			2	**6**
TOTAL	**6**	**18**	**14**	**25**	**19**	**4**	**9**	**25**	**6**	**25**	**151**

Table 16 - Individual Use of Local Strategies in "Vitamin-A Alert !"

Local Strategies		S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	**T**
Paraphrasing	P+		2	2	3	2	1			1	2	**13**
	P-	3	1	2	2	3	2	3	3	2	1	**22**
Reading aloud												-
Reareading			2		1				1		1	**5**
Reading ahead												-
Quest.sent.meaning		1							2		1	4
Quest.word meaning		16	33		10	1		3	7	6	10	**86**
Solv.voc.problem		1	4	4	4			1		6	5	**25**
Subvocalizing		7	9	1	9	4		4	14	4	21	**73**
TOTAL		**28**	**51**	**9**	**29**	**10**	**3**	**11**	**27**	**19**	**41**	**228**

Subject 2's verbal protocol was the longest among all the subjects' reports (see Table 8), probably due to the fact that she was very "bottom-up", the one who produced the largest amount of local strategies. Among the general comprehension strategies, she *recognized text structure (cause/effect)* intuitively, and included it in her main idea statement, *questioned* and *interpreted* text information, and used *general knowledge association.*

Subject 3 *recognized the text structure pattern cause/effect* and included it in her main idea statement. In addition to this, she also *integrated* text information and *monitored* her comprehension.

Among the subjects who achieved main idea identification in the L2 text, Subject 4 deserves a special mention for her strategic awareness. In spite of her clear difficulty in reading comprehension, she developed tactics for a "bottom-up" text approach. Thus, in a spontaneous *self-report* (Cohen, 1987) during the pause protocol (see Appendix E), she mentioned *word-by-word translation*, and the *underlining strategy* as her main helpers with her L2 comprehension problems.

Subject 5 was a very "top-down" reader, as he rarely used the glossary, and, as he did in the processing of the L1 text, he *skimmed* the L2 text for main idea identification. In a spontaneous *self-observation* report (see Appendix F) during the pause protocol, he described his own strategy for identifying main ideas. He explained that, based on the *title* of the text and on a *skimming* through the text, he initiated a *hypothesis* about the content, which he partially confirmed through the reading of the text. Afflerbach (1990) called this main idea construction strategy *initial hypothesis.* However, as he did in the processing of the L1 text, he added some details to the *topic* of the text, and did not achieve the whole important information contained in the topic sentence. Moreover, as soon as this subject finished his task, he explained that, as a way to compensate for his

limited vocabulary, he usually *gets word meaning from the context.* Concerning the comprehension strategy occurrences in his pause protocol, he was a very balanced reader: he *anticipated content, recognized partially the superordinate idea (text structure), used general knowledge and associations, commented on his own cognitive processes, monitored comprehension, and corrected his own processes/behaviors.*

In relation to Subject 10, she is a very "bottom-up" kind of reader in an attempt to overcome the constraints of L2 reading, as we can see by her production of 41 local strategy occurrences. She *subvocalized* a lot and whispered unintelligibly as she was *rereading* very fast and low. However, she also used a lot of general comprehension strategies in her processing: she *recognized* text structure and *monitored* comprehension quite frequently, and also *integrated* information.

With regard to the subjects who did *not* identify main idea in the processing of the L2 text, we can see that, within (5) individuals:

(1) *questioned task procedures, integrated information, interpreted the text, commented on behavior or process, corrected behavior, and reread;*

(2) *questioned text information, made use of general knowledge or association, and questioned sentence meaning;*

(3) *solved vocabulary problems on their own;*

(4) *monitored their comprehension, questioned word meaning, and subvocalized;*

all of them recognized some kind of text organization;

However,

none of them recognized the *cause/effect* organization pattern of expository texts;

none of them *paraphrased* well.

Even though the subjects who did not identify main idea used most of the strategies used by those who were successful in the task, for some reason they could not

reach the proposed goal. In fact, it seemed that other factors contributed to their failure in the task

In a general way, those subjects who did not manage to identify main idea seemed to be limited by their low proficiency in the L2 language, which resulted in their poor paraphrasing and understanding of the L2 text. They also seemed to lack sensitivity to the importance of information contained in the text, as well as sensitivity to text structure, since they usually generalized in their statements, and missed the target of main idea identification.

4.4.2. Conclusion

In order to answer the 4th research question **How strategic are the secondary students who identified the main idea in the L1 and L2 texts?**, we could say that the subjects who managed to identify main idea in L1 and L2 texts, in this study, belong to one of two distinct groups.

In the first group comes the *automatic kind of reader* – represented by Subject 6 in his processing of the L1 text – who uses mainly the "top-down" fashion of processing the text and just a few metacognitive strategies, as his processing usually goes unconsciously. Thus, his comprehension happens quite automatically, his main idea identification is mainly intuitive, and the cognitive resources used are not easily verbalized in verbal reports.

However, other subjects who were successful in the main idea identification in this study belong to the second group. In this group, readers are quite aware of their own comprehension difficulties, and may have developed their own tactics to approach the text. Thus, text comprehension may be the result of hard work involving strategies which can vary *quantitatively* and *qualitatively* from reader to reader. As examples of

the *strategic kind of reader*, we may present Subjects 4 and 10, in their processing of the L2 text for the pause protocol in this study.

Thus, as we could see in the analysis of subjects' performance in this study, it seems that main idea identification of L1 and L2 texts primarily required that the subjects used two important concepts for successful main idea identification: *sensitivity to importance of text information*, and *knowledge of text structure patterns of expository texts*, regardless of the strategies used. As a matter of fact, these two notions seem to be deeply involved. Winograd and Bridge (1986) say that, as readers mature, they store their knowledge of the world and of text structures, and become more efficient at identifying the cues left by writers in the text to indicate the important information. Thus, by analysing the structure of a text, readers can be enabled to determine the relative importance of the ideas contained in that text, and, consequently, establish the superordination and subordination of those ideas. As a result, their chances of constructucting a more accurate macrostructure for the text increase, and, in fact, the reading strategies can be a really powerful tool to help readers in this task. However, they seem not to be a guarantee of success by themselves. As a matter of fact, this conclusion somehow agrees with Sarig (1989) who suggests that "it seems that no particular strategy, or set of strategies, used by the reader can in fact enable us to predict success or failure in the reading task" (p.43).

However, research (Dole, Duffy, Roehler & Pearson, 1991; Baumann, 1984; Carriedo & Alonso-Tapia, 1996; Pearson & Johnson, 1978; Williams, 1986, 1988; Cunningham & Moore, 1986; Winograd & Bridge, 1986; Aulls, 1986; Afferbach & Johnston, 1986; Afferbach, 1990; Carrell, 1985; Carrell & Liberto, 1989; Baker, 1989; Baker & Brown, 1984, A and B; Brown, 1980; Taylor & Beach, 1984; Taylor, 1992; Squire, 1983; Garner, 1988, 1992; Kumaravadivelu, 1994; Stuart & Tei, 1983; Pitts,

1983; others) has indicated that instruction on main idea identification, including text structure, and metacognitive strategies is truly possible and effective. Thus, its inclusion in reading teachers' syllabuses would be a decisive step toward turning our students into more indepedent readers.

CHAPTER FIVE

FINAL CONSIDERATIONS, LIMITATIONS AND IMPLICATIONS

5.1. Final Considerations

The purpose of this study was to evaluate the Brazilian secondary students' ability to identify the main idea of expository texts, as well as to investigate the strategies they metacognitively apply to L1 and L2 texts when reading for main idea identification.

In order to achieve this aim, data were collected from 3rd year students of a secondary state school, and analysed according to the following steps:

A test was applied in order to select the subjects who could perform a main idea task in relation to the identification of explicit and implicit main idea in L1 and L2 texts. Among 28 (twenty-eight) students, just 13 (thirteen) managed to complete the task. The others were unable to complete the task applied to the L2 paragraphs.

Among the 13 (thirteen) students who completed the task, 10 (ten) were randomly picked out for performing individual pause protocols, in order to report the strategies they used when reading a text in Portuguese and another in English with the purpose of identifying the main ideas of the texts.

The analysis of the first data indicated that, among the 13 subjects tested, 61.53 % had fully or partially identified explicit and implicit main ideas in L1 texts, while 46.15 % and 69.23 % fully and partially identified explicit and implicit main ideas, respectively, in the L2 texts.

This result demonstrated that approximately a great amount of the subjects tested seemed not to have notion of the importance of information which would enable them to establish the superordination and subordination of the ideas in the L1 and L2 paragraphs a basic concept for main idea identification (Williams, 1986, 1988). Besides, two other factors seemed to have played important roles in the subjects' identification of main ideas in L1 and L2 texts: the rhetorical structure of texts and the subjects' threshold in the L2 language.

Also, contrary to research findings (Brown & Day, 1983), the subjects seemed to be more able to *construct* than to *select* main idea.

However, the core of this study is the investigation into the metacognitive strategies subjects used toward main idea identification of L1 and L2 texts, i.e., those comprehension strategies which were verbalized by the subjects, and which were detected through the pause protocol. The results of the analysis of the pause protocols demonstrated that, when reading for the main idea identification of L1 and L2 texts, most subjects assumed the *extensive* mode all the time, that is, they focused on the author's ideas in the text.

In relation to the *general* and *local* comprehension strategies metacognitively used, the results demonstrated that, with three exceptions at the local level, the subjects used the same strategies when reading L1 and L2 texts for main idea identification. However, there seemed to be three important variations in the frequency of the strategy occurrences:

The subjects in this study used the *local* strategies more frequently than the *general* strategies in both L1 and L2 texts. This fact may be an indication that most of the subjects' difficulties in reading comprehension are at the *microstructure* level (Kintsch & van Dijk, 1978) of the text. In fact, it seems that the subjects' problems at

the *microstructure* level may be interfering with the subjects' perception of the *macrostructure* of the text, as it was pointed out by Devine (1988).

The larger amount of both *general* and *local* strategy occurrences, long and very long *pauses*, and time on the reading task happened during subjects' processing of the L2 text. These facts suggested that the processing of the L2 text demanded more time and effort from the subjects (Brown, 1980).

Also, the subjects did not apply *general* and *local* strategies to L1 and L2 texts homogeneously. This fact may be attributed to the existence of different levels of the subjects' *threshold* in relation to L1 and L2 languages.

In conclusion, we could say that the kind of subject who managed to identify the main idea in expository texts in this study belonged to one of these two distinct groups (see section 4.4.2, in the previous chapter): the *automatic* main idea achiever, who almost did not verbalize strategies since they happened unconsciously, and the *strategic* main idea achiever, who stands for the kind of subject who is *aware* of her/his own difficulties (Brown, 1980). The *strategic* reader in this study may have developed their own methods of approaching texts for main idea identification, since we had indications from research (Baumann & Serra, 1984; Tomitch, in press A), that instructional material is far from being students' and teachers' effective helpers.

5.2. Limitations of the Study and Recommendations for Further Research

In this section, the limitations and difficulties found during the development of this study will be put forward, as well as suggestions for possible research in the future.

a) Subjects

Some subjects who took part in the first test in this study, the Main Idea Identification Test, did not complete that task, thus bringing an unexpected limit to the

number of subjects for the study. Studies which involve Brazilian elementary and secondary students should be designed, perhaps using another approach which would keep them interested in completing the task.

b) Number of subjects

The number of subjects who were investigated in this study was, in fact, too small to give support to definitive conclusions. It was just a sample of secondary students, and their performances cannot be generalized as the rule for the whole community where the data collection took place. A further study which could cover a larger number of subjects, from different levels of secondary education, and also involving teachers, would provide a more complete overview of the main idea instruction in secondary school.

c) Verbal protocols

In spite of being provided with a text for individual training prior to the pause protocol data collection, the subjects still found difficulty concerning verbalization. Maybe they were not at ease at speaking into a tape-recorder, as it should have been an unfamiliar situation for them. Anyway, I felt that more training could have facilitated the work, as they should feel more secure in that situation.

d) Text type

Only expository texts were used in this study, what, in a way, limited the area to be investigated, and gave a partial view on the matter. In fact, further research could investigate main idea identification in other types of texts such as narrative and descriptive texts.

5.3. Pedagogical Implications

Research has demonstrated that finding the central message of a text is crucial to students' independence as readers and to their success as learners. However, the identification of main idea in expository texts cannot be considered an easy task for many readers in every school level, from elementary school to college (Williams, 1988). In fact, this study demonstrated that students in the 3rd year of a secondary state school may still face such a problem.

Also, findings in this study demonstrated that, in main idea terms, the subjects approached both L1 and L2 texts the same way, and somehow used the same strategies. Thus, these findings might be of some help for L1 and L2 reading teachers with the designing of their courses and selection of reading material. As a matter of fact, even content teachers might benefit from the findings in this study, since they also use expository texts most of the time as their main source of information about the content of their specific areas. As a reinforcement to this assertion, Squire (1983) says that "the skills required to read science must be acquired through reading science" (p.583). Thus, in a way, content area teachers are expected to act as reading teachers, and provide their students with the necessary scaffolding (Dole, Duffy, Roehler, & Pearson, 1991) for the use of metacognitive strategies so as to guide them toward the relevant information in expository texts.

Moreover, some important notions, such as the *notion of importance* should be given closer attention, as they are determinant of successful main idea identification. According to Williams (1986) and Aulls (1986), important skills such as classification and categorization, which establish the superordination and subordination of ideas in texts, depend on this important notion. Dole, Duffy, Roehler, and Pearson (1991) wrote about the relevance of the *determining importance* as one of the basic metacognitive

strategies which should be taught in order to develop readers' comprehension of texts. Baumann (1984) developed a direct instruction model for teaching main idea comprehension centered on teachers. Carriedo and Alonso-Tapia (1996) also developed a programme on teaching main idea identification, which included a training for teachers. As we can see, all these teaching programmes and models put a especial emphasis on the role of the teacher as the mediator who promotes the interaction between readers and texts.

Also, even though this study did not deal specifically with *text structure*, it is impossible to ignore the role it played in the identification of the main idea of L1 and L2 expository texts in this study. As it could be observed, many subjects presented difficulty in following the author's cues on the way toward the main idea. This is, in fact, another important item to be included in the reading syllabuses in our schools, since research on the area have shown the benefits students can get from being taught text structure for main idea identification in the expository texts, as a means to learn and recall school contents better: Williams, (1988), Taylor & Beach (1984), Taylor (1992), Tomitch, 1995, Carrell (1985), Meyer, Brandt & Bluth (1980), Kintsch and van Dijk, 1978; van Dijk and Kintch, 1983, and others.

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APPENDICES

APPENDIX A – Main Idea Identification Test

Tarefa : Identificação da Idéia Principal do Texto

Este encarte contém quatro parágrafos, dois em português e dois em inglês, para que você identifique a idéia principal em cada um deles e um questionário para completar. Há também um glossário em três dos parágrafos contendo palavras que podem não ser de seu conhecimento.

Para que esta tarefa possa ser desempenhada a contento, leia cuidadosamente cada um dos parágrafos seguintes quantas vezes forem necessárias, um de cada vez, para que você tenha um completo entendimento do assunto tratado. Consulte o glossário, se necessário, e só então procure identificar a idéia principal de cada um deles. Em seguida, proceda da seguinte forma *antes* de passar para o parágrafo seguinte:

a) Se a idéia principal do parágrafo que você estiver lendo estiver *claramente expressa* em uma frase do texto, sublinhe-a.

b) Porém, se a idéia principal não estiver *claramente expressa*, isto é, quando não for possível identificá-la em uma frase do parágrafo, você deverá construí-la e escrevê-la no espaço para isso reservado ao final de cada texto.

c) Você terá duas (2) aulas para executar esta tarefa.

Passemos aos parágrafos:

PARÁGRAFO 1

O cérebro bem estimulado em tarefas como leitura, aprendizado de novas línguas, resolução de problemas matemáticos ou mesmo em tarefas rotineiras no trabalho pode esticar a longevidade de uma pessoa e evitar que ela sofra de problemas típicos da velhice, como a senilidade e a perda de memória. Uma pesquisa realizada entre pacientes com mais de 65 anos, todos de um mesmo bairro e mesma classe social, no Hospital Francês de Buenos Aires, revelou que 38% deles tinham desenvolvido o mal de Alzheimer, doença degenerativa que apaga mecanismos da memória coordenadores de movimentos naturais, como os da locomoção. Esse índice, contudo, caia para apenas 7% entre os pacientes com nível de instrução universitário. Quanto mais informação útil é armazenada no cérebro, melhor é seu desempenho. Maior também é o benefício que ele leva a todo o resto do organismo ao qual está ligado. "O cérebro é uma máquina para usar e gastar", diz o professor Ivan Izquierdo, especialista no estudo da memória do departamento de bioquímica da Universidade Federal do Rio Grande do Sul, UFRGS. "Quem estuda ou tem uma vida intelectualmente ativa vive melhor e geralmente mais." (...)

Number of words: 188

Extracted from: Guaracy, T. and Ramalho, C. (1998, August 19). **"A força da mente"**, *Veja*, 1 560th edition, p.104.

PARÁGRAFO 2

A força muscular do homem, a primeira força a ser utilizada na produção de energia, serviu e serve para conduzir barcos a remo, da mesma maneira que certos veículos terrestres (como é o caso dos riquixás do Extremo Oriente). Até a invenção da máquina a vapor, os animais de tiro e de sela figuravam entre as principais fontes de energia, ainda hoje utilizada por um terço da população do globo. A lenha, que desde épocas imemoriais vem sendo utilizada para fins domésticos, tem sua história ligada às técnicas da produção do fogo; seu aproveitamento na indústria data da descoberta das máquinas a vapor. A energia hidráulica foi obtida, de início, exclusivamente através das rodas d'água, destinadas a servir os moinhos, serrarias, engenhos, etc., o que obrigava a localização de tais estabelecimentos junto a cursos d'água. Em fins do séc.XIX, com a invenção da turbina, surgiu a hidreletricidade, a que se veio juntar a termeletricidade produzida pelo carvão e pelo petróleo, este fundamental, com o advento do motor a explosão. O vento e as marés também têm sido utilizados pelo homem como fontes de energia.

Glossário :

animais de tiro e de sela - animais utilizados para montaria e para puxar veículos, carga, etc.

Number of words: 184

Extracted from: "Energia", Enciclopédia Barsa (1989), Encyclopaedia Britannica do Brasil Publicações Ltda., vol.6, p.505-506, Rio de Janeiro - São Paulo.

PARÁGRAFO 3

Nine people in California and 39 in Florida have died this year in storms produced by El Niño. On the West Coast the heavy rainfall shifted hillsides and rivers of mud surged into homes, knocking down walls and burying cars. In Malibu, luxury homes were left hanging over the sea cliffs and had to be evacuated. Two California Highway Patrol Officers near Santa Barbara were interred in their cruiser when a river washed out the road. In Florida the deadliest tornadoes ever to hit the state produced scenes out of TWISTER when winds of up to 330 kph dropped cars into living rooms, wrapped trailers around trees and, in one case, snatched a child from his father's arms.

Number of words: 118

Extracted from: Ratcliffe, J. (1998, July). "Hell Niño", *Speak Up*, n.137, p.5.

Glossary:

to die (died) - morrer
storm – tempestade
heavy – pesada
rainfall - chuva, aguaceiro
to shift (shifted) - mover
hillsides - encostas de morros
mud - lama
to surge into (surged) - invadir
to knock down (knocked) - derrubar
to bury (buried) - enterrar
luxury - luxo
to leave (left) - deixar
to hang (hanged) - pendurar
over - sobre, por cima de

cliffs - penhascos
to inter (interred) - sepultar
cruiser - tipo de carro
to wash out (washed) - lavar, causar desmoronamento (a chuva)
the deadliest - o(s) mais mortal (mortais)
ever - já
to hit (hit) - atingir
wind - vento
of up to - de até
to drop (dropped) - deixar cair
living room - sala de visitas
to snatch (snatched) – arrancar
to wrap (wrapped) - enrolar (*neste caso*)

PARÁGRAFO 4

Thirty per cent of Americans ages four to 30 bite their nails – and the habit may be injuring their teeth. Studies show that nail biting can result in tooth wear, loss of the root, microfractures, trauma to the gums, spread of skin infections from the hands to the mouth and in some cases, misalignment of the teeth. Dentist Curtis Creath of Cincinnati cites the case of a nine-year-old boy brought to the dentist complaining of unexplained swelling of the gums. During the exam the dentist noticed that the child appeared to have a severe nail-biting habit. The dentist then explored the swollen area and found a piece of nail embedded in the gum. Says Creath, "There have been cases where nail biting has resulted in loss of a tooth – when a piece of fingernail worked its way down to the root."Certainly these effects add scientific weight to the parental refrain "Don't bite your nails!"

Number of words: 154

Extracted from: "News from the World of Medicine", *Reader's Digest,* March 1996, p.126.

Glossary :

to injure - ferir, danificar
tooth, teeth - dente, dentes
nail biting - morder (roer) unha
tooth wear - desgaste dos dentes
loss - perda
root - raiz
gums - gengivas
spread - alastramento (subst.), alastrar, espalhar(v.)
skin - pele
misalignment - desalinhamento
to cite - citar
to bring (brought) - trazer
to complain - reclamar
swelling - inchaço
to appear (appeared) - aparentar, parecer
to embed (embedded) - embutir, incrustar
there have been - tem havido
piece - pedaço
fingernail - unha de um dedo da mão
to work its way down - abrir caminho até
weight - peso
parental - dos pais
refrain - refrão

APPENDIX B – Main Idea Identification Test Responses

Main Idea Identification Test

Subjects Production

TABLE 1

EXPLICIT MAIN IDEA		
Subjects	TEXT 1	TEXT 4
1) Ana Paula	"Quanto mais informação útil é armazenada no cérebro, melhor é seu desempenho."	O hábito de roer as unhas pode provocar grandes problemas.
(2) Ângela	Se soubermos desenvolver nosso raciocínio, na velhice não teremos muitos problemas.	Muitas pessoas possuem problemas como inchaço nas gengivas, dentes tortos, perda de dentes, por falta de cuidados e por machucar seus dentes.
(3) Carina	(underlined topical sentence) "O cérebro bem estimulado em tarefas como leitura, aprendizado de novas línguas, resolução de problemas matemáticos ou mesmo em tarefas rotineiras no trabalho pode esticar a longevidade de uma pessoa e evitar que ela sofra de problemas típicos da velhice, como a senilidade e a perda de memória.	A idéia central do texto é alertar sobre o vício de roer unhas e o mal que isso causa aos dentes, deixando-os com graves problemas.

(4) Carline	A idéia do texto é mostrar que o estudo não serve apenas para a pessoa obter mais cultura e informação, mas também serve para a sua saúde.	Estudos mostram que vários americanos roem as unhas e que isso gera vários problemas à saúde.
(5) Cleide	Para que se possa ter uma vida saudável devemos manter (*em*) nosso cérebro armazenadas [com(?)] muitas informações objetivas e instrutivas.	Para se ter uma boa saúde devemos cuidar-nos sendo na alimentação exercícios físicos e indo ao médico regularmente. Nesse caso o dentista.
(6) Danilton	(underlined)- "Quanto mais informação útil é armazenada no cérebro, melhor é seu desempenho".	As pessoas para expor sua tensão têm vários costumes um deles é roer as unhas, isto prejudica a arcada dentária, pois pode provocar a quebra dos dentes, o desalinhamento, e o enfraquecimento da raiz dos mesmos, além de inflamar a gengiva, ficar com as unhas feias e ser um costume feio.
(7) Diogo	O cérebro.	30% dos americanos roem unha causando problemas aos seus dentes.
(8) Fernando	(stated) "O cérebro é uma máquina para usar e gastar."	Pesquisa medicinal (dentista) sobre os hábitos americanos.

(9) Juliano	(underlined) "O cérebro é uma máquina para usar e gastar".	(underlined) "Certainly these effects add scientific weight to the parental refrain..." ["Don't bite your nails!"]
(10) Keila	A importância do cérebro em constante funcionamento para uma longa vida saudável.	A população em grande maioria com problema dentário.
(11) Luiz Eduardo	(underlined) "Quem estuda ou tem uma vida intelectualmente ativa vive melhor e geralmente mais."	O texto fala sobre os hábitos que as pessoas têm que afetam os dentes.
(12) Paulo	(underlined) "Quem estuda ou tem uma vida intelectualmente ativa vive melhor e geralmente mais."	Os resultados dos nossos hábitos com a boca quando crianças e quando adultos.
(13) Raquel	(underlined) "Quem estuda ou tem uma vida intelectualmente ativa ive melhor e geralmente mais."	Ao que pode levar o vício de roer unhas.

TABLE 2

CONSTRUCTED MAIN IDEA			
N.	SUBJECTS	TEXT 2	TEXT 3
1	Ana Paula	Fontes de energia.	As tragédias provocadas pelo fenômeno "El Niño".
2	Ângela	Em tempos remotos utilizávamos formas de energia mais rústicas, mas hoje possuímos melhores recursos que proporcionam maior produtividade e agilidade.	O fenômeno 'El Niño' trouxe muita destruição nos Estados Unidos, através de fortes chuvas e tornados, ocorrendo a morte de muitas pessoas.
3	Carina	O texto trata de como o homem desde os tempos mais remotos obtém energia, exemplificando várias maneiras para a obtenção da mesma.	(underlined) Nine people in California and 39 in Florida have died this year in storms produced by El Niño.
4	Carline	"A força muscular do homem, a primeira força a ser utilizada na produção de energia,... Até a invenção da máquina a vapor, ... A energia hidráulica foi obtida,... ... através das rodas d'água,... ...com a invenção da turbina, surgiu a eletricidade..." (*underl.*)	O texto expressa os estragos que a natureza tem feito nos USA.

5	Cleide	No século passado a força muscular do homem era muito utilizada ou para caçar ou trabalhar. Só a partir da revolução industrial é que o homem passou a trabalhar com máquinas que ultrapassaram o limite do homem.	Em uma tempestade produzida pelo El Niño foram mortas muitas pessoas, derrubando casas, carros e tudo que estava à sua volta.
6	Danilton	A energia éuma maneira que temos para adquirir força muscular ou mecânica, para realizar uma tarefa ou trabalho.	O fenômeno chamado de El Niño é uma demonstração de força da natureza que descontrolou o tempo e o clima em todo mundo, fazendo inclusive várias vítimas no decorrer deste período.
7	Diogo	Fontes de energia (força).	Uma tempestade mortal.
8	Fernando	Meios utilizados pelo homem como fontes de energia em toda a sua vida.	Catástrofe(s) causada(s) pelo El Niño.
9	Juliano	A Evolução do Homem.	A Natureza em Relação ao Homem.
10	Keila	As fontes de energia.	O fenômeno do El Niño atinge a Flórida e a Califórnia.

11	Luiz Eduardo	O texto passa uma idéia que trata do desenvolvimento do homem, desde quando o mesmo usava mais esforços até a criação de instrumentos, objetos que facilitaram a vida do homem.	O texto fala sobre as desgraças e desastres provocados pelos fenômenos da natureza.
12	Paulo	Mostrar o avanço e a história da produção, geração e origem da energia.	Os desastres naturais e físicos provocados pelo El Niño na costa leste dos EUA.
13	Raquel	As diversas fontes de energia.	As consequências do El Niño nos países norte-americanos.

APPENDIX C – The Pause Protocol – Directions and Texts

Texts for the Verbal Protocol

Este encarte contém dois textos, um em português e outro em inglês, para que você leia e identifique a idéia principal em cada um deles. Para que isso aconteça, *trabalhe um texto de cada vez* e siga as instruções abaixo:

1- O texto deverá ser lido silenciosamente. Lembre-se de que o objetivo desta leitura é identificar a idéia principal do texto.

2- Entretanto, esta leitura silenciosa deverá ser interrompida quando:

2.1- Você detectar uma pausa (longa ou curta, não importa quanto tempo dure) durante a sua leitura. Pausa é o instante em que a sua leitura é interrompida e você se dá conta de que está pensando sobre um problema que encontrou no texto ou sobre alguma coisa que chamou a sua atenção.

2.1.1- Assim, quando sua leitura for interrompida por uma pausa, proceda da seguinte forma:

a) localize a pausa no texto, isto é, leia em voz alta a palavra, expressão ou frase que causou a interrupção;

b) faça comentários sobre o porquê da pausa, isto é, se foi causada por algo que chamou a sua atenção ou se por algum problema encontrado na leitura;

c) se precisar resolver o problema encontrado, faça-o em voz alta;

2.2 - chegar ao final de cada parágrafo, onde você encontrará um pequeno retângulo vermelho. Então, você deverá:

a) comentar a parte do texto que você acabou de ler, isto é, sobre o conteúdo da parte lida.

b) dizer sobre o que você estava pensando enquanto lia o texto.

3 - Continue lendo e comentando o texto até o final.

4 - Diga qual é a idéia principal do texto.

5 - Leia e comente o texto como se estivesse sozinho(a), isto é, ignore a presença do professor.

6 - A sessão será gravada.

7 - Haverá um treinamento antes da atividade.

TEXTO 1

ANTIMALÁRICO SUPERCONCENTRADO

Barry Charlwood, do King's College de Londres, está desenvolvendo uma espécie de artemísia, planta usada no tratamento da malária, com maior concentração da substância que age contra a doença. □

Obtida por alterações genéticas, a nova planta poderá solucionar o maior obstáculo para o uso da artemísia contra a malária: são necessárias toneladas do vegetal para se extrair uma quantidade do seu princípio ativo (artemisina) suficiente para controlar todos os casos da doença. Por exemplo, foram notificados no Brasil cerca de 226 mil casos no primeiro semestre do ano passado, segundos dados preliminares do Centro Nacional de Epidemiologia do Ministério da Saúde. □

Charlwood não quis detalhar a técnica que está usando. "Estão envolvidas verbas de empresas privadas e o trabalho ainda não foi publicado", justifica o pesquisador. O custo do projeto é de cerca de 250 mil dólares. □

Desde 1989, Charlwood e Antônio Euzébio Sant'Anna, da Universidade Federal de Alagoas, pesquisam plantas nativas que podem ser usadas no tratamento de doenças típicas brasileiras. "Os países desenvolvidos não estão interessados em produzir drogas como as antimaláricas por não serem lucrativas", diz Charlwood. "Por isso, a solução tem que ser encontrada pelas regiões afetadas", acrescenta. □

Number of words: 194

(Massarani, L. (1994, January / February). Ciência em Dia. ***Ciência Hoje*** - *Revista de Divulgação Científica da Sociedade Brasileira para o Progresso da Ciência,* p.86).

TEXTO 2

VITAMIN-A ALERT !

Women who take excessive amounts of vitamin A early in pregnancy can cause serious birth defects in their unborn children, according to a Boston University School of Medicine study. Researchers found that the babies of women who daily consumed more than 10,000 international units (IUs) of vitamin A from supplements (nearly four times the recommended amount) were more likely to be born with malformations of the head, face, heart and brain. □

In addition to supplements, vitamin A is found in most animal foods and in especially large amounts in liver. A three-ounce serving, for example, may have more than 30,000 IUs. Even if women took no supplements, those who frequently ate liver could exceed safe vitamin-A levels. Beta carotene, which the body can convert into vitamin A, is not associated with an increased birth-defect risk. □

When taken correctly during pregnancy, vitamin A is an essential nutrient in the baby's development. But several national surveys suggest that two to five percent of women of childbearing age may be consuming more than 10,000 IUs daily. Given the Boston University study's findings, co-author Lynn L. Moore recommends that these women consult with their physicians before taking vitamin-A supplements exceeding 8000 IUs. □

– Jane E. Brody in New York *Times*

Number of words: 200

Extracted from: "News from the World of Medicine", *Reader's Digest,* March 1996, p.125.

Glossary:

to take - tomar
early - cedo, no começo
birth - nascimento
to find (found) -descobrir
likely - provável
in addition to - além de
ounce - onça (28,350 gramas)
exceed - exceder,ultrapassar
level - nível
development - desenvolvimento
childbearing age - idade reprodutiva
finding - descoberta
amount - quantidade
pregnancy - gravidez
unborn - não nascido (a) (s)
nearly - quase
to be born - nascer
liver - fígado
serving - porção de alimento
safe - seguro (a) (s)
to increase - aumentar
survey - inspeção, exame
to give (gave, given) - dar
physician - médico

APPENDIX D – Idea units - categorization

IDEA UNITS – Categorization

MI – Main Idea
SI – Supporting Idea
D – Details

Text 1 – **Antimalárico Superconcentrado**

1. (MI) Barry Charlwood está desenvolvendo uma espécie de artemísia,
2. (D) do King's College de Londres,
3. (MI) planta usada no tratamento da malária,
4. (MI) com maior concentração da substância
5. (MI) que age contra a doença.
6. (SI) Obtida por alterações genéticas,
7. (MI) a nova planta poderá solucionar
8. (MI) o maior obstáculo para o uso da artemísia contra a malária:
9. (MI) são necessárias toneladas do vegetal
10. (MI) para se extrair uma quantidade do seu princípio ativo (artemisina)
11. (MI) suficiente
12. (MI) para controlar todos os casos da doença.
13. (D) Por exemplo,
14. (D) foram notificados cerca de 226 mil casos
15. (D) no Brasil
16. (D) no primeiro semestre do ano passado,
17. (D) segundo dados preliminares do Centro Nacional de Epidemiologia do Ministério da Saúde.
18. (D) Charlwood não quis detalhar a técnica
19. (D) que está usando.
20. (D) "Estão envolvidas verbas de empresas privadas
21. (D) e o trabalho ainda não foi publicado",
22. (D) justifica o pesquisador.
23. (SI) O custo do projeto é de 250 mil dólares.
24. (D) Desde 1989,
25. (SI) Charlwood e Antônio Euzébio de Sant'Anna pesquisam plantas nativas
26. (SI) que podem ser usadas no tratamento de doenças típicas brasileiras
27. (D) da Universidade Federal de Alagoas
28. (SI) "Os países desenvolvidos não estão interessados em produzir drogas antimaláricas
29. (SI) por não serem lucrativas",
30. (D) diz Charlwood.
31. (SI) "Por isso, a solução tem que ser encontrada
32. (SI) pelas regiões afetadas",
33. (D) acrescenta.

Text 2 – **Vitamin-A Alert !**

1. (MI) Women who take excessive amounts of vitamin A
2. (MI) early in pregnancy
3. (MI) can cause serious birth defects
4. (MI) in their unborn children,
5. (D) according to a Boston University School of Medicine study.
6. (SI) Researchers found that the babies of women
7. (SI) who daily consumed more than 10,000 international units (IUs) of vitamin A from supplements
8. (SI) (nearly four times the recommended amount)
9. (SI) were more likely to be born
10. (SI) with malformations
11. (SI) of the head,
12. (SI) face,
13. (SI) heart,
14. (SI) and brain.
15. (D) In addition to supplements,
16. (D) vitamin A is found in most animal foods and
17. (D) in especially large amounts in liver.
18. (D) A three-ounce serving may have more than 30,000 IUs.
19. (D) for example,
20. (SI) Even if women have no supplements,
21. (SI) those who frequently ate liver
22. (SI) could exceed safe vitamin-levels.
23. (SI) Beta carotene, which the body can convert into vitamin A,
24. (SI) is not associated with an increased birth-defect risk
25. (D) When taken correctly during pregnancy,
26. (D) vitamin A is an essential nutrient in the baby's development.
27. (D) But several nation surveys suggest that
28. (D) two to five percent of
29. (SI) women of childbearing age may be consuming more than 10,000 IUs daily
30. (D)Given the Boston University study's findings
31. (D) co-author Lynn L. Moore recommends that
32. (SI) these women consult their physicians
33. (SI) before taking vitamin-A supplements exceeding 8000 IUs.

APPENDIX E – Subjects' Idea Units

S 1 – Ana Paula

Text 1 – **Antimalárico Superconcentrado**

( ) Barry Charlwood está desenvolvendo uma espécie de artemísia,
( ) do King's College de Londres,
( ) planta usada no tratamento da malária,
( ) com maior concentração da substância
(x) que age contra a doença.
( ) Obtida por alterações genéticas,
( ) a nova planta poderá solucionar
( ) o maior obstáculo para o uso da artemísia contra a malária:
( ) são necessárias toneladas do vegetal
( ) para se extrair uma quantidade do seu princípio ativo (artemisina)
( ) suficiente
( ) para controlar todos os casos da doença.
( ) Por exemplo,
( ) foram notificados cerca de 226 mil casos
( ) no Brasil
( ) no primeiro semestre do ano passado,
( ) segundo dados preliminares do Centro Nacional de Epidemiologia do Ministério da Saúde.
( ) Charlwood não quis detalhar a técnica
( ) que está usando.
( ) "Estão envolvidas verbas de empresas privadas
( ) e o trabalho ainda não foi publicado",
( ) justifica o pesquisador.
( ) O custo do projeto é de 250 mil dólares.
( ) Desde 1989,
( ) Charlwood e Antônio Euzébio de Sant'Anna pesquisam plantas nativas
( ) que podem ser usadas no tratamento de doenças típicas brasileiras.

( ) da Universidade Federal de Alagoas
( ) "Os países desenvolvidos não estão interessados em produzir drogas
antimaláricas
( ) por não serem lucrativas",
( ) diz Charlwood.
( ) "Por isso, a solução tem que ser encontrada
( ) pelas regiões afetadas",
( ) acrescenta.

Text 2 – **Vitamin-A Alert !**

( ) Women who take excessive amounts of vitamin A
( ) early in pregnancy
( ) can cause serious birth defects
( ) in their unborn children,
( ) according to a Boston University School of Medicine study.
( ) Researchers found that the babies of women
( ) who daily consumed more than 10,000 international units (IUs)
of vitamin A from supplements
( ) (nearly four times the recommended amount)
( ) were more likely to be born
( ) with malformations
( ) of the head.
( ) face,
( ) heart,
( ) and brain.
( ) In addition to supplements,
( ) vitamin A is found in most animal foods and
( ) in especially large amounts in liver.
( ) A three-ounce serving may have more than 30,000 IUs.
( ) for example,
( ) Even if women have no supplements,
( ) those who frequently ate liver
(x) could exceed safe vitamin-levels.

( ) Beta carotene, which the body can convert into vitamin A,
( ) is not associated with an increased birth-defect risk
( ) When taken correctly during pregnancy,
( ) vitamin A is an essential nutrient in the baby's development.
( ) But several nation surveys suggest that
( ) two to five percent of
( ) women of childbearing age may be consuming more than
10,000 IUs daily
( ) Given the Boston University study's findings
( ) co-author Lynn L. Moore recommends that
( ) these women consult their physicians
( ) before taking vitamin-A supplements exceeding 8000 IUs.

S 2 – Ângela

Text 1 – **Antimalárico Superconcentrado**

( ) Barry Charlwood está desenvolvendo uma espécie de artemísia,
( ) do King's College de Londres,
( ) planta usada no tratamento da malária,
( ) com maior concentração da substância
( ) que age contra a doença.
( ) Obtida por alterações genéticas,
( ) a nova planta poderá solucionar
( ) o maior obstáculo para o uso da artemísia contra a malária:
( ) são necessárias toneladas do vegetal
( ) para se extrair uma quantidade do seu princípio ativo (artemisina)
( ) suficiente
( ) para controlar todos os casos da doença.
( ) Por exemplo,
( ) foram notificados cerca de 226 mil casos
( ) no Brasil
( ) no primeiro semestre do ano passado,
( ) segundo dados preliminares do Centro Nacional de Epidemiologia do Ministério da Saúde.
( ) Charlwood não quis detalhar a técnica
( ) que está usando.
( ) "Estão envolvidas verbas de empresas privadas
( ) e o trabalho ainda não foi publicado",
( ) justifica o pesquisador.
( ) O custo do projeto é de 250 mil dólares.
( ) Desde 1989,
(x) Charlwood e Antônio Euzébio de Sant'Anna pesquisam plantas nativas
(x) que podem ser usadas no tratamento de doenças típicas brasileiras.
( ) da Universidade Federal de Alagoas
( ) "Os países desenvolvidos não estão interessados em produzir drogas antimaláricas

( ) por não serem lucrativas",
( ) diz Charlwood.
( ) "Por isso, a solução tem que ser encontrada
( ) pelas regiões afetadas",
( ) acrescenta.

Text 2 – **Vitamin-A Alert !**

(x) Women who take excessive amounts of vitamin A
(x) early in pregnancy
(x) can cause serious birth defects
(x) in their unborn children,
( ) according to a Boston University School of Medicine study.
( ) Researchers found that the babies of women
( ) who daily consumed more than 10,000 international units (IUs) of vitamin A from supplements
( ) (nearly four times the recommended amount)
( ) were more likely to be born
( ) with malformations of the head,
( ) face,
( ) heart,
( ) and brain.
( ) In addition to supplements,
( ) vitamin A is found in most animal foods and
( ) in especially large amounts in liver.
( ) A three-ounce serving may have more than 30,000 IUs.
( ) for example,
( ) Even if women have no supplements,
( ) those who frequently ate liver
( ) could exceed safe vitamin-levels.
( ) Beta carotene, which the body can convert into vitamin A,
( ) is not associated with an increased birth-defect risk
( ) When taken correctly during pregnancy,
( ) vitamin A is an essential nutrient in the baby's development.

( ) But several nation surveys suggest that
( ) two to five percent of
( ) women of childbearing age may be consuming more than
10,000 IUs daily
( ) Given the Boston University study's findings
( ) co-author Lynn L. Moore recommends that
( ) these women consult their physicians
( ) before taking vitamin-A supplements exceeding 8000 IUs.

S 3 – Carina

Text 1 – **Antimalárico Superconcentrado**

( ) Barry Charlwood está desenvolvendo uma espécie de artemísia,
( ) do King's College de Londres,
( ) planta usada no tratamento da malária,
( ) com maior concentração da substância
(x) que age contra a doença.
( ) Obtida por alterações genéticas,
( ) a nova planta poderá solucionar
( ) o maior obstáculo para o uso da artemísia contra a malária:
( ) são necessárias toneladas do vegetal
( ) para se extrair uma quantidade do seu princípio ativo (artemisina)
( ) suficiente
( ) para controlar todos os casos da doença.
( ) Por exemplo,
( ) foram notificados cerca de 226 mil casos
( ) no Brasil
( ) no primeiro semestre do ano passado,
( ) segundo dados preliminares do Centro Nacional de Epidemiologia do Ministério da Saúde.
( ) Charlwood não quis detalhar a técnica
( ) que está usando.
( ) "Estão envolvidas verbas de empresas privadas
( ) e o trabalho ainda não foi publicado",
( ) justifica o pesquisador.
( ) O custo do projeto é de 250 mil dólares.
( ) Desde 1989,
( ) Charlwood e Antônio Euzébio de Sant'Anna pesquisam plantas nativas
( ) que podem ser usadas no tratamento de doenças típicas brasileiras.
( ) da Universidade Federal de Alagoas
( ) "Os países desenvolvidos não estão interessados em produzir drogas antimaláricas

( ) por não serem lucrativas",
( ) diz Charlwood.
( ) "Por isso, a solução tem que ser encontrada
( ) pelas regiões afetadas",
( ) acrescenta.

Text 2 – **Vitamin-A Alert !**

(x) Women who take excessive amounts of vitamin A
(x) early in pregnancy
(x) can cause serious birth defects
(x) in their unborn children,
( ) according to a Boston University School of Medicine study.
( ) Researchers found that the babies of women
( ) who daily consumed more than 10,000 international units (IUs)
of vitamin A from supplements
( ) (nearly four times the recommended amount)
( ) were more likely to be born
( ) with malformations of the head,
( ) face,
( ) heart,
( ) and brain.
( ) In addition to supplements,
( ) vitamin A is found in most animal foods and
( ) in especially large amounts in liver.
( ) A three-ounce serving may have more than 30,000 IUs.
( ) for example,
( ) Even if women have no supplements,
( ) those who frequently ate liver
( ) could exceed safe vitamin-levels.
( ) Beta carotene, which the body can convert into vitamin A,
( ) is not associated with an increased birth-defect risk
( ) When taken correctly during pregnancy,
( ) vitamin A is an essential nutrient in the baby's development.

( ) But several nation surveys suggest that
( ) two to five percent of
( ) women of childbearing age may be consuming more than
10,000 IUs daily
( ) Given the Boston University study's findings
( ) co-author Lynn L. Moore recommends that
( ) these women consult their physicians
( ) before taking vitamin-A supplements exceeding 8000 IUs.

S4 – Cleide

Text 1 – **Antimalárico Superconcentrado**

(x) Barry Charlwood está desenvolvendo uma espécie de artemísia,
( ) do King's College de Londres,
(x) planta usada no tratamento da malária,
( ) com maior concentração da substância
( ) que age contra a doença.
( ) Obtida por alterações genéticas,
( ) a nova planta poderá solucionar
( ) o maior obstáculo para o uso da artemísia contra a malária:
( ) são necessárias toneladas do vegetal
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( ) que podem ser usadas no tratamento de doenças típicas brasileiras.
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( ) "Por isso, a solução tem que ser encontrada
( ) pelas regiões afetadas",
( ) acrescenta.

Text 2 – **Vitamin-A Alert !**

(x) Women who take excessive amounts of vitamin A
( ) early in pregnancy
(x) can cause serious birth defects
(x) in their unborn children,
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( ) and brain.
( ) In addition to supplements,
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( ) A three-ounce serving may have more than 30,000 IUs.
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( ) Beta carotene, which the body can convert into vitamin A,
( ) is not associated with an increased birth-defect risk
( ) When taken correctly during pregnancy,

( ) vitamin A is an essential nutrient in the baby's development.

( ) But several nation surveys suggest that

( ) two to five percent of

( ) women of childbearing age may be consuming more than 10,000 IUs daily

( ) Given the Boston University study's findings

(x) co-author Lynn L. Moore recommends that

(x) these women consult their physicians

(x) before taking vitamin-A supplements exceeding 8000 IUs.

S 5 – Danilton

Text 1 – **Antimalárico Superconcentrado**

(x) Barry Charlwood está desenvolvendo uma espécie de artemísia,
( ) do King's College de Londres,
(x) planta usada no tratamento da malária,
( ) com maior concentração da substância
( ) que age contra a doença.
( ) Obtida por alterações genéticas,
( ) a nova planta poderá solucionar
( ) o maior obstáculo para o uso da artemísia contra a malária:
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S 6 – Fernando

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S 7 – Juliano

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S 8 – Keila

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S 9 – Paulo

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S 10 – Raquel

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APPENDIX F – Verbal protocols

Labels	Meanings
/	pause
//	long pause (around 30 seconds)
///	very long pause (over 30 seconds)
(...)	speaking low
((...))	subjects whisper while speaking
(whispers)	subjects whispers – it is impossible to understand
(unintelligible)	subjects speak, but it is impossible to distinguish the words
–	subjects did not complete the utterance
[nn] – [nn]	repetition
[< mm >]	incompleted word
{*italicized*}	emotional manifestation
("mmm")	it seems to be this word or expression
[...]	missing words in the subjects'utterances

Portuguese Text: ANTIMALÁRICO SUPERCONCENTRADO – TEXT 1

Ana Paula – (S 1)

Artemísia eu não sei. O que é ? / "Arte" pode vir de arte e "mísia"/ não sei. Aqui diz que é uma planta, né ? Usada no tratamento da malária. // Ah, é um professor, né ? Descobriu uma planta pro tratamento pra malária. Esta é a idéia central, né ? Do texto.

/// Tá! Eles falam que vão precisar usar {*emphasis*} muita (f) / artemísia, que no caso (gag) [a]- a planta para curar a malária / e existe muito caso, muitos casos, [não]- não são poucos.

/// Aqui diz que [ele]- eles estão pesquisando e acharam mais casos, né ? (gag) E / os outros países mais desenvolvidos eles não querem saber disso porque não têm muito lucro. E por isso eles têm que procurar nos países menos desenvolvidos que têm mais casos. Isso?

A idéia central do texto: É achar a cura pra {*emphasis* } malária!

Ângela – (S 2)

Artemísia... ((O que devo fazer agora ?)) (*whispers)* Tá, eu não soube / o significado da palavra artemísia, tá, mas agora (gag) já – (*unintelligible)* assim, [já]- já tenho o significado, né ? Aqui está falando sobre (gag) o / novo remédio / assim, uma substância [pra]- contra a malária, a doença, né ? {*speaking fast*} Uma substância adquirida de outra forma, fazendo / [outro]- outra concentração / para poder conseguir, talvez, melhores resultados.(f) / Quando eu voltar eu tenho que ler ? (*unintelligible)*

/// {*speaking fast*} Tá, como / teve / muita propagação da doença, né, no passado, então eles estão / procurando / um remédio pra poder / solucionar o problema.(f)

/// Hum (gag) {*speaking fast*} Eles estão tentando então desenvolver / curas pras doenças que / *(unintelligible)* no Brasil, né ? (f) {*speaking fast*} Mas o custo é muito alto (f) e os países estrangeiros não estão querendo ajudar porque [vai]- não vai {*speaking fast*} ser lucrativo.(f)

A idéia central do texto: (gag) a cura de doenças (gag) que ainda estão afetando o povo.

Carina – (S 3)

Bom, já o título aqui, "antimalárico", alguma coisa que é / [como é]- como é que eu vou explicar / é "anti-" alguma coisa. É / contra alguma coisa. // *Artemisia*, artemísia. // Bom, aqui no primeiro parágrafo, ele está explicando / ((foi encontrada uma espécie de planta que é)) usada no tratamento pra malária. É uma espécie, né ?

Artemísia, ((artemísia, artemisina)). // O que me chamou a atenção que / [são usados]- serão necessárias toneladas do vegetal pra se ["extrair"] uma quantidade, que deve ser mínima, pra fazer o princípio ativo. /// Tá, o segundo parágrafo / além dele falar do princípio ativo / ele exemplifica dando / o estado no Brasil.

/// Tá, o terceiro parágrafo, hã, ele diz que as ((verbas são tanto privadas)) quanto públicas. Não, o trabalho público não foi envolvido, só o privado.

Ele não / [quer]- (gag) revelar / e que o custo é de cerca de duzentos e cinqüenta mil dólares. / Hã, o projeto em si.

// Oh, aqui eu achei curioso que desde oitenta e nove, dois pesquisadores de Alagoas pesquisam nas próprias matas brasileiras {*speaking fast*} pra ver se encontram plantas pra doenças, no caso.

A idéia central do texto: /// Eu acho que é a informação sobre, hã, / uma substância, um remédio contra a doença malária, no caso.

Cleide – (S 4)

/// Artemísia. // Já li o parágrafo. Aí a palavra que eu tinha dúvida era [<ter->]- artemísia, só que aí eu já / lendo mais, eu vi que era uma planta para o tratamento da malária. /// Tá, eu vou ler de novo, tá ? /// É, a palavra difícil é artemi- {*speaking slowly*} artemisina, só que aí / é a mesma coisa que artemísia, né ? /// (Epidemologia também).

// Tá, esse segundo parágrafo está dizendo assim que eles / estão tentando inventar, solucionar mais, passar um obstáculo assim, solucionar [essa]- esse problema / seria uma doença, né ?

Aqui ó, o [<tra->]- tratamento então seria uma doença. E fala assim [de que]- dos casos, hã / que foi duzentos e vinte e seis mil. Era [da]- / da malária, né, da artemísia. // {*ênfase na voz*} [Ah, não]- a artemísia seria o remédio, a malária seria a doença (f). ((Vou pro último)).

/// Tá, aqui ele está dizendo / (Charlwood, eu não sei o nome deles) (*whispers*). Ele / (não, espera aí, vou reler de novo). // Tá, no caso, esse aí não quis detalhar a técnica dele / e eles foram toda a vida assim, hã, as empresas deram / verbas, só que ainda, hã, o dinheiro não foi publicado, assim, né, / e o custo do projeto era de duzentos e cinqüenta mil dólares.

/// (Antimalárico é) // Tá, vou ler de novo.

/// Tá, esse último parágrafo, eu já tinha / visto até falar sobre o assunto, né. No caso que eles estavam [<pes->] hã, procurando nas plantas mesmo, a cura [pra]- pra própria doença. Só que dos países desenvolvidos eu não tinha ouvido falar, assim, / mas o último ali já sabia alguma coisa. ((Tá claro ?))

A idéia central do texto: É, a idéia central dele mesmo, é porque eles estão / é tentando assim, desenvolvendo uma espécie de artemísia, no caso, uma planta pra ser usada no tratamento da malária. No caso, eles querem combater essa doença. ((Isso)).

Danilton – (S 5)

((Artemísia, nome da planta que –)) Tipo de um remédio, né, pra curar malária.

/// Essa planta, ela foi feita, ela foi produzida, não é uma coisa natural – feita pelos próprios cientistas. /// Não, não [precisei voltar a ler]. Realmente, só vi, no caso, seria uma espécie de planta que eu nunca tinha ouvido falar, né ?

Esse aqui também, aqui que falou que essa aí foi feita, né, que é uma planta que não nasce natural, ele diz que houve alterações genéticas ((deles)) / que fizeram essa planta, né ?

E depois ele dá mais uma explicação aqui sobre o que seria mais ou menos, né? Os custos , hã.

(gag) No caso, no Brasil, também ele fala um pouco sobre as doenças, né ? Seria mais ou menos esse assunto aí.

A idéia central do que o texto tá falando, basicamente, sobre essa planta, né, Sobre a cura, não é ? [E]- [e]- e dos países desenvolvidos, né, que têm / é – {*speaking fast*} como aqui está dizendo (f), "os países desenvolvidos não estão interessados em produzir drogas como esta, antimaláricas, por não serem lucrativas", né ? Sendo / esse rapaz, esse dentista, né, quem construiu, formou [essa] planta, né?

Fernando – (S 6)

// Artemísia, palavra meio - Hã, hã, uma planta.// Tá, aqui, [o]- / o colégio de Londres [tá < desen- >]- tá utilizando a planta artemísia pra – que tem uma grande substância que age contra a doença que é a malária. Estão tentando fazer um tratamento.

/// Aí nesse segundo parágrafo aqui eles disseram que tem que [<desenvol->] - vão fazer uma planta nova, uma planta genética a partir daquela porque é necessário [uma <gran->] – uma grande [<quant->] quantidade, toneladas pra tirar uma quantidade mínima pra evitar toda a doença. Então no caso aqui no Brasil são duzentos e sessenta e seis mil casos, precisaria [de]- / de milhares e milhares de plantas só pra inseminar esses {*speaking fast*} ("casos") (f). Então eles querem fazer uma planta genética {*speaking fast*}que supra isso (f).

/// Aí aqui ele dá uma explicada, né, que o trabalho dele não foi publicado ainda porque como tem muitas verbas {*speaking very fast*} de empresas privadas envolvidas (f), a pessoa está bem interessada mesmo, ele não quer detalhar a técnica que ele estava usando. O projeto custa duzentos e cinquenta mil dólares.

/// Aí nesse aqui ele está dizendo aqui [que] [que do]- que o brasileiro daqui da Universidade de Alagoas já estão pesquisando plantas brasileiras pra curar tipos de doenças típicas brasileiras, né ? Ele faz um comentário e diz que / [o <pov->]- os países [de é-] {*speaking fast*} desenvolvidos [<no>] eles não estão preocupados em / determinar certos tipos de doenças, eles querem que - se a doença afeta eles, eles vão achar a cura pra aquela doença, senão a doença que afeta outro país (f). O comentário todo é sobre a malária e –

A idéia central do texto é sobre a malária e o cara está achando uma planta que já está tendo alteração genética nela pra que ela possa suprir todo [o]- / o planeta, digamos, pra exterminar a doença.

Juliano – (S 7)

// Pois (*unintelligible)* antimalárico [é um]- / é uma vacina contra a malária ? /// E aí cada ponto tem que comentar? // O que é *artemisia* ? Artemísia. [É uma <doen>]- é uma espécie de malária ? Não {tem no texto}. ((Não, não.)) Oh, ele está dizendo que está desenvolvendo uma espécie de artemísia, planta, ahn, uma planta. ///Tá, então a idéia central do texto é que ele / [o] – (gag) o (*unintelligible)* está desenvolvendo [uma]- / uma planta que é usada no tratamento da malária. /// (*whispers*) /// (*whispers)*

/// Tá! Nesse aqui ele fala / que a artemísia [está / <contr->]- está / na cura contra a malária, né ? E diz que tem que ser planta em / bastante quantidade, né ? / Pra controlar a doença. E falou que foi notificado no Brasil / um número elevado de malária.

/// E nesse outro texto aqui assim, Charlwood diz [que]- / que ele não falou detalhes técnicos. [Mas]- mas falou que / a verba envolvida de empresas privadas / [e]- (gag) e o custo que está saindo.

/// E aqui, Charlwood e Antônio Euzébio / {*speaking fast*} na Universidade de Alagoas (f) diz que / os países desenvolvidos [tem]- não procuram a cura porque não, pra eles não tem lucro. E daí com isso quem [<so->] nos lugares onde é que são prejudicados têm que procurar (por si próprios).

A idéia central do texto: É a cura [da]- / da malária, né ?

Keila – (S 8)

{*speaking fast*} Esse aqui, professora, é cientista, né ?(f) ((Foi o que eu entendi)). (Sim, entendi a primeira parte).

/// Professora, essa planta no caso [é] - / vai ser usada pra fazer remédio, né ? /// É porque aqui está dizendo, "por exemplo", {*speaking very fast*} que "foram notificados

no Brasil cerca de 226 mil casos."(f) Aqui está falando da doença, né ? Ou [do]- / da planta [que]- acharam ? (Eu entendi que - / tem aquela dúvida que eu fiquei ali- mas já -). Eu voltei a ler, a ler de novo.

Tá, nesse aqui eu voltei pra trás. *(whispers)* // Isso eu não entendi, então voltei. ((Isso)). /// Aqui também é ?

A idéia central do texto: É a planta que eles estão usando pra / fazer [a] – o remédio contra a doença, né ? (É isso.)

Paulo – (S 9)

O que é artemísia ? // Cada quadrado é um comentário ? Bom ! // (Eles desenvolveram uma espécie de planta) / Ela já existia / comparada a maioria das vezes / - O problema da malária é que ela (é muito importante, né ?)

/// Bom, assim como a nova soja, ela também é feita por alterações genéticas. Mas precisa de muita planta [pra]- / [pra] pouco extrato./ Isso quer dizer que não vai dar muita coisa.

/// Barato - / o custo do projeto. Com certeza muito barato. A gente vê hoje em dia muitas - / as coisas estão caras, o preço está um absurdo./ Uma coisa tão boa, tão {*exaltação na voz*} / - que devia fazer tão bem à saúde [do] – [do]- do mundo em geral contra a malária e / custa tão barato.

/// Bom, o pensamento deles é o pensamento mais certo do mundo. Porque. Porque os países desenvolvidos / realmente, eles não têm preocupação nenhuma com doenças tipo malária, né ? Cólera. Eles não têm mais (*exaltação na voz*) onde ter isso.

Aí o sistema de saúde deles é muito efetivo. E aqui nào – Aqui é muito {*exaltação na voz*} [< pre >] / Só faltava um pouquinho mais de (*emphasis*) empenho (f) do próprio governo / nacional [e]- / e resolver isso aí.

A idéia central do texto: Pra mim, além de divulgar [o] / [o < tex- >] [a] – a descoberta / é mostrar o que (*emphasis*) um pouco (f) que a gente pode fazer é muito. (Isso)

Raquel – (S 10)

// Anti*/am*árico. Malárico, né ? Ah! Antimalárico é uma contra-malária. (*whispers*). /// Então este cara, então é professor da {*ênfase*} universidade (f). Encontrou a planta, uma planta que tem [uma]- uma concentração grande, uma substância, hã, contra a doença, contra a malária.

/// É só – Ah! [<artemi->] artemisina é a substância ? Hum. /// (Tá). ((Espera mais um pouquinho.)) (*whispers)* /// Tá. (*whispers)* É, voltei pra ler, pra ver. Aqui no começo [eu<que->]- eu queria ver [se ele]- se ele estava usando no Brasil. Se ele estava – o que ele fala do Brasil, mas nada. /// (Aí então ele (*unintelligible*) alterações genéticas). Alterações genéticas (*emphasis)* na pessoa ou na planta ? (f) (*whispering)* ((Não, na planta poderá ser (*unintelligible)*)). Nossa! / Não, eu achei interessante aqui – precisa de toneladas de (planta [pra] / pra extrair uma quantidade.

/// Que bom que tem gente investindo ((no projeto!))

/// Ah! Aqui eles estão pesquisando então a malária pra - / mais pros países subdesenvolvidos que tem o problema da malária, né ? ((Isso)). (Os mais desenvolvidos não têm problema (*unintelligible)*).

A idéia central do texto: Que eles estão descobrindo [uma]- uma planta [pra]- contra a malária, né ? Pra usar / nos países subdesenvolvidos. [Então] – estão pesquisando, né ?

English text: VITAMIN-A ALERT! – TEXT 2

Ana Paula – (S 1)

((Sei, hum, hum.)) (É researcher ou alguma coisa assim ?) Ah, pesquisadores. ((Found, found)) (Encontrados.) /// ((Head. O que é ? Isso aqui. Cabeça, ah. /// E heart, o que é ?)) Coração, e // (brain ? / Cérebro.) Tá, aqui [ele <di->]- [ele tá <fa->]- ele falou que ele fez a pesquisa, né, médica. Na Universidade / e descobriu que ele [<pre->]- precisa muita [<vit->]- vitamina A / e [êles]- eles usam vitamina A pra suplementar ou alguma coisa assim, né ? // E o que fez uma pesquisa em bebês.

/// Aqui é amount, quantidade, né ? ((Ounce / ounce)). Aham /// Esse IUs seria a medida da vitamina, aqui, (*unintelligible)*. Hum, hum. // ((*unintell.words* // even, aqui ? Took ?)) /// Body (*unintelligible)* body. ((*whispers*)) /// Convert, converter ? Into ? (Em [<vit->}- vitamina.) ((Increased.)) Aumentar. / Birth defect risk. (Aumentou muito o risco. Isso.) Olha, eu entendi bem pouco dessa parte. Que // a adição de suplementos na vitamina – Alguma coisa assim, né ? Que fala sobre beta-caroteno – Que tem na vitamina, que pode dar um / causar riscos - às pessoas.

Aqui, taken – When taken- Correctly. Tá, when taken - Quando tomadas. // Durante a gravidez ? Development. Desenvolvimento. Surveys. Inspeção. /// seria fisico ? É ? Médicos. // Tá, aqui ele fala que quando da gravidez era importante que o neném tome a vitamina, né ? E / foram feitos exames, né ? Eu acho. Ahn, de dois a cinco por cento das mulheres e crianças / consomem [muito]- muita (gag) é vitamina. E é recomendado, né ? Ele recomenda (gag) o exame pra não Ter um excesso [de]- / de vitaminas, assim. Ah, não se dêem mais de oitocentos IUs.

A idéia central do texto: É a importância da vitamina – na vida da pessoa e (gag) como seria ruim vitamina demais, também, o excesso.

Ângela – (S2)

Tá, eu tive dificuldade nas palavras / foi birth e unborn. Birth é nascimento e (gag) hã, unborn não [está no glossário]. ((Ah, tá! /// Researcher ? Found ? Daily ?)) Ah, tá! /// Nearly, quase. // ((Recommended, recomendaram ? / Amount ? Likely, // likely ? Born ? (Nascido) Brain ? (Cérebro.) / Tá. {*speaking fast*} Eles estão falando alguma coisa do tipo que doses excessivas de vitamina podem (f) trazer má formação do feto ? // Ou foi por falta ? Por falta ou por excesso ? {*laughing*} ("Espero ajuda") // Por excesso, né ? Até por que eu acho assim que dizem que algumas vitaminas {*ênfase*} o excesso (f) / é eliminado. Então eu estranho porque o excesso vai causar má formação. De repente a vitamina A não ocorre isso, então. O excesso não traz prejuízo.

(*whispers*) Found ? Hã, hã /// Most ? ((Liver ?)) (Fígado.) // Three-ounce ? May ? Hã. IUs ? Aqui. {*speaking fast*} Unidade internacional. / Sistema internacional que a gente ("usa aqui"). (f) Mais ou menos isso. E even? Took ? Hum, hum. /// (Levels. O que é isso ?) É o que vai exceder dos níveis de vitamina ? O fígado ? /// Body. Ahn, corpo. Pode converter ? Into ? (E esse (*unintelligible*) ? /// O que é (*unintelligible*) mesmo ? Tá. /// Posso voltar ? Hum, hum. Então eu vou voltar agora. /// (Amount ? Even ? ((Mesmo)) Took ? {*laughing while speaking*} As mesmas coisas que eu perguntei antes. (f) /// Tá certo. Mesmo que certas dosagens sejam revertidas / pro fígado, {*speaking fast*} ao menos, talvez, seja uma coisa assim – (f) Não pode dizer no caso não é só isso que causa os defeitos no feto. {*speaking fast*}Não é por isso que vai causar defeitos no feto.

// When é quando ? /// ((Pregnancy ? Gravidez.)) /// É o essencial nutriente, então, para o bebê. (([<develop->]- development ?)) Desenvolvimento do bebê. // Several ? Hum, hum. // (Survey, inspiração. // Inspeção.) /// [<su->]- suggest? Sugere. Tá, então esse aqui: childbearing age. A idade reprodutiva. Reprodutiva. Que pode ser

consumido. More é muito ? Ahn, ahn. /// Given / dar. /// (Findings.) ((Descobertas)) /// ((These ? These / estes)) /// Physicians. /// Ah, eu vou voltar pra / entender melhor. /// Tá, [é]- é necessário que {*speaking fast*} a mulher sempre [tome]- / tome uma [<vita->]- certa dosagem de vitamina, mas não pode ser excedida porque senão pode prejudicar a criança. (f)

A idéia central do texto é que não deve [<have->]- haver / exagero de vitamina – pra não causar nenhum / - pra não prejudicar / o bebê.

Carina – (S 3)

/// Bom, acho aqui / no primeiro parágrafo / está falando que as mulheres geralmente [usam]- usam muita vitamina A / e pode causar, ahn / sérios defeitos / [na]- em crianças, no caso. / Acho que [no]- [no]- no feto em si. /// Likely [não <lembr->]- não lembrava (que é provável. Aqui no primeiro) parágrafo, fala mesmo do excesso de vitaminas, vitamina A, que as mulheres / ahn, consomem, que pode prejudicar o feto. / Estimado em dez mil / ahn, IUs de consumo ? Tá, que podem deformar a criança na face, nas mãos.

/// Large, large amounts. Eu acho que não tem aqui. ((Took)) /// Bom, acho que o segundo parágrafo está falando dos suplementos / da vitamina A (por causa) / ahn, preenche / [do]- do beta caroteno / {*speaking fast*} que se converte em vitamina A no corpo. (f) / (É, acho que é isso.)

É- / (acho que é assim que se pronuncia.) Pregnancy. Pregnancy. Pregnancy. Pregnancy ? /// Tá, este último parágrafo / ahn, acho que torna a falar que as mulheres consomem cerca de dez mil / IUs {emphasis} por dia (f) / e que / a Universidade de Boston e o co-autor, no caso, recomenda {*emphasis*} no máximo / sem exceder, (f) oito mil IUs (por dia).

A idéia central do texto: É / falando [do]- do - Eu acho que / o que a vitamina A pode causar ao bebê, {emphasis} no caso, as mulheres grávidas que / consomem excessivamente. (f) [*vitamina A*]

Cleide – (S 4)

Vocabulário ? Esse vocabulário está em ordem assim [da]- do andamento da frase ? (Ou não ?) (Tá!) ((Não preciso (*unintelligible)*)) Ah, tá. Ia procurar amount, não sei se é assim que se fala {*laughing*}. Women ? É "women" que se diz ? Esse daqui. // Ahn. // Esse unborn (não sei como é que é. Esse daqui. According também.) /// É, eu não estou entendendo muito porque em texto de inglês eu não sou muito boa. Mas aqui está falando da vitamina A. Assim / as mulheres usam em excesso, né, que / o comércio vem falando isso. ((Posso passar pro segundo ?)) Não [tenho mais comentários], só que eles estão - eu acho - [Esse <a->]- esse according, sei lá. Ah, tá! Então eles estão de acordo com a Universidade de / Medicina. Seria essa tal vitamina. / Inglês eu não sei muito, então / tem que pegar mais ou menos ("o sentido"). É que geralmente, quando eu vou fazer um texto em inglês [eu <re->]- (gag) / eu assim, eu / faço cada palavra. Procuro as mais fáceis, assim, marco e depois eu vou [<pro->]- [de]- procurar as mais difíceis.

(Hum, hum, esse found também.) // Hum, (*whispers)* Ah, tá! Eu descobri. Não é found, também é find, né, to find. É descobrir. Aqui. É que está / entre parênteses. // Most. (*whispers)* // Só que não tem aqui na - / Ou tem ? E liver também. ((Fígado)) /// Esse birth defect risk é que eu vou procurar agora. / Birth é nascimento. Mas estaria junto, birth defect. Seria tudo isso uma palavra, nascimento ? Birth. [Para descobrir] ou eu perguntaria para o professor ou ia procurar no dicionário. {*laughing*} É, no caso eles

testaram essa / vitamina A em animais / pra ver se tinha o risco, hã, que eles levariam assim no nascimento, das pessoas, no caso. Porque no primeiro [parágrafo] está falando que as mulheres tomavam muito, né, e causava muitos riscos assim. Aí eles testaram em animais ? É, foi o que eu achei aqui. Que eles estavam testando em animais pra / fazer [uma]- / uma experiência, né ?

(whispers) / (Pregnancy também.) *(whispers)* ((Não sei.)) (É, achei.) /// Development é desenvolvimento ? Several; também não tinha visto esta palavra. (Não [tem no glossário].) // É alguma coisa relacionada a nação porque / mais alguma coisa essa nação. Depois também desse national, esse surveys também [<nun->]- nunca ouvi falar. Tem aqui. É inspeção, exame. /// Posso ir lendo e falando ? Falar alto o que eu estou entendo em cada frase. {*laughing*} Tá, eu só vou ver o que é aquele correctly de novo, senão eu esqueço. (Peraí, correctly, *(whispers)*. Não tem essa palavra aí, correctly. / Isto é - correto ? E taken, o que é ? Ah, tá aqui, tomar. // (Durante esse pregnancy.) Estavam falando que [era <du->]- correto durante a gravidez tomar essa vitamina A porque era essencial e nutriente para o bebê / e o seu desenvolvimento. Mas / esse several, eu não sei o que é. / É, mas várias nações sugeriram (deixa eu ver / de dois a cinco por cento das mulheres / aí eu não entendi depois dessas crianças aqui. // Childbearing. (*unintelligible words*) // Eu acho que está dizendo que eles começaram a consumir mais do que era pra ser consumido. Aí, no caso, estaria começando a fazer mal isso. /// Depois, hã / um co-autor, que é Lynn L. Moore, ele recomendou que as mulheres deviam consertar o (gag) / consertar, não, consultar / o seu ginecologista pra- saberem, assim, como devem tomar certamente essa vitamina A pra não fazer mal ou prejudicar o bebê.

A idéia central do texto : Ah, o que eu entendi é que eles estavam falando sobre a vitamina A. Eles estavam dando o alerta porque muitas mulheres estavam tomando

assim - é (gag) [sem]- / sem receita médica, no caso. Elas estavam tomando por conta própria - e não sabiam que poderiam estar fazendo mal a elas mesmas e até aos filhos.

Danilton – (S 5) – (this subject speaks very fast and low)

/// ("O texto é") sobre vitaminas, né ? *(unintelligible)* Então não tenho / vocabulário / rico em inglês, né ? É (gag) meio - Então, certas palavras eu não sei *(unintelligible)* Tá, OK. // (Isso é vitamina.) A primeira frase já deu pra saber *(unintelligible)* aqui que as mulheres precisam, né, é / usar as vitaminas.

/// Aqui está falando que as mulheres precisam de vitamina até pros próprios seus bebês, né, [na]- ([no]- {*speaking very low and fast*} na função de amamentação, na própria geração. Pros bebês nascerem mais sadios e mais fortes, sem problemas.) /// [Estou indo] mais ou menos, estou tendo uma idéia geral que – [a que]- / a que se referiu o texto, né ?

/// Aqui está falando que a vitamina A é essencial para o bebê. ((Para o desenvolvimento.)) /// {*speaking* fast} E na última linha (f) está falando aqui que eles recomendam que a mulher, né, consuma mais / a vitamina A, né ? *(unintelligible)* Esse *(unintelligible)* aqui no final, né ? IUs, não sei. ((O que é ?)) É, exatamente. ((Oito mil unidades.))

A idéia central do texto: ((Todo.)) Bom, aqui eles estão falando que a vitamina A, né / {*speaking fast*} [eles têm que]- eles têm tanto não só as crianças precisam tomar vitaminas, mas também têm que tomar cuidado, não exagerar, né ? E dá pra visualizar pelo texto que é um alerta, né ? (f) E – o [título] alerta já deu {*speaking fast*} pra ter ("um cálculo"), depois [com]- com o contexto, a gente vai lendo e vai saber se realmente – é isso ou não. Mas, mais ou menos dá pra ter uma idéia. Então, está falando

das mulheres, né, e das crianças que é bom / a vitamina {*speaking fast*} não só pra mulher como para a criança, na própria geração do filho e na amamentação. (f) Que a criança vai / ter mais saúde, vai ficar mais saudável, né ? Mas também não exagerar {*speaking fast*} porque tudo que é demais não pode, né, (f) faz mal, né ? Seria mais ou menos isso, daí - O que ele mais comenta aqui, seria a vitamina A, né? {*speaking fast*} O que dá mais problema [pra]- ("que tem") destaque aqui. (*unintelligible)* [não é <ri->]- não é rico, né, é um vocabulário – (*unintelligible)* mas com uma e outra palavra, já sei deduzir, mais ou menos, o que que aquela outra [queria]- queria dizer, né ? (*unintelligible)* eu consigo.

Fernando – (S 6)

/// Tá, o primeiro texto aqui está fazendo um comentário sobre um alerta, as vitaminas que as mulheres usam que podem causar {*emphasis*} deficiência nas crianças.(f) É, mas no Estado de Boston, tá estudando esses casos já que tem mulheres que consomem {*emphasis}* dez mil (f) é – vitaminas {*emphasis*} pro rosto, cabelo, pele (f) – tudo isso tá deformando, digamos, os filhos dela.

///Aí aqui também ele está dizendo que / [tem]- são várias vitaminas, custam determinado preço, as mulheres têm mania de {*speaking fast*} tomar vitamina pra complementar isso, aquilo, complemento de animal também. (f) E outra coisa, aí aqui ele está dizendo que não há uma associação, mas que pode [ter]- ter vários riscos [de]- [de]- de infecção.

(unintelligible) – tem que ser de – (*uninteligible)* – comidas naturais, essas coisas todas, que podem afetar. Aí a Universidade mesmo de Boston, que recomenda que várias mulheres que têm essa mania de consumir mesmo, procurem um psicanalista que pode ser algum / problema.

A idéia central do texto: É o alerta sobre vitaminas mal utilizadas, o que está prejudicando bebês e adultos nos Estados Unidos.

Juliano – (S 7)

/// According é – O que é ? (De acordo) /// O que diz o texto aqui assim, no primeiro parágrafo, foi falar [da]- / da relação das vitaminas / *(unintelligible)* pouca, a falta de vitaminas no organismo da criança. Pode causar defeitos físicos. (Mentais.)

/// *(whispers)* Hã. /// Tá, increased. ((Increased.)) // Tá, nesse segundo texto aqui assim, fala [na]- / da adição dos outros suplementos, né, que é a vitamina A. [Na]- na alimentação dos animais. / Fala ((quanto que eles)) / precisam, né, de alimento e vitamina. / Fala que / a ("essa") associação [da]- da vitamina / leva a um / (gag) defeito (f) (um risco, né ? Ao animal ? Ao animal.)

/// É childbearing age. Idade reprodutiva. /// Tá, esse texto fala sobre / a essência dos nutrientes para o bebê. Para o seu desenvolvimento. O outro fala da / ("daquela") idade reprodutiva do *(unintelligible)* que tem mais de não sei quantas mil vitaminas. E o *(unintelligible)* – É o 'given'[de]- / da Universidade de Boston / fala que lá não tem ("consultar") com médico pra se informar, né, [na]- da vitamina A, ((e quatro, cinco médicos, assim.))

A idéia central do texto: A vitamina na vida do homem e do animal, né ?

Keila – (S 8)

(whispers) /// ((Vou procurar aqui, professora.)) Tá. {*laughing*} Posso falar o que eu entendi, então. Deixa ver se é – *(unintelligible)* / a vitamina que está usando [pra]- / no caso / [<com->] contra a gravidez, está prejudicando as crianças, né ? /// ((Vou

ver aqui, professora. Found. Ah.)) /// *(unintelligible)* / ((Não entendi esta frase, professora. // E esta outra ?)) (researchers) Ah, tá.. /// ((Malformations – Acho que não tem)) Ah, tá. / Aqui é má-formação do bebê, no caso ? *(unintelligible)* do feto ? // ((Por aqui – Isso aqui eu não sei. Cérebro)) Ah, tá. ("Cabeça é cérebro ?") *(unintelligible)* cabeça no cérebro. *(whispers)* ((Entendi aqui.)) Eu entendi que está a – que eu já expliquei, né ? Falei / que a vitamina [que está]- / [pra]- contra a gravidez está prejudicando as crianças. (A má-formação das crianças e do feto, né ? No caso, na cabeça e no cérebro, né ?

O próximo parágrafo. /// *(whispers)* Não ("entendi") vitamina A supplements. /// Ah, isto aqui está falando da vitamina A, né ? *(unintelligible)* / Isso que eu entendi. Está falando da vitamina A.

(whispers) // Eu queria o significado desta frase. Não sei. "When taken correctly during pregnancy." Correctly during pregnancy. // Tá, qual seria o significado dessa frase ? *(whispers)* Não [entendo as palavras]. *(unintelligible)* correto, acho, né ? Corretamente. / As medidas tomadas corretamente, né ? Contra a gravidez ? During. (Hã, hã. Já entendi agora.) /// *(whispers)* Entendi agora. {*whispers*} /// (Eu voltei pra trás, tá ?) Só esta [frase] aqui. /// Lynn L. Moore ? Ah, tá. /// Ah, aqui eu entendi que se as ("prevenções") / usadas contra a / corretamente contra a gravidez, não ia afetar o neném. *(whispers)*

A idéia central do texto: Seria [a]- (gag) a prevenção [contra]- correta [de]- contra a gravidez. Contra, prá não ficar grávida, né ? No caso tem muita – Acho que eu entendi. É [que <n->]- (gag) não tenho [uma]- / um bom vocabulário. Aí, eu tenho que voltar sempre.

Paulo – (S 9)

(Amount / amount). According. De acordo. /// Bom! /// (Daily) // Bom! / Que as mulheres tomam mais vitaminas do que precisam / é a mesma coisa dizer que elas usam mais cremes do que deviam. // (Found é descobrir?)

// Large.// Three-ounce. // (*unintl.words*). O que significa three-ounce também. Ah! Está certo. // (Isso deve ser lido pra ir trabalhando) / (*unintelligible*) / Serving. ((Porção)) Took. // (É, realmente) [passado de take]. Interessante, o beta-caroteno, tu não – quando convertido em vitamina A, né, é associado.

((Pregnancy. Gravidez. Gravidez.)) // Development. Desenvolvimento. ((Surveys. Surveys)). /// ((Gravidez / gravidez)) /// Childbearing. Tá repetido. /// {*laughing*} A Universidade de Boston. Eles querem recomendar para quando a mulher quando está grávida / usar mais de dez mil vitaminas A por dia. Só que ela manda acima de oito mil, consultar {*emphasis* } o psicanalista. (f) Alguma coisa aí tem, né ?

A idéia central do texto: A idéia central do {*emphasis*} texto (f) / é mostrar [o]- o uso indevido e quais são / os pontos que ela mais pode ajudar.

Raquel – (S 10)

Tá! Aqui é vitamina [o]- ou é separado mesmo ? Ele é separado mesmo ? Mas o que é então ? É vitamina A alerta ? Ou- /// (É que eu não entendi). Podem causar sérios nascimentos / ((isto)). Tá, as crianças podem nascer com sérios problemas, né ? (*whispers*) Ahn, *(whispers)* (essa palavra aqui ?) Researcher. Hã. // (*whispers*) /// (*whispers*) ((Explicando aqui - *unintelligible*)) Ah, eu sou muito (*unintelligible*) ((Likely / likely, acho que é – ah, tá, provável)). Provável. (*whispers*) Tá, então esse parágrafo acho que eles dizem que segundo os estudos da Universidade de Medicina, da Escola de Medicina, né ? Universidade da Escola de Medicina. / As mulheres [que]- / tomam, mas

que tomam muita vitamina A, as suas crianças podem nascer com sérios defeitos. Não 'tava sabendo disso. {*laughing*}

/// Aqui, liver. (*whispers*) // ((Aqui eu não entendi. Three-ounce.)) Ah, tá! (Então espera aí.) /// ((Birth.)) Ah, tá! Espera aí, deixa eu voltar. É que aqui não deu. /// ((Que é serving ? Porção de alimento)) /// ((Took, took, took, took.)) Ah, tá. Ate ? Ah, não sabia. O que é "beta" ? "Beta" é nome ou - // . Eu não entendi. O que é ? Ah, tá! Ah, sei, vitamina A / (*unintelligible*) / T'a, nesse parágrafo aqui, então ele mostra [que]- o que contém vitamina A, né ? E que essa substância aqui então o corpo converte em vitamina A. ((Não associado.))

((Taken é – /// tá aqui, taken)) {*laughing*} Eu estou vendo aqui os vários desenvolvimentos dos bebês. {*laughing*} Pois é, several, several, several. ((Vários.)) /// *(whispers)* ((Deixa eu ver. Surveys. Deixa eu ver aqui. Childbearing age. Idade reprodutiva, é)) /// Tá, aqui tá, nacionalidade surveys. ((O que é surveys?)) ((*whispers*)) Porque aqui no primeiro parágrafo ele diz aqui [consumir]- / consumir dez mil / unidades ((é uma unidade internacional.)) Tá, pode prejudicar. E aqui / eles dizem que não, no terceiro parágrafo. // Dois, cinco por cento das mulheres não (na fase reprodutiva, na idade de reprodução, podem consumir / até / dez mil diariamente.) Bom! Tá.

A idéia central do texto: É que a vitamina A / é necessária [pra]- pro bebê, pra pessoa, né, pra mãe, tal, só que em excesso ela pode trazer / ela pode prejudicar.

APPENDIX G – Main Idea Identification in the Pause Protocols.

The italicized print refers to the data transcribed from the tapes. On the other hand, the normal print refers to the main idea statements the subjects wrote on their test sheets.

S	**Verbal Protocol – Main Idea Id. – Text 1 (Port.)**
1	*É achar a cura pra malária !* A cura da malária.
2	*A cura de doenças que ainda estão afetando o povo.* A procura de remédios para a cura de doenças que ainda afetam a população.
3	*Eu acho que é a informação sobre uma substância, um remédio contra a doença malária.* Informativo sobre uma certa substância para o tratamento da malária.
4	*É, a idéia central dele mesmo, é porque eles estão, é tentando assim, desenvolvendo uma espécie de artemisia, no caso uma planta pra ser usada no tratamento da malária. No caso, eles querem combater essa doença.* Barry Charlwood está desenvolvendo uma planta chamada artemísia para combater uma doença chamada malária.
5	*A idéia central do que o texto está falando, basicamente, sobre essa planta, né,sobre a cura, não é ? E dos países desenvolvidos, né, que têm – é, como aqui está dizendo, "os países desenvolvidos não estão interessados em produzir drogas como esta, antimaláricas, por não serem lucrativas", né, sendo este rapaz, esse dentista, né, quem construiu, formou essa planta, né?* O cientista deste texto construiu uma planta com capacidade de cura contra a doença chamada malária. Mas para isso tem que haver custo considerável. Nos países desenvolvidos não estão interessados a não ser nas áreas que realmente necessitem.

6	*A idéia central do texto é sobre a malária e o cara está achando uma planta que já está tendo alteração genética nela pra que ela possa suprir todo o planete, digamos, pra exterminar a doença.* Texto sobre uma possível cura da malária com um pesquisador de Londres.
7	*É a cura da malária, né ?* Charlwood tenta achar e criar uma planta para a cura da malária.
8	*É a planta que eles estão usando pra fazer o remédio contra a doença, né?* É a planta encontrada sobre o tratamento da doença.
9	*Pra mim, além de divulgar a descoberta, é mostrar o que um pouco que a gente pode fazer é muito.* Além da divulgação da descoberta, o fato de que se pode fazer muito com tão pouco.
10	*A idéia central do texto é que eles estão descobrindo uma planta contra a malária, né, pra usar nos países subdesenvolvidos. Então, estão pesquisando, né ?* Descoberta de um novo remédio contra a malária.

S	**Verbal Protocol – Main Idea Id. – Text 2 – (English)**
1	*A idéia central do texto é a importância da vitamina na vida da pessoa e como seria ruim vitamina demais, também, o excesso.* A importância da vitamina e como será ruim o seu excesso.
2	*A idéia central do texto é que não deve haver exagero de vitamina pra não causar nenhum – pra não prejudicar o bebê.* A mulher grávida não deve [se] exceder em vitamina A para que não ocorram problemas com o feto. Deve ser tomada com precaução.
3	*A idéia central do texto é falando do – eu acho que ...o que a vitamina A pode causar ao bebê. No caso, as mulheres grávidas que consomem excessivamente.* Problemas que o excesso de vitamina A pode causar às mulheres grávidas.

4	*Ah, o que eu entendi é que eles estavam falando sobre a vitamina A. Eles estavam dando o alerta poeque muitas mulheres estavam tomando assim – é – sem receita médica no caso. Elas estavam tomando por conta própria – e não sabiam que poderiam estar fazendo mal a elas mesmas e até aos filhos.* A idéia central é sobre a vitamina A, onde fala que muitas mulheres a tomavam sem receita médica, sem saberem que estavam prejudicando a si próprias e aos seus filhos. Lynn L. Moore recomendou qye seria mais correto essas mulheres procurarem um ginecologista e seguir a sua receita, e não [ir] tomando por conta própria.
5	*Bom, aqui eles estão falando que a vitamina A, né, eles têm que, eles têm... tanto não só as crianças precisam tomar vitaminas, mas também têm que tomar cuidado, não exagerar, né ? E dá pra visualizar pelo texto que é um alerta, né? E o título alerta, já deu pra ter um cálculo, depois com o contexto, a gente vai lendo e vai saber se realmente é isso ou não. Mas, mais ou menos dá pra saber se é isso ou não. Então, está falando das mulheres, né, e das crianças, que é bom a vitamina não só pra mulher como para a criança, na própria geração do filho e na amamentação. Que a criança vai ter mais saúde, vai ficar mais saudável, né ? Mas também não exagerar, porque tudo que é demais não pode, né, faz mal, né. Seria mais ou menos isso daí. – O que ele mais comenta aqui, seria a vitamina A, né, o que dá mais problema, que tem destaque aqui. [unintelligible] não é rico, né, é um vocabulário [unintelligible], mas com uma e outra palavra, já sei deduzir, mais ou menos, o que aquela outra quer dizer, né. [unintelligible] eu consigo.* Esse texto nos quer passar o cuidado que temos que ter com as vitaminas. A vitamina é muito boa para as mulheres e crianças para ajudar na saúde e outros pontos importantes, mas [com] cuidado, pois como tudo [que é] demais faz mal, as vitaminas, que têm como função ajudar, podem acabar prejudicando as pessoas.
6	*A idéia central do texto é o alerta sobre as vitaminas mal utilizadas, o que está prejudicando bebês e adultos nos EUA.* Alerta sobre vitaminas mal utilizadas que estão prejudicando bebês e adultos nos EUA

7	*A idéia central do texto é a vitamina na vida do homem e do animal, né?* A vitamina na vida do homem e do animal.
8	*A idéia central do texto seria a prevenção correta contra a gravidez. Contra, pra não ficar grávida, né ? No caso, tem muita – Acho que eu entendi. É que não tenho um bom vocabulário. Aí, eu tenho que voltar sempre.* A prevenção usada com métodos anticoncepcionais, se usados corretamente, não afetaria o bebê.
9	*A idéia central do texto é mostrar o uso indevido [da vitamina A] e quais são os pontos que ela mais pode ajudar.* Mostrar o uso indevido e os pontos fortes do uso da vitamina A.
10	*A idéia central do texto é que a vitamina A é necessária pro bebê, pra pessoa, né, pra mãe, tal, só que, em excesso, ela pode trazer, ela pode prejudicar.* A vitamina A é necessária à mãe e ao bebê, mas, em excesso, pode prejudicar a criança.