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LISTENING COMPREHENSION AND WORKING MEMORY CAPACITY  
IN BEGINNING L2 LEARNERS: AN EXPLORATORY STUDY

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IN BEGINNING L2 LEARNERS: AN EXPLORATORY STUDY

Projeto de dissertação apresentado, como requisito parcial para obtenção do grau de Mestre em Letras, na área de Linguística, ao Programa de Pós-Graduação da Faculdade de Letras da Pontifícia Universidade Católica do Rio Grande do Sul.

Orientador: Prof. Dr. Augusto Buchweitz

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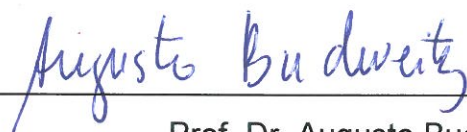
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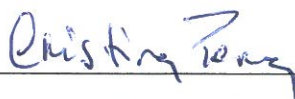
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To Bernardo and Rafael

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## ABSTRACT

The objectives of present study were (1) to investigate whether individual differences in working memory capacity of L2 low-proficiency learners predict listening comprehension performance in a Cambridge proficiency exam (KET - Key English Test); and (2) to investigate whether learners improve their KET scores after two months of explicit training focusing on listening strategies. Participants included two groups of adult students (24 students in total) of English as a foreign language. The students were from an English Language Course in Porto Alegre. All students were Brazilian native speakers of Portuguese and were enrolled in classes that focus on the preparation for the Cambridge proficiency test. In the first part of the experiment the 24 adult students of English performed a working memory span test called BAMT-UFMG. In the second part of the experiment the experimental group (fourteen subjects in total), was administered two months (15 classes) of explicit training. The control group (ten subjects in total) was not given any training on listening strategies. The hypotheses of the study were: individual differences in working memory capacity would predict listening comprehension performance in the KET tasks; subjects would improve their scores in the KET tasks after 2 months of explicit training and awareness raising of listening strategies. The two hypotheses were confirmed. Individual differences in working memory capacity predicted listening comprehension performance in the KET tasks,  $r = .66$  and  $p < 0.001$  for the “working memory task”,  $r = .38$  and  $p < .031$  for the “Sentence comprehension task” and  $r = .87$  and  $p < .0001$  for “short term memory/speed of processing task.” Subjects differed in their scores in the KET tasks after 2 months of explicit training and awareness raising of listening strategies,  $z = -1.96$  (Wilcoxon Rank-Sum test for independent samples). The scores of the experimental group increased 14% after 2 months of explicit training on listening strategies, whereas the scores of the control group decreased 3%. Therefore, we believe that the present study contributed to research on the relationship between working memory capacity and listening comprehension in beginning L2 English learners. The study also corroborates the findings on individual differences in working memory capacity of Daneman and Carpenter (1980) and Just and Carpenter (1992), who state that the nature of a person's language comprehension depends on his or her working memory capacity.

**Keywords:** Individual differences, listening comprehension, working memory capacity, L2 low-proficiency learners, listening strategies and explicit training.

## RESUMO

Os objetivos do presente estudo foram (1) investigar se as diferenças individuais na capacidade de memória de trabalho de aprendizes de Inglês como L2 com baixa proficiência poderiam prever o desempenho em tarefas de compreensão oral em um exame de proficiência da Universidade de Cambridge (KET - Key English Test), e (2) se os alunos iriam melhorar seus escores no exame de proficiência *KET* após dois meses de treinamento explícito em estratégias de compreensão oral. Dois grupos de aprendizes adultos de Inglês como língua estrangeira, (24 alunos no total) participaram deste estudo. Os aprendizes são alunos de um curso de Inglês em Porto Alegre. Todos os alunos são brasileiros falantes nativos de Português e estavam tendo aulas de preparação para o teste de proficiência de Cambridge *KET*. Na primeira parte do experimento os 24 participantes da presente pesquisa foram submetidos a um teste que mede a capacidade de memória de trabalho, chamado BAMT-UFMG. Na segunda parte do experimento o grupo experimental (14 indivíduos no total) recebeu dois meses (15 aulas) de treinamento explícito em estratégias de compreensão oral. O grupo controle (10 indivíduos no total) não obteve nenhum tipo de treinamento explícito em estratégias de compreensão oral. Tínhamos duas hipóteses a serem confirmadas. As hipóteses eram que as diferenças individuais na capacidade de memória de trabalho de aprendizes de Inglês como L2 com baixa proficiência seriam preditoras de desempenho em tarefas de compreensão oral em exames de proficiência, e que os alunos iriam melhorar seus escores no exame de proficiência *KET* (*Key English Test*) após dois meses de treinamento explícito em estratégias de compreensão oral. As duas hipóteses foram confirmadas. As diferenças individuais na capacidade de memória de trabalho foram preditoras de desempenho nas tarefas de compreensão oral do exame *KET*, apresentando uma correlação de  $r = 0,66$  e  $p < 0,0002245$  para a tarefa de Memória de Trabalho,  $r = .38$  e  $p < .031$  para a tarefa "Compreensão de Frases" e  $r = 0,87$  e  $p < 0,0000001$  pela tarefa "Lista de Palavras". Os participantes tiveram escores diferentes nas tarefas de compreensão oral do exame *KET* após 2 meses de treinamento explícito em estratégias de compreensão oral, apresentando o valor de  $z = -1.96$  ( resultado do teste não paramétrico intitulado "Soma de Postos de Wilcoxon para amostras independentes"). Os escores do grupo experimental aumentaram 14% após os 2 meses de treinamento explícito em estratégia de compreensão oral, enquanto que os escores do grupo controle diminuíram 3%. Portanto, acreditamos que o presente estudo contribuiu para a investigação sobre a relação entre a capacidade de memória de trabalho e compreensão oral em aprendizes de L2 com baixa proficiência. O estudo também corrobora as conclusões sobre as diferenças individuais na capacidade de memória de trabalho apresentadas por Daneman e Carpenter (1980) e Just e Carpenter (1992), os quais afirmam que a natureza da compreensão escrita e oral de uma pessoa depende de sua capacidade de memória de trabalho.

**Palavras-chave:** diferenças individuais, compreensão oral, capacidade de memória de trabalho, aprendizes de Inglês como L2 com baixa proficiência, estratégias de compreensão oral e treinamento explícito.



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## INTRODUCTION

As an English teacher and supervisor of Cambridge Exams in schools I have always been intrigued by the role of listening tasks in proficiency exams. The majority of my students who are preparing for proficiency exams complain about listening tasks. These complaints include not understanding the content and the task being too demanding, to the point that students are not able to accomplish them.

Based on this curiosity, I wrote my undergraduate monograph on listening strategies in EFL (2010). I analyzed a textbook used to prepare students for the FCE Exam (First Certificate in English)<sup>1</sup>. I argued that more in-depth research on listening sub-skills would shed some light on the difficulties of listening comprehension tasks. I also hoped this work would help students better cope with listening activities. Another point mentioned was the importance of raising awareness among students about a more effective choice of listening strategies, which could help them in future proficiency exams.

In 2011 I came across an article published by Larry Vandergrift (2004) on listening comprehension in language learning/teaching. The article addressed strategies to improve listening comprehension. It also provided a review of the literature on teaching second language listening strategies. The author introduced a concept that was new to me: the role of working memory<sup>2</sup> capacity in second language learning and individual differences in low proficiency learners. Working memory is one of the constructs that helps to understand the human limitation to process and store information. Due to all those facts I decided to investigate individual differences in working memory capacity and their relationship with listening comprehension.

Research on working memory has shown that the system is fundamentally involved in the ability to perform ordinary, complex cognitive tasks, such as language comprehension, language production, and problem-solving. Working memory has been conceptualized in many different ways, but the different definitions agree on the

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<sup>1</sup> *First Certificate in English (FCE)*, is an exam for people who need to prove they can use everyday written and spoken English at an upper-intermediate level for work or study purposes.  
<http://www.cambridgeesol.org/exams/fce/index.htm>

<sup>2</sup> The term working memory refers to a brain system that provides temporary storage and manipulation of the information necessary for such complex cognitive tasks as language comprehension, learning, and reasoning (Baddeley, 2009).

dynamic nature of the system as well as on its relevance to the understanding of human performance (Fortkamp, 2000).

The objectives of the present study are: to investigate whether individual differences in working memory capacity of L2 low-proficiency learners predict listening comprehension performance in a Cambridge proficiency exam (KET - Key English Test)<sup>3</sup>; and to investigate whether learners will improve their KET scores after two months of explicit training on listening strategies. Two groups of adult students (24 students in total) of English as a foreign language took part in the study. The students are from a language school in Porto Alegre. All students are Brazilian native speakers of Portuguese and are taking lessons to prepare for the Cambridge proficiency test KET. In order to study in this English course, students have to take a *Placement test*<sup>4</sup> that consists of 3 parts: Grammar and Vocabulary, Writing and Speaking. After taking the leveling test students are placed in an appropriate level according to their results. All the participants were placed in level – A2 – (Common European Framework<sup>5</sup>).

We investigated beginners and not intermediate or advanced students because beginners face more problems when tackling a listening or reading task (if compared to intermediate or advanced students) due to their lack of vocabulary and exposure to the English language. According to Sweller (2003) a learner's level of expertise is a critical factor for determining the information that is relevant for the learner during listening comprehension activities. The author claimed that advanced learners possess a large (potentially unlimited) number of domain-specific schemas whereas beginners have not developed the same tools. Therefore, low-proficiency learners face more problems when it comes to listening comprehension tasks.

Listening comprehension was based on the Cambridge proficiency test KET (Key English Test). The tasks were selected based on the students'<sup>6</sup>remarks about the level of difficulty of the task while performing mock tests<sup>7</sup> in class. The control group (ten subjects in total) was not given any training on listening strategies. The

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<sup>3</sup> *Key English Test (KET)*, is a basic level qualification that shows you can use English to communicate in simple situations and have achieved a good foundation in learning English.

<http://www.cambridgeesol.org/exams/ket/index.html>

<sup>4</sup> A sample of the placement test can be found in the Appendix A

<sup>5</sup> The Common European Framework of Reference for Languages: Learning, Teaching, Assessment, abbreviated as CEFR, is a guideline used to describe achievements of learners of foreign languages across Europe.

<sup>6</sup> The students mentioned above are all from the English course investigated in the present research.

<sup>7</sup> Mock Tests are simulations of the original exam – KET (Key English Test).

experimental group (fourteen subjects in total), received two months (15 classes) of explicit training. The classes focused on strategies to be used in the KET tasks, so the teacher raised students' awareness regarding specific strategies they should use while performing the tasks selected for the research<sup>8</sup>. The classes had two aims: first, the teacher focused on strategies such as Top-down and Bottom-up<sup>9</sup>, which are critical for successful listening comprehension (Vandergrift, 2004); second, the teacher focused on raising students' metacognitive awareness of listening. According to Vandergrift (2003), a strategy based approach on student awareness in the process of listening will help learners to overcome their difficulties. In the author's research on metacognitive awareness, students completed listening tasks where they also engaged in prediction, monitoring, problem solving and evaluation (the major group of cognitive strategies). Vandergrift (2004) argues that these tasks helped students bring to consciousness metacognitive knowledge for self-regulation in listening.

Working memory capacity was measured with BAMT - UFMG (*Bateria de avaliação da Memória de trabalho*). The psychometric test was adapted for application with Brazilian participants and it has been extensively validated. The aim of working memory tests is to measure subjects' capacity to simultaneously process and store information. Its aim is not to assess any level of proficiency in L2. Therefore, the application of a working memory span test in Portuguese, rather than the traditional span tests in English (e.g. Carpenter and Daneman, 1980), is to eliminate the possibility that L2 proficiency will affect the validity of the test in the measurement of working memory span.

## 1.1 THE PRESENT STUDY

Listening comprehension plays an important role in everyday human communication, and is a key skill for second language learning. According to Rost (1994), human beings receive twice as much auditory input (such as conversation) than produce oral output; four times more auditory input than reading input; and five

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<sup>8</sup> The tasks are explained in detail in Chapter III – Methods.

<sup>9</sup>Top-down and Bottom-up strategies are explained in detail in Chapter II – Review of Literature.

times more input than they produce writing output. Listening provides the auditory input that is essential for language acquisition and it enables learners to interact in spoken communication. Listening involves physiological and cognitive processes at different levels as well as attention to contextually- and socially-coded acoustic clues (Lynch, 1988; Rost, 2002).

The speed and effectiveness with which listeners carry out listening tasks, depends on the degree to which listeners can effectively understand auditory input (Ur, 1996). The process of listening comprehension is automatic for native speakers and for highly proficient second language learners. The classical criteria for establishing that a behavior is automatic are that the stimuli associated with the behavior almost always elicit the behavior (i.e. humans lack volitional control); and that the process can be successfully executed while a secondary task is being performed (Schneider and Shiffrin, 1977). A more contemporary view of automaticity is that a skill or behavior becomes automatic with the transition from goal-directed behavior (controlled by executive functions) to one in which the strategic control drops away (Schmidt, 1990).

Second language learners at advanced, intermediate and lower levels of language proficiency rely on listening strategies that aid comprehension of auditory information. According to Ur (1996), the limitations of these listeners may be associated with auditory experience and limited vocabulary, for example.

Regarding listening strategies, this research focused on top-down and bottom-up, which are the strategies required in the Cambridge exam KET. Hedge (2007) claims that top-down strategies rely on the use of context and prior knowledge (topic, genre, culture, and other types of schemata) to build a conceptual framework for comprehension. Bottom-up strategies rely on the decoding of smaller units of auditory information. Bottom-up strategies are text/speech based. Listeners rely on the combination of sounds, words, and grammar that creates meaning. According to Hedge (2007), listeners use whatever clues they have available to infer meaning from the developing speech in order to overcome their limitations in the ability to process information while listening and completing comprehension tasks. In this sense, the use of effective listening comprehension strategies may help offset some of the limitations that stem from individual differences (i.e. working memory capacity).

One of the constructs that help to understand the human limitation to process and store information is working memory<sup>10</sup> (see later discussion). Therefore, teachers may inform their choice of listening comprehension tasks to their students by taking into consideration linguistic factors such as the listener's language proficiency, but also by taking into consideration cognitive factors, such as the learners' limited ability to simultaneously process and store information.

One of my students' recurrent complaints while doing *Mock Tests* (simulation of the real exam) of the Cambridge exam KET is the level of difficulty of the listening task. When I asked students what was difficult about the task, they reported that it was hard to listen to everything and remember what had been heard. Comprehension and recall of information are key for answering the questions and completing the tasks. Students reported that they are under the impression they have limited listening comprehension abilities; possible negative consequences of this impression are frustration and loss of motivation. In addition to proficiency and listening comprehension skill, there may be another factor at play: working memory capacity.

## 1.2 SIGNIFICANCE OF THE RESERACH

There is a consensus among researchers that working memory is involved in the performance of a number of cognitive tasks (e.g., Just & Carpenter, 1992; Engle, 2002; Conway, 1999; Baddeley, 2009, among many others). According to Just and Carpenter(1992), working memory capacity represents the limitation in storing the intermediate and final products of a reader's or listener's computations as the learner constructs and integrates ideas from the stream of successive words in a text or spoken discourse.

According to Baddeley (2009), the approach to working memory was sparked by a study by Daneman and Carpenter (1980). The study investigated the relationship between working memory and reading comprehension. The authors took the key aspect of working memory, simultaneous storage and processing of

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<sup>10</sup> The term 'working memory' refers to a brain system that provides temporary storage and manipulation of the information necessary for such complex cognitive tasks as language comprehension, learning, and reasoning (Baddeley, 1999).



information, and developed a task that would measure these two aspects. In Daneman and Carpenter's (1980) experiment the subjects were given three tests: a reading span test to measure the span of working memory, a reading comprehension test which involved questions about facts and pronominal references, and a word span test<sup>11</sup>. During the *Reading span test* subjects were asked to read a series of sentences aloud, at their own pace, and recall the last word of each sentence. The test was constructed with 60 unrelated sentences, 13 to 16 words in length and each sentence ended in a different word. In the *Reading comprehension tests* the subjects were asked to read a series of passages and then at the end of each passage they were asked two questions; the first interrogated the referent of a pronoun mentioned in the last sentence and the second related to some other fact from the passage. Finally, in the *Word span test* subjects were asked to recall sets of individual words. According to the authors, readers with smaller spans performed much worse than readers with larger spans on both tests (correlations between spans and reading comprehension). The results for the pronoun reference questions showed that there was a close correspondence between the reader's span and the distance over which he/she could correctly answer the question. In summary, several aspects of the results supported the hypothesis that the reading span task was related to working memory capacity. In particular, the limits of performance in the span task were consistent with a limited working memory capacity.

Behavioral studies have shown that listening and reading comprehension are two closely-related skills (Buchweitz et al, 2009). However, most of the studies concerning working memory<sup>12</sup> are related to reading comprehension and speech production, not listening.

Furthermore, these studies usually investigate high-proficiency L2 learners. The present study investigated listening comprehension and lower proficiency learners for the reasons stated in the Introduction.

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<sup>11</sup> Word Span Test is a task in which participants listen to a long list of items and they have to repeat back in the correct order immediately after presentation on 50% of all trials. Items may include words, numbers, or letters.

<sup>12</sup> FORTKAMP, Mailce. "Working memory capacity and fluency in L2 speech production: an exploratory study." Dissertação (mestrado em Linguística), UFSC, 1995, FORTKAMP, Mailce. "Working memory capacity and L2 speech production: an exploratory study". Tese (doutorado em Linguística), UFSC, 2000 and WEISSHEIMER, Janaína. "Working Memory Capacity and the Development of L2 Speech Production". Tese (doutorado em Linguística), UFSC, 2007.

To sum up, the present thesis intends to shed some light on the relationship between listening comprehension and working memory capacity in beginning L2 learners.

### 1.3 ORGANIZATION OF THE THESIS

This thesis is organized in 3 chapters. First we have the Introduction where the significance of the present research and the organization of the thesis is addressed. Chapter II reviews the state of the art in the literature<sup>13</sup>. First we discuss the topic of L2 Listening Comprehension, Listening Strategies and we present the taxonomy of listening activities. The subsequent sections review the literature on working memory and L2 Learning

Chapter III, Methods, presents the objective and hypotheses that guide the present study. The chapter also presents a detailed description of the participants, design, procedures and instruments used for data collection and analyses. Chapter IV reports the results in combination with a discussion of the results. Finally, the Final Considerations present the conclusions drawn from the present study. First, a summary of the main findings of this investigation is presented. Then, the limitations of this study and recommendations for further research are pointed out.

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<sup>13</sup> The review of literature is divided into two parts: Listening and Working Memory. The topics are developed along Chapter II.

## **2 REVIEW OF LITERATURE**

Different working memory capacities are thought to play a central part in creating differential likelihoods of success when learning a foreign language. According to Ortega (2009), memory alone is thought to help predict how well people will learn new vocabulary, what levels of comprehension they will achieve in listening or reading, how much they may benefit from recasts or how easily they will learn a grammar rule.

As stated in the Introduction we aim to investigate the relationship between listening comprehension and working memory capacity and to what extent individual differences in working memory capacity can predict listening comprehension performance.

To support our assumptions we will address two main topics: listening comprehension and individual differences in working memory capacity. In section 2.1, the review addresses the topic of L2 Listening Comprehension. In section 2.2, it addresses contemporary Listening Strategies; in section 2.3, we present the taxonomy of listening activities. The subsequent sections review the literature on working memory: subsection 2.4.1 we present an overview of working memory, in subsection 2.4.2 the Multiple-Component Model of Working Memory. In subsection 2.4.3 the review addresses individual differences in working memory capacity and finally, in subsection 2.4.4, the relationship between working memory and L2 Learning

### **2.1 L2 LISTENING COMPREHENSION**

The complex process of listening comprehension is automatic and relatively effortless for native speakers and highly proficient second language learners. However, according to Anderson and Lynch (1995), most beginning students need intensive practice in listening strategies in order to overcome comprehension difficulties. In this section some of the potential problems faced by learners are discussed.

### **2.1.1 How students perceive sounds**

According to Underhill (1998), students of English as a foreign language do not usually perceive certain sounds because the sounds simply do not exist (at all, or as separate phonemes) in their mother tongue. A good example would be the sound /θ/ as in “think.” This sound does not exist in Portuguese; therefore a native Portuguese speaker may simply assimilate it to the nearest sound in the language: /s/ as in “sink” or /f/ as in “fink.” According to the author, even if a pronunciation class focuses on the distinction between the “th” sound and other sounds, students continue to mistake the use of “th” sound for /s/ or /f/ as soon as they start using the language for purposes other than pronunciation. Sometimes, introductory and lower-intermediate students listen to a sentence such as “It doesn’t fit, it’s too small” and understand the word “fit” not “feet” through context. But will students be able to guess words through context all the time? Presumably, the answer is no. According to Anderson and Lynch (1995), the number of words in English that can be misunderstood is significant; “meat and meet,”<sup>14</sup> “see and sea,” for instance, can be misunderstood. Also, students are not used to the stress and intonation patterns of English. Intonation and stress influence both the realization of certain phonemes and the meaning of the utterances.

### **2.1.2 Intonation and stress patterns**

According to Harmer (2007) there are four pronunciation factors foreign language students may face: pitch, intonation, individual sounds and stress. What learners should know is that depending on the situation native speakers can change intonation and stress to convey different meanings. For instance, speakers may change a statement into a question merely using different intonation patterns. Let us take the sentence “I’ll be there at five o’clock.” If the speaker’s pitch of voice falls when he says “o’clock” it may indicate that he is making a statement. However, if the pitch rises on “five,” this is probably a signal that a question is being asked. The same happens if we add the word “okay” after “o’clock (I’ll be there at five o’clock,

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<sup>14</sup> Homophones are words with the same sound but different meaning. eg: “meat” and “meet”

okay?). Okay is a tag question, therefore it requests a confirmation from the listener about the speaker's proposition. Ur (1996) claims that intonation can be used to show the "grammar" of what we are saying.

When it comes to stress, British and American English speakers often differ in their placement of stress in words (Harmer, 2007). For example, *adult* in British English is stressed on the first syllable (a) while in American English, the stress usually falls on last syllable (ult). Stress is crucial in conveying meaning in phrases or sentences. A good example is: Kevin wants to MARRY my daughter? (= I cannot believe the relationship is that serious) or KEVIN wants to marry my daughter? (= I cannot believe it! I thought Mark was dating her). Understanding is not merely a matter of being a good listener; it also depends on awareness of different stress and intonation patterns.

### **2.1.3 Dealing with redundancy and the so called "noise"**

In listening comprehension tasks students usually have to deal with a certain amount of "noise" (Ur, 1996). Noise is also called "fillers". Examples of fillers include: *yeah, right, you know, sure, and I mean*. The so called "noise" does not pose a problem to native speakers, who are used to listening to distracters; but noise could be a significant problem for foreign-language learners, whose grasp of meaning is slower and demands more effort. Ur (1996) claimed that students are carried away by these words (because they believe the words are important for the task) and do not pay attention to essential words that will help them accomplish the listening task.

Another issue teachers may have to face sometimes is the apparent need of L2 learners to perceive and understand every single word they hear, even though they do not do it in their native language. It seems that L2 students have an overriding need to listen and understand every single word. If a word is missed, learners generally feel as if they have missed vital words. Missing words may also lead to an impression of complete failure in comprehension. "A foreign-language learner who tries to understand every single word that is said to him will be handicapped both by his failure to do so and also, in a way, by his success (Penny Ur, 1996:24").

As already pointed out, the complex process of listening comprehension is automatic and relatively effortless for native speakers and highly proficient second language learners. In this section some of the potential problems faced by learners, more specifically beginning L2 learners, were discussed.

In the next section, we address listening strategies that can help students overcome comprehension difficulties.

## 2.2 LISTENING STRATEGIES

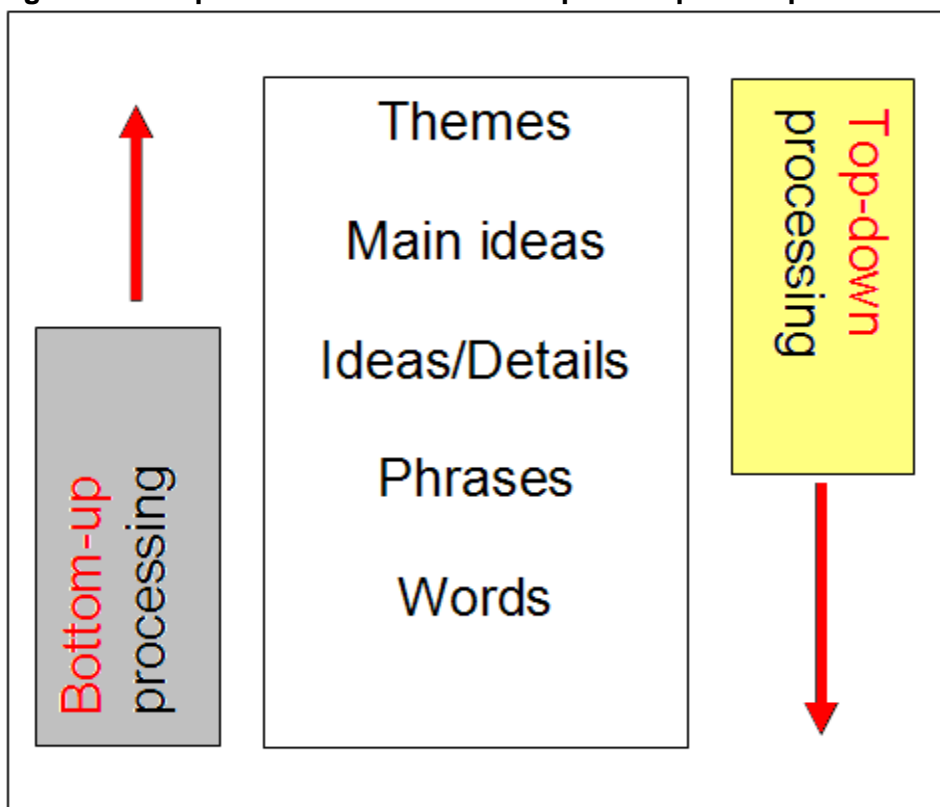
Listening strategies are techniques or activities that help enhance comprehension and recall of listening input. The strategies can be categorized according to the listening comprehension processes, which will be discussed next.

### 2.2.1 Top-down X Bottom-up

Top-down strategies draw on the listener's previous knowledge to promote understanding, whereas bottom-up strategies are associated with lower-level processes, such as "decoding," identifying words, stress and intonation. Listening activities that involve discriminating between minimal pairs and identifying word or sentence stress are bottom-up based activities (Corsetti, 2009). Top-down based activities activate students' previous knowledge, which give students the opportunity to apply background knowledge in order to understand what they are listening to (See Figure 1).

Mendelsohn states that strategy-based approaches teach learners how to tackle more difficult listening tasks. These approaches make use of directed learning strategies. The main goal is to teach students how to listen: "A strategy-based approach teaches learners how to listen by instructing them in the use of strategies" (Mendelsohn, 1995:52). The author also argues that a good listening course should have two main aims: first, to help learners develop strategies to recognize and use the signals that are provided in the spoken target language; second, to teach students how to use these signals to make predictions, guesses and inferences.

**Figure 1: Comparison between bottom-up and top-down processes**



Source: <http://literacyencyclopedia.ca/>

### **2.2.2 Bottom-up processes in listening**

Bottom-up strategies are text/speech based. Listeners rely on the combination of sounds, words, and grammar that creates meaning. According to Hedge (2007), listeners use whatever clues they have available to infer meaning from the developing speech, such as the placement of stress on meaningful words, lexical knowledge to assign meaning to words, knowledge of syntactic structure, etc. Bottom-up strategies include:

- Listening for specific details
- Recognizing cognates
- Recognizing word-order patterns
- Recognizing noun phrase as agent or object
- Recognizing verb phrase as action

To sum up, Hedge (2007), claims that memory plays an important role during the process of identifying and imposing structures, recognizing sounds, inferring meaning and sometimes even anticipating idioms and phrasal verbs that may come next.

### 2.2.3 Top-down processes in listening

Top-down strategies are listener-based. The listener taps into background knowledge of the topic, the situation or context, the type of text, and the language. According to Hedge (2007), this background knowledge activates a set of expectations that help the listener interpret what is heard and anticipate the information that comes next. Top-down strategies include:

- Listening for the main idea or gist
- Predicting
- Inferring
- Summarizing

Hedge (2007) argued that top-down listening is the act of inferring meaning from *contextual clues*<sup>15</sup> and also from making connections between the spoken message and listeners' *prior knowledge*<sup>16</sup>. This type of prior knowledge is called *schematic knowledge* (Beaugrande and Dressler 1981; Carrel and Eisterhold 1983, cited in Hedge 2007) and it is the mental framework learners establish based on their memories, knowledge and opinions.

According to Hedge (2007), there are two categories of schemata used by listeners: *formal schemata* and *content schemata*.

- Formal schemata – consists of knowledge of the overall structure of speech events.

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<sup>15</sup> Contextual clues are hints that the author gives to help define a difficult or unusual word, this clue may appear within the same sentence as the word to which it refers, or may be in a preceding or subsequent sentence (Hedge, 2007).

<sup>16</sup> Prior knowledge is a combination of the learner's preexisting attitudes, experiences, and knowledge (Hedge, 2007).



- Content schemata – general world knowledge, sociocultural knowledge and topic knowledge.

When students make use of their formal and content schemata they may find easier to tackle a listening task. Students will be able to make predictions and inferences regarding the topic of the task before and while listening to it.

#### **2.2.4 Making predictions**

Celce-Murcia and Olshtain (2000) claim that when teachers ask students to make a prediction or give an opinion, they are helping activate students' schematic and contextual knowledge. Teachers elicit predictions and opinions in order to enable students to improve understanding of a listening activity.

Hedge (2007) claims that depending on the type of activity, students may even profit from the use of pre-taught vocabulary. If the listening activity is based on idioms, collocations, clichés and proverbs, non-native speakers may become frustrated since they lack the vocabulary to make predictions or generate inferences. In the case of classrooms of students who lack vocabulary, pre-teaching some of the idioms, collocations and clichés can be a helpful tool to improve listening comprehension.

When it comes to prediction, the use of pictures and environmental clues, mostly for kids and teenagers who tend to be more visual than adults, would be an effective strategy (Richards, 2000). Mendelsohn (1995) suggests that predicting goes beyond showing pictures and paying attention to background knowledge. He argues that teachers should make use of setting, interpersonal relations, mood and topic before students actually listen to a conversation. These will be described next.

- **Setting** – The use of extralinguistic signals. Teachers set the scene for students by mentioning physical surroundings, clothes people are wearing, background noise and when things took place; it usually lowers students' anxiety and as a result they "listen better".

- **Interpersonal relations** – Concentrate on paralinguistic signals. This is described by Mendelsohn (1995) as the use of body language, gestures, facial expressions, how people address each other as a clue to the relationship that exists between them.

- **Mood** - It is also called atmosphere and it relates to the way people behave toward each other at a given moment. The words *I'm ok, thanks* can be said in a number of different ways, each of them suggesting a different mood.

- **Topic** –Topic is when students have to apply all they have determined about the other ways of predicting, such as setting, interpersonal relations and mood. At this stage lexical signals are most helpful. Students have to listen to some of the words mentioned by their teacher so that they recognize the topic, activate their previous knowledge about it and finally feel at ease.

As we could see, it will certainly help the listener to make predictions about what they are going to hear before they actually listen. It is important for teachers to prepare thoroughly for a listening activity, by doing pre-listening activities that are designed to raise interest in the listening task. These activities can make the experience more engaging and enjoyable for the learners.

In the next subsection we will address another important listening strategy: inference.

### 2.2.5 Inference

Rost (1990) advocates that discourse rarely provides complete, explicit descriptions of a situation; the input/information is rarely entirely sufficient for comprehension. Comprehenders have to fill in the gaps of missing information, for example, the most frequently used meaning of a word or phrase is not necessarily the meaning associated with the intended message of speakers/writers.

According to the author, it is important to emphasize the principle of meaning as active knowledge construction, rather than as passive reception of information. In other words, in discourse meaning is created by actively listening to something and inference-making; the process of making inferences is supported by the background knowledge of the listener and by understating the goals of the speaker. In relation to

meaning construction in listening comprehension, Rost (1990) uses four terms: acceptable understanding (AU), targeted understanding (TU), non-understanding (NU) and Misunderstanding (MU).

- **Acceptable understanding (AU)** – These are the inferences drawn by a listener that are satisfactory to the speakers and the listener.

- **Target understanding (TU)** – It is a specific interpretation that was actually intended by the speaker.

- **Non-understanding (NU)** - It happens when the listeners is not capable of making any appropriate inference based on what has just been said.

- **Misunderstanding (MU)** - It refers to a conflict between the kind of inference the speaker had expected the hearer to make from his utterances and the actual inferences the listener has drawn.

In addition to understanding the main and important supporting points of a listening passage, students need to draw conclusions about conversations and lectures. A higher level skill than listening for main ideas, inferencing involves a deeper pragmatic understanding of the language.

In the next subsection we present other listening sub-skills that may help students overcome listening comprehension problems.

### **2.2.6 Other listening sub-skills**

Listening to a certain topic in a textbook is considered to be a goal-oriented activity, which involves: processing of the incoming speech signals (bottom-up processing) and the use of prior knowledge, contextual clues and expectations (top-down processing). The latter helps to promote the construction of meaning and comprehension. According to Thornbury (2006), the sub-skills of listening include:

- Perceiving and discriminating sounds in general;
- Segmenting the stream of speech into recognizable units, for instance, words and phrases;

- Using stress and intonation cues to differentiate given from new information;
- Paying close attention to discourse markers and using them to predict changes in the direction of the talk;
- Guessing the meaning of unfamiliar words through context;
- Using clues in the text (for example vocabulary) and contextual clues to predict what comes next;
- Making inferences about what is not stated or “reading between the lines”;
- Selecting key information that is relevant to the purpose of the listening;
- Integrating incoming information into mental “picture” (or schema) of the speech event until the present.

Thornbury (2006) also advocates that these sub-skills exist across languages. In theory, learners would be able to transfer the skills from L1 to L2. However, the author points out that there are some reasons why the transfer does not happen smoothly. One of the reasons is that speakers of different languages process speech signals differently depending on the phonological features of their first, or most frequently used, language. Another reason is the lack of second language knowledge, vocabulary and grammar. A third reason is that learners might lack the confidence to negotiate breakdowns in understanding (e.g. to signal to their interlocutor that they did not understand). Last but not least, some learners simply lack exposure to spoken language, which, of course, may help to offset the differences in phonological features and L2 knowledge.

### 2.3 TAXONOMY OF LISTENING ACTIVITIES

According to Richards (1985), the main goal in teaching listening skills is two-fold: to provide comprehensible, focused input and purposeful listening tasks that develop specific listening skills. Before selecting listening activities, the author suggests that teachers should consider a few factors that will be addressed in the next subsection.

### 2.3.1 Teaching listening skills

According to Richards (1985), teachers have to pay close attention when analyzing a listening activity they intend to use in class. They should ask themselves some questions such as “does the activity bear content validity?” In other words, does the activity provide practice in listening comprehension or is the activity aimed at developing another skill? Another important question would be: does the activity establish a purpose for listening that resembles authentic real-life listening? Or is the activity simply meant for classroom exercises? Last but not least, does the activity “test” or “teach” listening skills? In other words, does the activity assume that learners already possess the skills necessary to perform the listening tasks and gradually prepares learners for the listening itself?

A great number of listening activities “test” rather than “teach”. Activities that “teach” learners usually have both pre-listening and post-listening tasks (Richards, 1985). Pre-listening activities give learners the chance to activate their schematic knowledge about the topic of the listening activity and set a purpose for listening. Post-listening activities help integrate information for the development of another language skill (such as speaking or writing). Richards (2005) revisits listening skills and claims that listening comprehension activities should be followed by activities, whose main aim is to promote second language acquisition. This idea has been referred to as listening as acquisition (Richards, 2005) and comprises two cycles: noticing activities and restructuring activities.

**Figure 2: Noticing and restructuring activities**

| <b>NOTICING ACTIVITIES</b>  | <b>RESTRUCTURING ACTIVITIES</b>   |
|---|---|
| Noticing activities include returning to listening texts previously used for comprehension objectives in order to raise learners’ awareness of language aspects.  | Restructuring activities encompass oral and written tasks which involve the production of selected linguistic items from a listening text.  |
| In noticing activities, learners listen to an extract for a second time in order to identify differences between what they hear and a printed version of the transcript, complete a cloze version of the text or tick expressions off from a list that occur in the text. | In restructuring activities, learners read aloud dialogues in pairs, practice dialogues that incorporate items from the text or role-play situations in which they are required to use key language from texts. |

When it comes to listening comprehension task-types, Richards (1985, p. 204) enumerates the activities below:

1. **Transferring:** getting information in one form and transferring it or part of it into another form, such as listening to a discussion about a neighborhood and then sketching the neighborhood;

2. **Transcribing:** listening, and then writing down what was heard, for example, dictations;

3. **Matching or distinguishing:** choosing a response in written or pictorial form which corresponds to what was heard, for instance, choosing a picture to match a situation;

4. **Extending:** going beyond what is given, such as reconstructing a dialogue when alternate lines are missing or providing a conclusion to a story;

5. **Condensing:** reducing what is heard to an outline of main points, for instance, note-taking;

6. **Scanning:** extracting selected items by scanning the input in order to find a specific piece of information, for instance, listening to a phone call and getting the date of a party mentioned in the dialogue;

7. **Answering:** answering questions from the input focusing on different levels of listening. For example, questions which require recall of details, inferences, deductions, evaluations or reactions;

8. **Predicting:** guessing or predicting outcomes, causes, relationships, based on information presented in conversations or narratives.

What is more, Ur (1996) presents a number of activities that focus on word-level and sentence-level processing. These activities are aimed at helping students to develop bottom-up processing aspects. Word-level activities focus on different sounds and sound combinations which occur within single words. Ur points out a variety of techniques aimed at sound perception such as repeating words after the teacher or a recording, discriminating between minimal pairs (two words that differ in only one sound, such as *hit* and *hid*) and identifying how often a word is uttered.

Sentence level activities attempt to remedy problems that occur when words are put together to make utterances: the distortion of sounds within common collocations, unclear word-division, and intonation. This type of activity includes:

- Repeating full utterances;
- Counting the number of words;
- Identifying word stress and intonation patterns;
- Dictation.

In summary, listening provides the auditory input that serves as the basis for language acquisition and enables learners to interact in spoken communication. Effective language teaching should aim at showing students how they can adjust their listening behavior to deal with a variety of situations, types of input, and listening purposes. As a result, students develop a set of listening strategies and match these strategies to each listening situation they may come across.

In the next section we have a theoretical overview of working memory, individual differences in L2 learning and the relationship between working memory and L2 learning.

## 2.4 WORKING MEMORY

Working memory plays an essential part in complex cognition. For example, everyday cognitive tasks such as reading a book in order to write a summary and doing complex calculations at school. Complex, or higher-level cognition activities usually involve multiple steps and goals that need to be maintained during the performance of the task. In this sense, the combination of processing and storage is necessary to accomplish a number of cognitive tasks successfully. By relying on a combination of processing and storage, working memory tests, such as the reading span test (Just and Carpenter, 1992), aim to tap into this ability. These tests provide a working memory score that predicts performance in complex cognitive tasks such as reading comprehension.

### 2.4.1 Working memory: background and overview

Researchers have been studying the human memory system for over one hundred years now (Just & Carpenter, 1992; Ericsson & Kintsch, 1995) and the idea

that it consists of an alliance of complex systems working together is one of the oldest in contemporary cognitive psychology (Baddeley, 1999).

Evidence for the existence of distinct memory systems was first presented by Brown (1958, cited in Baddeley, 1990) and Peterson and Peterson (1959, cited in Baddeley, 1990), who demonstrated that information is forgotten within seconds if rehearsal is prevented.

A classic model which attempts to explain how memory works is the "Multistore Model" (Atkinson and Shiffrin, 1968). The model suggests that there are three separate memory stores, Sensory Memory (sometimes called the 'sensory store'), Short Term Memory (STM) and Long Term Memory (LTM). Each store has a different duration, capacity and mode of encoding (the way that information is stored - e.g., visual, acoustic, semantic). Atkinson and Shiffrin postulated that incoming information first entered sensory memory, then proceeded to the short-term store, and finally reached long-term memory. The most important component of the model was the short-term store, which was conceptualized as a unitary system of limited capacity and a necessary step in both the acquisition and use of information. In their model, information was maintained in STM by a control process that consisted of rehearsing the last few items presented. Atkinson and Shiffrin's model (1968) did not address the issue of processing. The authors argued that the retention of items for a short period of time could ensure learning.

However, in 1970, Atkinson and Shiffrin's model was challenged by Shallice and Warrington (1970), who presented evidence from patients with short-term memory problems who had long-term store unimpaired and could thus lead a normal life. In other words, the authors proved that even if information is not maintained in short term memory for long enough (as stated by Atkinson and Shiffrin, 1968), it can be stored in long term memory.

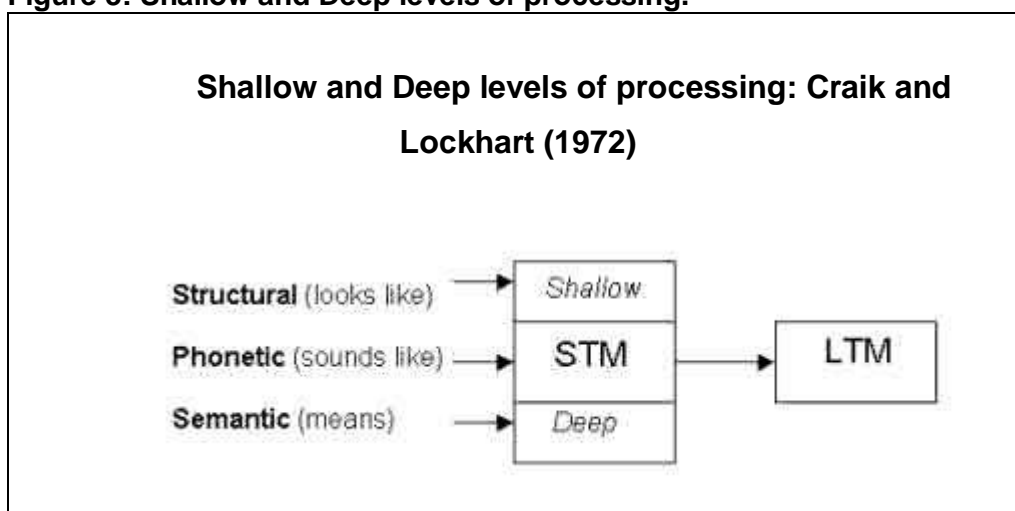
Craik and Lockhart (1972) also challenged the *multistore model of memory* (1968). The authors proposed that memory was enhanced more by depth of processing than by how long information was rehearsed. They suggested that rehearsal was mainly effective if the rehearsal was done in a deep and meaningful way. The effectiveness of in depth rehearsal versus more shallow rehearsal can be associated with the theory of levels of processing (Craik and Lockhart, 1972). In the 1970s, there was a group of researchers who brought significant insight into research



on learning and human memory. According to the group of researchers (which included Craik and Lockhart) the strength and quality of a memory system depends on the depth or level of processing that was applied to the information while learning (whether incidental learning or not). This is called information encoding. Craik and Lockhart proposed the theory of levels of processing, or LOP (Levels of Processing; Craik and Lockhart, 1972) from experiments investigating the effect of processing on the level of information retention (Craik and Tulving, 1975). These classical experiments showed that participants formed more durable and robust memories in situations in which processing had more "depth" of information, for instance, tasks requiring semantic judgment of words, compared to situations where there was a more superficial processing. Memorizing and learning (incidentally) a list of words was "easier" in situations where participants had to judge the semantic categories of words ("does this word represent a type of flower?"); compared to a more superficial task where participants had to judge whether there was rhyme between words ("does this word rhyme with train?"), (Craik and Tulving, 1975).

According to the authors there are shallow and deep levels of processing, as shown in figure 3 below:

**Figure 3: Shallow and Deep levels of processing.**



Source: <http://www.google.com.br/imgres?q=craik+and+lockhart+1972>

Shallow processing only involves maintenance rehearsal (repetition to help us hold something in the STM) and leads to fairly short-term retention of information. This is the only type of rehearsal to take place within the multi-store model. Whereas deep processing involves elaboration rehearsal which involves a more meaningful analysis (e.g. images, thinking, associations etc.) of information and leads to better recall. For example, giving words a meaning or linking them with previous knowledge.

Two years later, with the evidence presented by Shallice and Warrinton's (1972) in mind, Baddeley and Hitch (1974) investigated working memory using a dual-tasking paradigm. In the study, participants were asked to remember a digit string of up to six items while performing a cognitively demanding task. The hypotheses were: if performance on one task did not interfere with the other, then the tasks relied on different components of the cognitive system; but if one task did interfere with the other, then the same cognitive pool was being used.

Baddeley and Hitch thus decided to propose a multicomponent model of short-term store, which they termed 'working memory'<sup>17</sup>. This model<sup>18</sup> was later expanded by Baddeley and other co-workers and became the dominant view in the field of working memory.

In the next subsection we present an overview of Baddeley and Hitch's multiple-component model of working memory.

#### **2.4.2 The Multiple-Component Model of Working Memory**

Working memory is a memory system that is associated with storage and processing of information in complex cognitive tasks, such as language comprehension, learning, and reasoning. This definition evolved from the concept of a unitary short-term memory system.

Alan Baddeley and Graham Hitch proposed a model of working memory in 1974, in an attempt to describe a more accurate model of short-term memory. Baddeley and Hitch proposed their tripartite working memory model as an alternative to the short-term store in Atkinson and Shiffrin's model (1968). This model was later

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<sup>17</sup>According to Baddeley (2009), working memory was first termed by Miller, Galanter and Pribram (1960 in Baddeley, 2009) abandoning then the idea of a unitary short-term memory system.

<sup>18</sup>The Multiple-Component Model of Working Memory is explained in detail in subsection 2.4.2

expanded by Baddeley and other co-workers (1986, 2000) and became the dominant view in the field of working memory.

#### **2.4.2.1 A system with slaves - the central executive, the phonological loop, the visuospatial sketchpad and the episodic buffer**

The original model of Baddeley and Hitch was composed of three main components. The *central executive*, which acts as supervisory system and controls the flow of information from and to its slave systems: the *phonological loop* and the *visuo-spatial sketchpad*. The slave systems are short-term storage systems dedicated to a content domain (verbal and visuo-spatial, respectively). In 2000 Baddeley added a third slave system to his model, the episodic buffer.

This model is derived empirically from studies of healthy adults and children and of brain-damaged individuals; it draws on a range of experimental methodologies. The model offers a useful framework to account for a wide range of empirical findings on working memory, as stated by Miyake and Shah (1999).

Below, we present and explain the three main components (*central executive, phonological loop and visuo-spatial sketchpad*) and also the *episodic buffer* which was added to the previous model in 2000.

#### **The Central Executive**

Similar to their original model (Baddeley and Hitch, 1974), Baddeley and Hitch continued to postulate that working memory is controlled by a *central executive*. “*Working memory is assumed to be directed by the central executive, an attentional controller rather than a memory system (Baddeley, 2009:47)*”.

The concept of the *central executive* has undergone a number of significant changes over the past 30 years. The original model (1974) stated that the central executive encompassed a pool of general-purpose processing capacity. The capacity can be allocated to support either control process or supplementary storage. However, Baddeley and Hitch subsequently abandoned the original assumption and proposed instead that any increase in total storage capacity beyond that of a given

slave system is achieved by accessing either long-term memory (LTM) or other subsystems, which is similar to Ericsson & Delaney's model (1999).

The central executive depends significantly, but not exclusively, on the frontal lobes (Stuss & Knight, 2002). One particularly illuminating finding on the role of prefrontal cortex in executive functions is that performing a language task (for instance, semantic judgment) and a visuospatial task (for instance, mental rotation) simultaneously may require the contribution of an additional area of the brain - the prefrontal cortex – that is not necessarily implicated in the performance of individual component tasks. The study has also shown that this intriguing finding is not merely a simple artifact of task difficulty or effort. Although more research is necessary, this result provides an initial promising step toward examining the neural basis of specific executive processes (Baddeley and Logie, 1999)

Executive processes<sup>19</sup> are considered to be the major aspects contributing to the individual differences within the span of working memory (Daneman and Carpenter, 1980). Working memory span has proved to be a profound interpreter of a wide range of complex cognitive abilities, as mentioned in subsection 2.4.1.

### **Phonological loop**

The *phonological loop* has two components, a phonological store, which holds speech-based information that decays with time, and an active rehearsal process (Baddeley & Logie, 1999), which recycles the decaying information in the phonological store.

The process of rehearsal entails sub-vocal articulation. Rehearsal works for maintaining information within the storage system and registers visual stimuli within the storage. Hence, if only a small number of bits of information is to be provided, the information can be maintained for an indefinite period through the method of continuous rehearsal.

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<sup>19</sup> The executive processes are a set of processes that have to do with managing oneself and one's resources in order to achieve a goal. It is an umbrella term for the neurologically-based skills involving mental control and self-regulation. The executive functions all serve a "command and control" function; they can be viewed as the "conductor" of all cognitive skills (Baddeley, 2009).

Evidence for limitations in the sub-vocal rehearsal system is also shown by a word length effect. A series of long words such as *tuberculosis*, *university*, *auditorium*, *paramedical*, *opportunity* is significantly harder to remember than a series of five monosyllabic words (Baddeley & Hitch, 1974). In sum, longer words take longer time to recall, which leads to more forgetting (Cowan, 1995).

When it comes to individual differences, the phonological loop capacity reflects the amount of memory activation available. In addition to the limits on degree of activation, Baddeley and Logie (1999) also postulated that subjects may differ in their rehearsal capacity. In the case of phonological loop, this capacity appears to reflect one's ability to set up and run speech output programs.

In the case of adults, one of the principal means of studying verbal rehearsal has been through the word length of the to-be-recalled items (Baddeley, Thomson & Buchanan, 1975 in Baddeley, 2009).

### **Visuospatial Sketchpad**

According to Baddeley (2009), the sketchpad contributes to the functioning of integrating spatial, visual and to some possible extent kinesthetic information into a cohesive representation that may be momentarily stored and manipulated accordingly. This component is more difficult to investigate empirically due to its greater complexity. It will not be discussed at length since it does not pertain to the processes of interest in the present thesis.

### **Episodic Buffer**

The episodic buffer was added to the previous model in 2000. The episodic buffer is a limited-capacity temporary storage system that is capable of integrating information from a variety of sources (Baddeley, 2009). It is controlled by the central executive. The episodic buffer is capable of retrieving information from the store in the form of conscious awareness, of reflecting upon that information and, if necessary, manipulating and modifying the information.

“The episodic buffer is assumed to be a storage system that can hold about four chunks of information in a multidimensional code. Because of its capacity for holding a range of dimensions, it is capable of acting as a link

between the various subsystems of working memory, also of connecting these subsystems with input from LTM and from perception. Each of these information sources uses a different code, but these can be combined within the multidimensional buffer". (Baddeley, 2009 page 70)

The buffer is episodic in the sense that it holds episodes whereby information is integrated across space and potentially extended across time. The episodic buffer is a temporary store that can be preserved in densely amnesic patients with grossly impaired episodic Long Term Memory (Baddeley and Logie, 1999). The episodic buffer is, though, assumed to play an important role in feeding information into and retrieving information from episodic LTM.

The component proposed is a buffer in the sense that it serves as an interface between a range of systems, each involving a different set of codes. The buffer is believed to be limited in capacity because of the computational demand of providing simultaneous access to the necessarily wide range of different codes. The episodic buffer can be accessed by the central executive through the medium of conscious awareness. The executive can, furthermore, influence the content of the store by attending to a given source of information, whether perceptual (from other components of working memory) or from LTM.

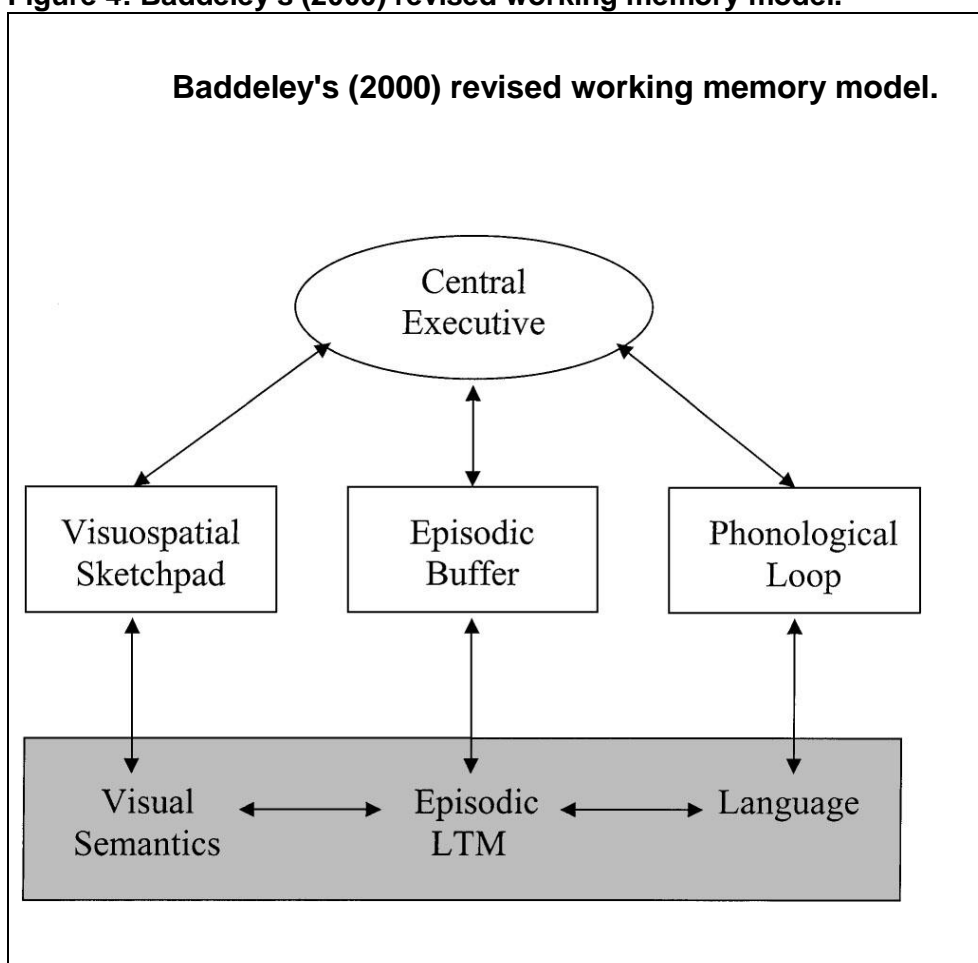
Not only does the buffer provide a mechanism for modeling the environment, but it also creates new cognitive representations, which in turn might facilitate problem solving.

Below, we have Baddeley's revised version<sup>20</sup> of the multicomponent working memory. Links to long-term memory have been specified and a new component, the episodic buffer, added.

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<sup>20</sup> The revised version shows the episodic buffer, which was added to the original model only in 2000.

**Figure 4: Baddeley's (2000) revised working memory model.**



Source: <http://www.isrc.umbc.edu/hcihandbook/Figures/02-03.html>

Though the multicomponent model has developed in the 30 years since it was first proposed, it is not the only model of working memory. Research on working memory, particularly in the U.S., adopted a very different approach, less influenced by studies of Short Term Memory and data from neuropsychological patients. The research is strongly influenced by methods based on individual differences between normal participants. Studies examining individual differences in working memory capacity have suggested that individuals with low working memory capacities demonstrate impaired performance on a variety of attention and memory tasks compared with individuals with high working memory capacities (Unsworth & Engle, 2007).

In the next subsection individual differences in working memory capacity will be addressed.

### **2.4.3 Individual differences in working memory capacity**

There is a consensus among researchers that working memory is involved in the performance of a number of cognitive tasks (e.g., Just & Carpenter, 1992; Engle, 2002; Conway, 1999; Baddeley, 2009, among many others). Recall from section 2.4.1 and 2.4.2 that working memory is a limited capacity system in nature. However, working memory span tests (Daneman and Carpenter, 1980 for instance) postulate that this limited capacity is different among individuals and that these differences are good predictors of performance on important cognitive tasks: Individuals with larger working memory capacity performing better on these tasks than individuals with smaller capacity (Fortkamp, 2000).

According to Baddeley (2009), the approach to working memory was leveraged by a study by Daneman and Carpenter (1980), who were interested in the relationship between working memory and language comprehension. The authors took the key aspect of working memory, simultaneous storage and processing of information, and developed a task that would measure these two aspects. Daneman and Carpenter (1980) proposed an alternative measure of working memory span that would correlate well with reading comprehension performance. One purpose of their study was to devise a measure that taxed both the processing and storage functions of working memory. The processing and storage components of the test, involved the usual demands of sentence comprehension. An additional storage component required subjects to maintain and retrieve the final words of sentences. The format of the reading span test was somewhat similar to that of the traditional digit span and word span tests. The subject was given a set of sentences to read; at the end of the set, he attempted to recall the final word of each sentence. The number of sentences in a set was incremented from trial to trial and the subject's reading span was the maximum number of sentences he could read while maintaining perfect recall of the final words. If good readers use less processing capacity in comprehending the sentences, they should be able to produce more sentence final words than poor readers.

Daneman and Carpenter's (1980) experiment was divided into reading span and listening span measure. In the first part of the experiment subjects were given three tests: a reading span test to measure the span of working memory, a reading



comprehension test that asked questions about facts and pronominal references, and a traditional word span test. During the *Reading span test* subjects were asked to read a series of sentences aloud, at their own pace, and recall the last word of each sentence. The test was constructed with 60 unrelated sentences, 13 to 16 words in length and each sentence ended in a different word. In the *Reading comprehension tests* the subjects had to read a series of passages and then at the end of each passage they were asked two questions; the first interrogated the referent of a pronoun mentioned in the last sentence and the second related to some other fact from the passage. Finally, in the *Word span test* subjects were asked to recall sets of individual words. According to the authors, readers with smaller spans performed much worse than readers with larger spans on both tests (correlations between spans and reading comprehension). The results for the pronoun reference questions showed that there was a close correspondence between the reader's span and the distance over which he/she could correctly answer the question. In summary, several aspects of the results supported the hypothesis that the reading span task was related to working memory capacity. In particular, the limits of performance in the span task were consistent with a limited working memory.

To assess listening span, the test was modified so that it was suitable for both reading and listening. This span measure was used with silent reading, oral reading, and listening. The subjects were given three working memory span tests: an oral reading span test, a silent reading span test, and a listening span test. These were followed by two comprehension tests: one involved silent reading and the other involved listening. During *the reading span and listening span tests* subjects had to read or listen to a sentence and answer true or false. Sentences were presented in a set and at the end of a set, the reader had to recall the last word of each sentence. The true-false component was included to ensure that subjects processed the entire sentence and did not just concentrate on the final words, a possible strategy if subjects had to only listen or silently read a sentence. The silent and oral reading span tests contained three sets each of two, three, four, five, and six sentences. As in Experiment 1 (reading span), subjects were presented increasingly longer sets of sentences until they failed to recall the sentence final words of all three sets at a particular level. In the *comprehension tests* the materials and procedure were similar to those in Experiment 1. The only change was that subjects were asked four rather

than two questions at the completion of each passage. The results of Experiment 2 corroborated the findings of Experiment 1 by demonstrating high correlations between the measures of working memory span and the measures of reading comprehension. Listening span measures were almost as good at predicting reading comprehension as reading span measures. Subjects with larger listening spans were better at answering questions about facts and pronominal references that had been read. All three span measures did reasonably well in accounting for listening comprehension, although the listening span measure was slightly better. Engle, Tuholski, Laughlin, and Conway (1999) reported a similar result, finding a high correlation between working memory and fluid intelligence<sup>21</sup>.

As far as individual differences are concerned, Just and Carpenter (1992) state that the nature of a person's language comprehension depends on his or her working memory capacity. Individuals vary in the amount of activation they have available for meeting the computational and storage demands of language processing. This conceptualization predicts quantitative differences among individuals in the speed and accuracy with which they comprehend language.

“During comprehension, information becomes activated by virtue of being encoded from written or spoken text, generated by a computation, or retrieved from long-term memory. As long as an element's activation level is above some minimum threshold value, that element is considered part of working memory, and consequently, it is available to be operated on by various processes”. (Just & Carpenter, 1992 page 124)

The authors propose that both processing and storage are mediated by activation and that the total amount of activation available in working memory varies among individuals. According to Just and Carpenter (1992), individual differences in working memory capacity for language can account for qualitative and quantitative differences among students in several aspects of language comprehension. One aspect is syntactic modularity. The larger capacity of some individuals permits

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<sup>21</sup>Fluid intelligence is the capacity to think logically and solve problems in novel situations, independent of acquired knowledge. It is the ability to analyze novel problems, identify patterns and relationships underlying these problems and solve them using logic. It is necessary for all logical problem solving, especially scientific, mathematical and technical problem solving (Miyake and Shah, 1999).

interaction among syntactic and pragmatic information, so that their syntactic processes are not informationally encapsulated. Another aspect is syntactic ambiguity. The larger capacity of some individuals allows them to maintain multiple interpretations. The theory is instantiated as a production system model in which the amount of activation available to the model affects how it adapts to the transient computational and storage demands that occur in comprehension.

When it comes to maintenance and retrieval, Unsworth & Engle (2007) advocate that working memory limitation can be conceived of as arising from 2 components: a dynamic attention component (primary memory) and a probabilistic cue-dependent search component (secondary memory). Therefore, in the authors view, individual differences in Working Memory Capacity (as measured primarily by complex span tasks in which to-be-remembered items are interspersed with some form of distracting activity) result from differences in the ability to maintain information in primary memory and the ability to retrieve information from secondary memory.

Specifically, individuals with low scores on complex working memory span tasks (low WMC individuals) are poorer at actively maintaining information than are individuals who score high on complex working memory span tasks (high WMC individuals). When new and novel information needs to be maintained to generate the correct response, individuals with low working memory capacity are more likely to have their attention captured by distraction and thus are more likely to lose access to the task goal compared with individuals with high working memory capacity. What is more, in situations in which information cannot be actively maintained, low WMC individuals are poorer at retrieving the relevant information because of a poorer discrimination process at retrieval. In particular, low WMC individuals are likely to use contextual cues that activate more irrelevant information than those used by high WMC individuals, which leads to both slower and less accurate recall for low WMC individuals. It is possible that these difficulties are similar to those faced by low-WMC beginning L2 learners who struggle while performing listening tasks.

Good readers tend to be good listeners, and good listeners tend to be good readers. Behavioral studies have shown that listening and reading comprehension are two closely-related skills (Buchweitz et al, 2009). The goal of this thesis is to investigate if individual differences in working memory capacity of L2 low proficiency learners can help to predict listening comprehension performance in proficiency

exams. Therefore it is important to address the relationship between reading/listening comprehension and WMC.

Reading comprehension is a complex, higher-level cognitive process in which there are systematic individual differences in skill and performance. For instance, good readers are faster and more accurate at comprehension of syntactically complex sentences than are poor readers (Just & Carpenter, 1987). One of the questions that brain imaging studies have attempted to answer is which individual differences in brain functioning underpin individual differences in reading skills. Individual differences in reading comprehension are likely to be associated with a quantifiable measure of consumption of brain resources during task performance. Resource consumption can be measured by the amount of brain activation in different areas of the brain (Buchweitz et al, 2009).

The present study hopes to contribute to the debate of the influence of WMC on listening comprehension performance. The next subsection reviews the literature on working memory and L2 skills.

#### **2.4.4 Working memory and L2 Learning**

People usually differ in how fast, how well and by what means they learn an L2 (Ortega 2009). The variability in rates, outcomes and processes can be enormous, particularly for the ones who begin learning an L2 later in life. The author argues that contemporary SLA researchers who investigate aptitude and memory capacity appear to have little interest in pursuing case studies of individuals who are exceptional (with or without a pathological profile) and concentrate instead on studying within-normal ranges of individual differences in group performance. In this line of research, good memory capacity, including verbal memory and memory as a substrate of both L1 and L2 skills, remains a prime candidate in explanations of differential levels of L2 achievement.

Although WM plays a central role in all forms of higher-level cognition, its role is even more evident in language processing because, according to Miyake and Friedman (in Healy and Bourne, 1998), producing and comprehending language requires the processing of sequences of symbols over time. The linearity of language, in the authors' view, requires temporarily storing the intermediate and final

products of computation as a reader or listener constructs and integrates ideas from the stream of successive words in a text or spoken discourse. The linearity of language also requires a writer or speaker to produce a sequence of words and sentences out of the less sequentially organized representation of thought. The currently dominant conception of WM is more closely linked to the dynamic nature of the processing and storage activities requirements involved in complex cognition (Baddeley, 2009).

Research on individual differences in working memory has focused heavily on first language reading comprehension. Recent studies, however, have addressed the relationship between working memory capacity and L2 skills. These studies have focused on reading comprehension, syntactic acquisition and comprehension, and speech production (Fortkamp, 2000). Recent studies of individual differences in WM performance among L2 learners provide promising initial support for the view that WM capacity is related to L2 proficiency. Specially, individual differences in L2 reading skill are highly correlated with L2 WM span (Miyake and Friedman in Healy and Bourne, 1998).

In a study by Harrington and Sawyer (1992), 32 native Japanese speakers learning English as an L2 were asked to complete an English and Japanese version of the reading span test, along with two subsections of the *Test of English as a Foreign Language (TOEFL)*. Correlational analyses showed that readers with higher L2 reading span scores did better on both subsections of the TOEFL, resulting in correlation coefficients of .57 (grammar section) and .54 (reading and vocabulary section). As in L1 research, a simple word or digit span in L2 was a much poorer predictor of L2 reading ability, the magnitudes of correlations ranging from .20 to .25.

Another study also corroborates the conclusion that the relationship between WM capacity and reading comprehension in L2 parallels that in L1. Harrington (1991) investigated the extent to which vocabulary and grammatical knowledge affects the relationship between L2 working memory capacity and L2 reading measures. He obtained measures of vocabulary knowledge, grammatical knowledge, L2 reading comprehension, and working memory span (measured by means of reading span tests in the L2) from 55 Japanese learners of English as a foreign language. He found a significant correlation between working memory capacity and scores on L2 vocabulary, grammar, and L2 reading measures. This finding suggests WM is an

important factor in L2 reading comprehension ability, beyond knowledge of L2 vocabulary and grammar.

However, when Alan Juffs (2004, cited in Ortega 2009) used very similar working memory measures to investigate individual differences in online processing of ambiguous L2 sentences the evidence the author found for the role of working memory in such L2 performance was rather weak. Although Juffs (2004, cited in Ortega 2009), could not find a significant result for the role of working memory in his study, most studies presented in this section show that the nature of a person's language comprehension depends on his or her working memory capacity (Just and Carpenter, 1992).

Another important issue regarding WM and L2 learning is the role of working memory in the process of L2 learning itself. According to Miyake and Friedman (in Healy and Bourne, 1998), not much research has directly addressed the issue, but several studies provide interesting preliminary answers as to how WM influences the speed and quality of L2 learning. A study carried by Ando et al (1992) showed results pointing to advantage of a larger working memory capacity in L2 learning. In Ando's study, basic English was taught for 20 hours to Japanese 6<sup>th</sup> graders who had not had any English lessons before. The 20-hour instructions emphasized the traditional, grammar-oriented approach and required students to learn abstract rules and apply them to new sentences or situations. One main finding of this research was that the learners' reading and listening spans in L1, before the English instructions, were the strongest predictors of their post test performance in L2 (.60 for reading span and .72 for listening span).

Although available evidence is still sparse, these results, taken together, suggest that a larger working memory may lead to faster L2 learning. This tentative conclusion is consistent with recent cognitive studies. The studies demonstrated that larger WM generally facilitates the process of skill learning and knowledge acquisition, by making it easier for learners to keep all the relevant pieces of information simultaneously active within WM, which, according to Daneman and Green (1986), is a process considered crucial for forming a new production rule or putting together different pieces of relevant information in order to make appropriate inferences.

A state of the art review on the relationship between working memory and SLA (Second Language Acquisition) was put forth by Wen (2012). The integrated framework proposed by the author consists of three key parts, namely, the definition of WM for SLA, the structure of WM for SLA as well as the measures of WM for SLA. Within the framework, Wen also proposes a set of general principles that can inform the WM-SLA nexus and serve as a basis for studies regarding their relationship. According to the author, the definition of WM for SLA is 'the limited capacity of multiple mechanisms and processes in the service of complex L2 activities/tasks'. This definition is rooted in unified theories of WM. According to these unified theories of WM, the most important feature of the construct lies in its multiple components and mechanisms that facilitate execution of complex human cognitive activities/tasks. Also in line with these unified theories of WM, another characterization of the WM construct is its *limited capacity*. A third characterization of WM derived from these unified theories is that WM is closely linked to LTM and sometimes even helps to make changes in LTM, thus rendering it a gateway to LTM.

In summary, different working memory capacities are thought to play a central part in creating differential likelihoods of success when learning a foreign language. According to Ortega (2009), memory alone is thought to help predict how well people will learn new vocabulary, what levels of comprehension they will achieve in listening or reading, how much they may benefit from recasts or how easily they will learn a grammar rule. According to Fortkamp (2000), working memory has been conceptualized in many different ways, but all lines of research agree on the dynamic nature of the system as well as on its relevance to the understanding of human performance. Whereas most research on working memory capacity has been developed in the area of language processing, comprehension is the aspect of processing that has achieved most attention.

In the next section we address the Methods used to carry out this research.

### 3 METHODS

#### 3.1 OBJECTIVE AND HYPOTHESES

The primary aim of the present study was to investigate whether individual differences in working memory capacity of L2 low-proficiency learners predict listening comprehension performance in the proficiency exam KET.

The subsidiary aim was to investigate whether the KET (Key English Test) scores improve after two months of explicit training of listening strategies.

The hypotheses were:

- Individual differences in working memory capacity predict listening comprehension performance in the KET tasks;
- Subjects would improve their scores in the KET tasks after 2 months of explicit training of listening strategies.

#### 3.2 GENERAL RESEARCH DESIGN

The experiment was divided into five parts:

1. Listening comprehension pre-test: 24 adult students of English as a foreign language (10 students – control group and 14 students – experimental group) performed a complete mock test of the Cambridge Exam KET.

2. Working memory span test: In this part of the experiment the 24 adult students of English performed a working memory span test called BAMT-UFMG<sup>22</sup> (*Bateria de avaliação da Memória de Trabalho: Alcance na apreensão na escrita*).

3. Explicit training: The experimental group (14 students in total) received two months of explicit training<sup>23</sup> on strategies to be used in the listening comprehension tasks of the Cambridge Exam KET (post-test).

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<sup>22</sup> BAMT- UFMG (*Bateria de avaliação da Memória de Trabalho: Alcance na apreensão na escrita*) is a working memory span test whose aim is to measure subjects' capacity of storing and processing information.



4. Listening comprehension post-test: 24 adult students of English (10 students – control group and 14 students – experimental group) did a complete mock test of the Cambridge Exam KET.

5. Data analysis: All data collected in the pre-test, post-test and working memory span task was coded and analyzed.

### 3.3 PARTICIPANTS

Twenty-four adult students of English as a foreign language (18 females and 6 males), mean age 32 (SD = 10.44; range 20-52 years), were recruited for the study. All students were Brazilian, native speakers of Portuguese and studying English in a English Language Course in Porto Alegre, Brazil. All participants were L2 low proficiency learners (all students who apply to study in this English course have to take a Leveling Test<sup>24</sup> which consists of three parts: Grammar and Vocabulary, Writing and Speaking. All the participants were placed in the same level: Elementary) and belong to a level in which students are prepared to take the Cambridge Exam KET. Participants are highly educated; 17 participants completed a University degree and 7 participants have not finished their undergraduate studies yet.

Each participant gave signed informed consent<sup>25</sup> approved by *Pontifícia Universidade Católica do Rio Grande do Sul* Review Boards. The Review Boards' number of the present research is: CAAE: 05829112.3.0000.5336.

The 24 participants were divided into 2 groups: 10 participants belonged to the control group and 14 participants belonged to the experimental group.

### 3.4 MATERIALS

The present research made use of three different materials. For the listening comprehension pre-test and post-test we used two different complete listening tasks<sup>26</sup>

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<sup>23</sup> The explicit training on listening strategies is fully described in section 3.5 Procedures.

<sup>24</sup> A sample of the Leveling Test can be found in the List of Appendix A.

<sup>25</sup> The informed consent document is available in the List of Appendix B

from the Cambridge proficiency exam KET (Key English Test). For the working memory span we used a test called BAMT - UFMG (*Bateria de avaliação da Memória de trabalho*)<sup>27</sup>. For the explicit training and awareness raising of listening strategies we used 15 exam-oriented listening activities (75 questions in total)<sup>28</sup> from a book called KET Exam Practice 3 (2003).

### 3.4.1 The Cambridge Proficiency Exam KET (Key English Test)

The *Cambridge Key English Test* is set at Level A2 of the Common European Framework of Reference (CEFR). A2 is the level of English needed to understand simple written English, communicate in familiar situations and understand short notices and simple spoken directions.

**Figure 5:** The Cambridge Proficiency Exam KET: Test Overview

| <b>Paper</b>   | <b>Content</b>         | <b>Marks<br/>(% of total)</b> | <b>Purpose</b>  |
|--|------------------------|-------------------------------|---|
| <b>Reading and Writing</b><br>(1 hour 10 minutes)                    | 9 parts / 56 questions | 50%                           | Shows students can understand simple written information such as signs, brochures, newspapers and magazines.              |
| <b>Listening</b><br>(30 minutes, including 8 minutes' transfer time) | 5 parts / 25 questions | 25%                           | Requires candidates to be able to understand announcements and other spoken material when people speak reasonably slowly. |

<sup>26</sup> The two listening tasks are available in the List of Appendix - D

<sup>27</sup> The BAMT test and its instructions are included in the List of Appendix - C.

<sup>28</sup> The 15 exam-oriented listening activities are available in the List of Appendix – E

|   |        |     |  |
|---|--------|-----|--|
| <b>Speaking</b><br>(8–10 minutes per pair<br>of candidates) | 2parts | 25% | Tests students' ability to take part in a conversation by answering and asking simple questions. The Speaking test is conducted face-to-face with one or two other candidates. This makes the test more realistic and more reliable. |
|---|--------|-----|--|

### KET Listening Paper

The KET listening paper<sup>29</sup> has five parts. For each part students have to listen to a recorded text or texts and answer some questions. Students hear each recording twice. Below we have the description of each part of the test:

**Figure 6:** Description of the Listening Tasks

| Part 1 – Multiplechoice              |  |
|--------------------------------------|--|
| What's in Part1?                     | Five short conversations. For each conversation there is a question and three pictures (A, B or C). Students have to listen to the conversations and choose the right answer.                                    |
| What do candidates have to practise? | Listening to find key information.   |
| How many questions are there?        | 5  |
| How many marks do candidates get?    | One mark for each correct answer.  |
| Part 2 – Matching                    |  |
| What's in Part2?                     | A longer conversation and two lists of words. Students have to listen to the conversation and match two lists of items, for example, people with the food they like to eat, or days of the week with activities. |
| What do candidates have to practise? | Listening for key information.   |
| How many questions are there?        | 5  |
| How many marks do candidates get?    | One mark for each correct answer.  |
| Part 3 – Multiple choice             |  |
| What's in Part3?                     | A conversation and some questions. Students have to listen to the conversation and choose the right answer (A, B or C) for each question.  |
| What do candidates have to practise? | Listening for information.   |
| How many questions are there?        | 5  |

<sup>29</sup>All the information presented below was adapted from a handbook entitled "KET Handbook for Teachers" (2008).

|                                      |  |
|--------------------------------------|--|
| How many marks do candidates get?    | One mark for each correct answer.  |
| <b>Part 4 – Gap-fill</b>             |  |
| What's in Part4?                     | A recording with some information. Students listen to the recording and have to write the information they hear in a message or notes. |
| What do candidates have to practise? | Listening and writing down information correctly.  |
| How many questions are there?        | 5  |
| How many marks do candidates get?    | One mark for each correct answer.  |
| <b>Part 5 – Gap-fill</b>             |  |
| What's in Part5?                     | A monologue (one person is speaking). Students have to listen to the recording and fill in a message or notes.                         |
| What do candidates have to practise? | Listening and writing down information correctly.  |
| How many questions are there?        | 5  |
| How many marks do candidates get?    | One mark for each correct answer.  |

### 3.4.2 The Working Memory Span Test – BAMT

The working memory span test used was the BAMT - UFMG (*Bateria de avaliação da Memória de trabalho*). The test evaluates working memory capacity based on three interrelated tests: processing speed or efficiency, temporary storage and coordinative capacity. The test was formally validated with 832 participants; the study indicated that the test has reliability and validity and it is adequate for use in Brazil.

We selected a working memory span test in Portuguese, rather than in English, to eliminate the confound of L2 proficiency affecting the result of the working memory span test. In other words, L2 comprehension difficulties affecting the results differently for different participants (evidently, if L2 proficiency was homogenous, the test could be in English if the effects of proficiency were also homogenous, which is not the case).

Figure 7 shows an example of each test used to evaluate working memory capacity.

**Figure 7:** Examples of The Working Memory Test (BAMT)

| Alcance de computação na escrita |                |                          |
|----------------------------------|----------------|--------------------------|
| Quem?                            | Pôs o quê?     | Quem?                    |
| ( ) O galo                       | ( ) O ovo      | ( ) O namorado de Eunice |
| ( ) Juca                         | ( ) O cachorro | ( ) João                 |
| ( ) Óculos                       | ( ) O vento    | ( ) O tio de Eunice      |

| Lista de palavras |      |      |
|-------------------|------|------|
| FOTO              | RATO | NOTA |
| JILÓ              | DOCE | ÉGUA |
| COLA              | BONÉ | PÁ   |

### Compreensão de frases

Os meninos brincaram muito de peteca e de bola.

Quem?

- ( ) À janela
- ( ) Paulo
- ( ) Os meninos

Os vaqueiros sabem que o patrão gosta de gado.

Quem gosta de gado?

- ( ) Os homens
- ( ) O patrão
- ( ) A natureza

### 3.4.3 Questionnaire

Testing proficiency in a particular language is a complex task. Language is usually the means to measure a candidate's knowledge about a particular subject (Mathematics, Chemistry, for instance). Thus, language is the instrument, not the object of evaluation. However, in language tests, language is used to measure candidates' linguistic proficiency. Language is the instrument and is also the object itself.

According to Scaramucci (2000), proficiency involves appropriacy and language usage in a given context. Therefore, it would be more appropriate to state that one is more proficient when taking part in teleconferences, but lacks the same level of proficiency when writing a scientific paper, for instance. The author argues

we cannot say one is not proficient in English without considering the purpose of the situation or different levels of proficiency.

Although all participants had to take a leveling test (due to the English Course’s policy), we believed that a questionnaire<sup>30</sup> would tell us more about the 24 participants’ learning habits, exposure and use of English or another language in their daily routine.

Participants were given the questionnaire and asked to answer it at home not in class, so they would have more time to think about each question. We asked participants to pay more attention to simple facts, such as how many times they have to use English at work, university or when traveling. Participants were given a week to answer the questionnaire and give it back to their teacher.

By analyzing the results we found out that the 24 participants speak Portuguese (which is their mother tongue) and are currently learning English. Only 5 participants studied Spanish in High School and 2 participants studied German in High School (participants mentioned they see themselves as Spanish and Germany elementary students). When asked about how much English they speak in their daily lives, participants’ average answers were:

**Figure 8:** Questionnaire Results

| Use of English...            | Percentage |              |
|------------------------------|------------|--------------|
|                              | Control    | Experimental |
| at home                      | 0%         | 0%           |
| while visiting relatives     | 0%         | 0%           |
| in college                   | 10%        | 15%          |
| at work                      | 15%        | 23%          |
| in church / religious events | 0%         | 0%           |
| when visiting friends        | 0%         | 0%           |
| by phone                     | 15%        | 23%          |
| on vacation                  | 72%        | 75%          |
| when shopping                | 26%        | 31%          |

The results show that the majority of the participants do not use English to communicate in their daily lives, except when they are working or traveling on vacations. Therefore, different levels of exposure may not affect participants’ listening comprehension results.

<sup>30</sup> The questionnaire can be found in Appendix F

## 3.5 PROCEDURES

### 3.5.1 Listening comprehension pre-test

First we evaluated the control group (10 students in total) and then the experimental group (14 students in total). Classroom seats were arranged in rows (the seating arrangement is usually a horseshoe). We explained that students would be taking a mock test for the KET listening test; the mock test is part of the school's regular procedures. However, it was explained to the students that the results of the test would be used in a study on the relationship between listening comprehension and working memory capacity. The participants were given the informed consent form and were allowed some time to read and ask questions concerning the form. Next, each participant gave their signed informed consent.

All data were collected individually. Each subject received a booklet with 5 tasks (25 questions in total) which was handed in at the end of the test. The instructions were read to the 5 parts of the listening test; when students were ready we played the CD. The test ended in 30 minutes and the booklets were collected.

Data was coded in a spread sheet in which participants received a letter and a number of identification according to the group they belonged to, either control (C) or experimental (E), for instance, Mary – C1 and John – E7.

### 3.5.2 Working memory span

From the 10 participants in the control group, only 7 were in class in the first data collection. The remaining three participants were tested 2 classes later. The second group to be assessed was the experimental group. There are 14 students in this group and they were all present during the data collection. The participants (control and experimental group) were given the informed consent form and were allowed some minutes to read and ask questions concerning the form. After that, each participant gave signed informed consent and only a few students asked questions regarding working memory and L2 learning.

All data was collected individually, each subject received a booklet entitled "*Livro de Tarefas e Instruções para Aplicação em Grupos*". We explained to the

participants that the test was divided into 3 parts and that each part would be explained separately. The first part of the test is entitled “Alcance de apreensão na escrita”. The aim of this test is to answer questions and simultaneously memorize words. In order to help participants understand the task we prepared 3 questions similar to the ones used in the BAMT and gave them 3 alternatives for each question.

The questions and alternatives<sup>31</sup> were:

1) *João correu até a esquina. Quem?*

( ) *Carina*

( ) *João* \_\_\_\_\_

( ) *Rafael*

2) *A galinha põe ovos. O que?*

( ) *ovos*

( ) *cenouras* \_\_\_\_\_

( ) *trigo*

3) *Fui no shopping quinta-feira. Quando?*

( ) *ontem*

( ) *em dezembro* \_\_\_\_\_

( ) *quinta-feira*

The alternatives were written in a sheet of paper and participants had to listen to the sentences and answer them. The instructions given before the trail were:

- ❖ You have to answer questions and simultaneously memorize words;
- ❖ The alternatives for each problem are within frames;
- ❖ As each sentence is read, put an "x" in the correct answer. At the same time, memorize the last word of each sentence;
- ❖ When I say "you can transcribe", write down the words memorized in the line next to the corresponding problem;
- ❖ The order is important. Remember, do not write the words in the line before I say "you can transcribe."

After all participants assured they understood the task, we started the procedures for paper 1 “*Alcance de apreensão na escrita*”. Subjects were presented

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<sup>31</sup>It is important to mention that participants only received the answers. The questions were read out loud by the author of the research.



increasingly longer sets of sentences until they failed all three sets at a particular level. The test was terminated after all participants had failed at least two subsequent levels. The level at which a participant was correct on two out of three sets was taken as a measure of the participants' listening span.

The second part of the test is entitled “*Lista de palavras*”. In this part of the test participants were presented increasingly longer lists of words until they failed all three sets at a particular level. For instance:

| List of 3 words |      |      |
|-----------------|------|------|
| FOTO            | RATO | NOTA |
| JILÓ            | DOCE | ÉGUA |
| COLA            | BONÉ | PÁ   |

The instructions given to participants were:

- ❖ I am going to read lists of words for you to memorize;
- ❖ After I present each list, I want you to write the words from the list in the same order in which I read them;
- ❖ Use one line for each word;
- ❖ Attention! Only begin to write at the end of each list.

The task was administered right after instructions. At the end of task 2, participants mentioned they were feeling more comfortable and relaxed while performing the second task.

In part 3 of the test, entitled “*Compreensão de frases*,” participants were asked to read sentences (not listen, as in parts 1 and 2 of the BAMT) and choose the correct answer out of 3 alternatives (in 20 seconds); for instance:

- 1) Os meninos brincaram muito de peteca e de bola.  
Quem?
- ( ) À janela
  - ( ) Paulo
  - ( ) Os meninos

The instructions given to participants were:

- ❖ In this task you will answer questions about sentences;
- ❖ You will find all the sentences on the next page of your booklet;
- ❖ Attention! I want you to tick (✓) the correct answer;

- ❖ Work as fast as you can and answer as many questions as possible;
- ❖ When I say “go” you can start answering the questions and when I say “stop” you have to stop writing.

The task was administered right after instructions. After approximately 20 minutes the test was over and we collected the booklets. All booklets were corrected and data was coded using an excel spread sheet (entitled WM Span Test) in which participants received the same letter and number of identification from the pre-test spread sheet; the identification was made according to the group they belonged to: control (C) or experimental (E), for instance, Mary – C1 and John – E7.

### **3.5.3 Classroom procedures for explicit training and awareness raising of listening strategies.**

The experimental group (14 participants) received 2 months (15 lessons) of explicit training and awareness raising of listening strategies. According to Vandergrift (2004), a strategy-based approach aimed at raising student awareness in the process of listening should help learners overcome their difficulties. In every class, participants were invited to engage in a pre-, during and post- listening activity whose aim was to raise students’ awareness concerning listening strategies. Below we have the description of each lesson.

- Classroom Procedures

#### **Lesson1**

For the first lesson, each part of the test and the strategies were presented in a broader way. Students used the book “KET Practice Test 3”<sup>32</sup> and worked on Part 1 of the listening test, on pages 18 and 19. We asked a student to read the instructions

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<sup>32</sup>All the tasks mentioned in the classroom procedures can be found in Appendix D.

on page 18 and after that we showed the following instructions on the e-board (Interactive whiteboard<sup>33</sup>):

- ❖ Before you listen, read the questions and look at the choices to help you understand the topic and underline the important words in each question;
- ❖ First listening, listen out the underlined word or words that are like these.
- ❖ Remember to listen carefully for the tense (e.g. present simple, present perfect) and person (e.g. *he, she, they*) used in the question;
- ❖ Tick your answer in pencil on the question paper;
- ❖ Second listening, check if your choice of answer is correct and fill in any answers you didn't get the first time.

After Part 1, students were asked to turn to page 20. Again, a student was invited to read part 2 instructions aloud. Next, the following instructions were presented:

- ❖ The questions, 6-10, will be in the order in which you hear them;
- ❖ First listening, if there are two things mentioned (objects, places, days, etc.), think about which is the correct answer. Write down both words or letters next to the number if you aren't sure;
- ❖ Second listening, check if your choice of answer is correct and copy it to the answer sheet.

After Part 2, students were asked to turn to pages 21 and 22. A student was invited to read part 3 instructions aloud. After that the following instructions were presented:

- ❖ Before you listen, read through the questions carefully. You have 20 seconds to do this;
- ❖ First listening, you hear the conversation twice so don't worry if you don't hear all the answers the first time you listen;
- ❖ The first time you listen, tick your answers on the question paper. You have time at the end of the test to transfer your answers to your answer sheet;
- ❖ Second listening, check if your choice of answer is correct and copy it to the answer sheet.

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<sup>33</sup> An interactive whiteboard is a large, touch-sensitive panel that connects to a digital projector and a computer.

After Part 3, students were asked to turn to pages 23 and 24. Two different students were invited to read Parts 4 and 5 instructions aloud. Next, the following instructions were presented:

- ❖ Before you listen, read through the questions carefully.
- ❖ First listening, don't write down the first thing you hear. Make sure you answer the question.
- ❖ Write down your answer in pencil;
- ❖ Second listening, check if you are correct;
- ❖ Always write something, even if you are not sure your answer is right.

After the general instructions to Parts 1 to 5, students were asked to turn to Part 1 on pages 18 and 19 again. This was the listening task they had to perform in Lesson 1. The explicit training is described below:

a) We asked students to focus on question 1 "When did Gary start his new job?" First, we elicited the months of the year and highlighted the months in answers a, b and c (March, April and May, for instance). We asked: Is it a new or an old job? And we asked students to highlight the word "new".

b) Students were asked to focus on question 2 "What time does the film start?" First we elicited 4:00 and 7:00 (four o'clock and seven o'clock) and then we elicited the 2 forms of saying 4:30 (half past four and four-thirty) and 7:30 (half past seven and seven-thirty).

c) Students were asked to focus on question 3 "What was the weather like on Saturday?" We asked some concept questions<sup>34</sup> such as: "Is this question in the present, past or future?", "When was the picture taken...on Monday, on Sunday?", "What do pictures a and c have in common?", "What is different about picture b?" Next, we recycled words related to the weather, such as: sunny, rainy, windy, cloudy, stormy, cold, warm, hot and freezing.

d) Students were asked to focus on question 4 "Which motorway will they take?" Their first question was regarding the meaning of motorway. Some students believed that motorway was a road for motorcycles only. So, we explained the

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<sup>34</sup> Concept questions are questions used to check students' understanding of a particular topic. The use of concept questions is a tool that can assist students in obtaining a deeper learning experience, improve their understanding and ability to apply learning to new situations and enhance their critical thinking (Harmer, 2007).

meaning (motorway = freeway) and focused on the pronunciation of letters and numbers in English (M1, M6 and M62, for instance).

e) Students were asked to focus on question 5 “Which book does Lorna want?” First we ask students how we say “*cadeira*” and “*sofá*” in English. Second, we elicited the prepositions of place by using a book and placing it on, under, next to and behind a chair. Then we asked students: “Where is book “a”, “b” and “c”?”

f) Students were now ready to listen to Part 1 of the test. We reminded students they were supposed to listen to each question twice and pay attention to words and verb tenses we had studied minutes before. When the test was over, we checked the answers and most of them got 4 out of 5 answers correctly. When asked for feedback, they all reported feeling more comfortable and confident while performing the task; the reason was that they knew what to expect in each question.

## **Lesson 2**

The aim of lesson 2 was to do Part 2 of the KET listening paper. Students were asked to sit in pairs and open their book on page 20 (Part 2 of the exam).

a) Students were asked to have a look all the words from the task and circle the ones they did not know. After that, we checked the doubts as a group. They did not know 2 words: sweater and soft.

b) We read the instructions for part 2 (Listen to Sue talking about her new clothes. Why did Sue decide to buy each thing?). Students were asked to highlight key words such as *new clothes*, *why*, *decide to buy*. After that, we called students’ attention to the fact that there were 5 items of clothing but there were 8 possible answers, so 3 answers would not be used.

c) Students were asked to predict which item of clothing would go with each adjective and why? After that, some students were asked to share their predictions with the group.

d) Finally, we advised students to write their answers next to the correct box and only copy them in the box after having listened to the CD twice. When they were ready we played the CD. Most students did well and got 3/4 questions out of 5.

### **Lesson 3**

The aim of lesson 3 was to do Part 3 of the KET listening paper. Students were asked to open their book on page 21 (Part 3 of the exam).

a) We told students that Part 3 was always a dialogue and the questions were in order, so in case they missed an answer they could listen to the following question. Students were given 5 minutes to read the instructions and questions and circle the words/sentences they did not understand.

b) After that we went over the questions, one by one, and elicited from students which words they considered important. They were encouraged to underline the key words in each of the 5 questions. For instance:

Question 11 – How much is a travel card? 16 pounds (sixteen) and 60 pounds (sixty).

Question 12 – Jan will need...

Question 13 – Photos are less expensive in...

Question 14 – For the travel card, Jan must take...

Question 15 – Jan can get a travel card from...

c) When students were ready we played the CD twice.

### **Lesson 4**

The aim of lesson 4 was to do Part 4 of the KET listening paper. Students were asked to open their book on page 23 (Part 4 of the exam).

a) We began by reading the instructions for part 4 (You will hear a man speaking on the phone. Listen and complete questions 16 to 20).

b) Students were asked to sit in pairs and were allowed some minutes to read questions 16 to 20 and guess what kind of answer was expected from students according to the prompts in the task (for instance a last name, a phone number or a specific time).

c) According to students' feedback question 16 would require a last name. They were told that the last name would be spelled, so we revised the alphabet in English and stressed that letters "r" and "z" have a different sound in British English.

We also revised the sounds of letters “a”, “e” and “i”, which students usually confuse and letters “k”, “q” and “y”, which are not frequently used.

d) Since the objective of question 17 was to say the reason why a boy did not go to school and the previous words were “a bad\_\_\_”, students believed they would use the word “cold” to complete the question.

e) For questions 18 and 20 students guessed the answers would be numbers. For question 18 the number of pages from a book and question 20 the time the boy was supposed to return to school (because of the words “at” and “pm”). Therefore we revised the numbers and the distinction between the sounds of numbers finished with “teen” (as nineteen) and “ty” (as ninety). Regarding telling the time, we also revised “half past” (6:30), “quarter to”(6:45) and “quarter past”(6:15).

f) According to students’ opinion, question 19 would be a day of the week, due to the preposition “on” in David will return to school **on**\_\_\_\_\_. After that, we highlighted the importance of using the strategies mentioned during the pre-listening activity and played the CD twice. The majority of students got 4 out of 5 questions and 4 students got all correct.

## **Lesson 5**

The aim of lesson 5 was to do Part 5 of the KET listening paper. Students were asked to open their book on page 24 (Part 5 of the exam).

a) We started by reading the instructions for part 5 (You will hear some information about a pop concert. Listen and complete questions 21 to 25.).

b) Students were asked to sit in pairs and were allowed some minutes to read questions 21 to 25 and guess what kind of answer was expected from students according to the prompts in the task (for instance a date, a price or a specific time).

c) According to students’ feedback question 21 would require a number, because the example was “From: October, 28<sup>th</sup> to November, \_\_\_\_\_”. Students were reminded that when talking about dates in English they were supposed to use ordinal numbers (which is different from Portuguese), so we revised the endings **First**, **Second**, **Third**, **Fourth** and so on.

d) For questions 22 and 23 students guessed they were supposed to use numbers again. However, they would use numbers for prices (because of the symbol

“£”) and phone numbers. Therefore we reviewed the numbers and the distinction between the sounds of numbers finished with “teen” (as fourteen) and “ty” (as forty). We also reviewed the way people give their phone numbers in English, for instance: 33284530 - 33(double three), 28 (two, eight), 45 (four, five), 30 (three, oh).

e) According to students’ feedback questions 24 and 25 a name would be required (the name of a bank and a street). They were told that the names would be spelled, so we revised the alphabet in English and again stressed that letters “r” and “z” have a different sound in British English. We also revised the sounds of letters “a”, “e” and “i”, which students usually confuse and letters “k”, “q” and “y”, which are not frequently used. After that, we highlighted the importance of using the strategies mentioned during the pre-listening activity and played the CD twice. Most students got 4 out of 5 questions and 6 students got all correct.

## **Lesson 6**

The aim of lesson 6 was to do Part 1 of the KET listening paper. Students were asked to open their book on page 38 which is the Part 1 of the exam.

a) We asked students to focus on question 1 “What colour is Kathy’s bedroom now?” First, we elicited some colors in English and highlighted the ones in answers a, b and c (pink, green and blue, for instance). Students were asked to highlight the words “color” and “now”. They were warned that if the question is about Kathy’s bedroom now (present), probably the speakers would mention the color of her bedroom in the past, so as to confuse the listeners.

b) Students were asked to focus on question 2 “Which platform does the woman’s train leave from?” We asked them to highlight the words “platform”, “train leave from”. We warned students that the speakers might mention other platform numbers regarding other trips, so they should pay attention to the key words in the question.

c) Students were asked to focus on question 3 “How is Susan going to get to the airport?” and to highlight the words “how”, “get to the airport”. We asked some concept questions such as: “Is this question in the present, past or future?”, “Is Susan at the airport now?” After that, we elicited the means of transports presented in



answers a, b and c (a bus, a taxi and a train) and called students attention to other possibilities, such as: coach (bus) and cab (taxi).

d) Students were asked to focus on question 4 “Which is Anna’s family?” and to highlight the words “Which” and “Anna’s family.” We elicited some family members in English and students were allowed some minutes to have a closer look to each picture and try to find similarities and differences. After students’ feedback, we reviewed adjectives in the comparative and superlative form (taller, shorter, younger, older, the tallest, the youngest, for instance). Since characters’ clothes were all the same in pictures a, b and c, we decided not to revise clothes.

e) Students were asked to focus on question 5 “When is Kim’s birthday party?” and asked to highlight the words “when” and “birthday party.” We reviewed the months of the year and dates using ordinal numbers used in answers a, b and c and reminded students that the aim of question 5 was to find out when Kim’s birthday party was and not her birthday date.

f) Students were now ready to listen to Part 1 of the test. We reminded students they were supposed to listen to each question twice and pay attention to words and verb tenses we had studied minutes before. When the test was over, we checked the answers and most of the students got 4 out of 5 answers correctly.

## Lesson 7

The aim of lesson 7 was to do Part 2 of the KET listening paper. Students were asked to sit in pairs and open their book on page 40 which is the Part 2 of the exam.

a) Students were asked to read all the words from the task and circle the ones they did not know. After that, we checked the doubts as a group.

b) We read the instructions for part 2 (Listen to Rose talking to Steve about her day. What is Rose going to do at each time?). Students were asked to highlight key words such as “talking about *her* day”, and “at *each time*.” After that, we called students’ attention to the fact that there were 5 different times (using *a.m.* - *morning* and *p.m.* – *afternoon*) but there were 8 possible answers, so 3 answers would not be used.

c) Since the times were in order, students were asked to predict what Rose was going to do at each time and why? After that, some students were asked to share their predictions with the group (12 a.m. or 1 p.m. – letter b – have lunch, for instance)

d) Finally, we advised students to write their answers next to the correct box and only copy them in the box after having listened to the CD twice. When they were ready we played the CD. Most students did well and got 4 questions out of 5.

## **Lesson 8**

The aim of lesson 8 was to do Part 3 of the KET listening paper. Students were asked to open their book on pages 41 and 42 (Part 3 of the exam).

a) We told students that Part 3 was always a dialogue and the questions were in order, so in case they missed an answer they could listen to the following question. The aim of Part 3 was to listen to Peter talking to a friend about learning to drive. Students were given 5 minutes to read the instructions and questions and circle the words/sentences they did not understand (failed, crossing, traffic lights, unfriendly, for instance).

b) Next, went over the questions, one by one, and elicited from students which words they considered important. They were encouraged to underline those key words in each of the 5 questions. For instance:

Question 11 – Each driving lesson costs... 14 pounds (fourteen), 40 pounds (forty) and 60 pounds (sixty)

Question 12 – A lesson is... 30 (thirty), 45 (forty-five) or 60 (sixty) minutes

Question 13 – The teacher's car is...

Question 14 – Peter failed the test because he... a) drove too fast b) didn't see a crossing c) didn't stop at the traffic lights.

Question 15 – Peter thinks the teacher is too...

c) When students were ready we played the CD twice. Most students got 3 out of 5 answers.

## **Lesson 9**

The aim of lesson 9 was to do Part 4 of the KET listening paper. Students were asked to open their book on page 43 (Part 4 of the exam).

a) We started by reading the instructions for part 4 (You will hear a man asking about theatre tickets. Listen and complete questions 16 to 20.).

b) Students were asked to sit in pairs and were allowed some minutes to read questions 16 to 20 and guess what kind of answer was expected from students according to the prompts in the task (for instance a name, a price or a specific time).

c) According to students' feedback question 16 would require a specific time. We reviewed "half past" (8:30), "quarter to" (8:45) and "quarter past"(8:15) and numbers from 1 to 12 and o'clock.

d) The objective of questions 17 and 20 was to complete the name of a show and a street. They were told that the name would be spelled, so we reviewed the alphabet in English and stressed that letters "r" and "z" have a different sound in British English. We also revised the sounds of letters "a", "e" and "i", which students usually confuse and letters "k", "q" and "y", which are not frequently used.

e) Question 18 was about the ticket prices, which would cost £ 15 and £\_\_\_\_. So students predicted that the price missing would vary from 16 to 30 pounds.

f) According to students' opinion, question 19 would be a day of the week or a complete date, due to the preposition "on" in "All tickets £6 **on**\_\_\_\_\_." We reviewed the days of the week (highlighting the difference between Tuesday and Thursday and their sounds in British English), months of the year and ordinal numbers from 1<sup>st</sup> to 31<sup>st</sup>.

Next, we highlighted the importance of using the strategies mentioned during the pre-listening activity and played the CD twice. The majority of students got 4 out of 5 questions and 4 students got all correct.

## **Lesson 10**

The aim of lesson 10 was to do Part 5 of the KET listening paper. Students were asked to open their book on page 44 (Part 5 of the exam).

a) We started by reading the instructions for part 5 (You will hear some information about a health centre. Listen and complete questions 21 to 25.).

b) Students were asked to sit in pairs and were allowed 5 minutes to read questions 21 to 25 and guess what kind of answer was expected from students according to the prompts in the task (for instance a number, a name or a phone number).

c) For questions 21 and 24 students guessed they were supposed to use numbers. They would use phone numbers and bus numbers. Therefore we reviewed the numbers and the distinction between the sounds of numbers finished with “teen” (as fourteen) and “ty” (as forty). We also revised the way people say their phone numbers in English, for instance: 33284530 - 33(double three), 28 (two, eight), 45 (four, five), 30 (three, oh).

d) According to students’ feedback questions 22, 23 and 25 a name would be required (the name of a person, a chemist’s shop and a hospital). They were told that the names would be spelled, so we reviewed the alphabet in English and again stressed that letters “r” and “z” have a different sound in British English. We also revised the sounds of letters “a”, “e” and “i”, which students usually confuse and letters “k”, “q” and “y”, which are not frequently used.

After that, we highlighted the importance of using the strategies previously studied and played the CD twice. Most students got 4 out of 5 questions and 4 students got all correct.

## **Lesson 11**

The aim of lesson 11 was to do Part 1 of the KET listening paper. Students were asked to open their book on page 78 (Part 1 of the exam).

a) We asked students to focus on question 1 “Which is Tom’s mother?” First, we asked students to highlight the word “mother”, and then they were asked to look at the 3 pictures and try to find similarities and differences. For instance, all the 3 women were wearing earrings and glasses, two of them had short hair but only one was wearing a hat.

b) Students were asked to focus on question 2 “Where will the beach party be?” We asked students to highlight the words “beach party” and “be” and asked

them if the question was about a present, a past or a future event. Next, we elicited the vocabulary from pictures a, b and c (for instance, boat, sea, restaurant, tables, chairs, forest or woods)

c) Students were asked to focus on question 3 “What will Fiona wear to the dance?” and to highlight the words “will Fiona”, “wear” and “dance.” We asked some concept questions such as: “Is this question in the present, past or future?”, “Is Fiona at the party now?” After that, we elicited the items of clothing presented in answers a, b and c (pants, a dress and a skirt) and called students attention to other possibilities, such as: trousers (British English) or jeans.

d) Students were asked to focus on question 4 “What homework is the girl doing now?” and to highlight the words “homework” and “doing now”. We elicited some school subjects and asked students to have a closer look at answers a, b, c (Science, Maths and English) and highlight them.

e) Students were asked to focus on question 5 “What’s David going to buy?” and asked to highlight the words “what” and “buy”. We asked students to look at pictures a, b and c and elicited possible answers, for instance, apples, oranges and orange juice. Since there were oranges and orange juice (which could be confusing), students guessed that the answer would be one of them and they were right.

f) Students were now ready to listen to Part 1 of the test. We reminded students they were supposed to listen to each question twice and pay attention to words and verb tenses we had revised. When the test was over, we checked the answers and most of the students got 5 out of 5 answers correctly.

## Lesson 12

The aim of lesson 12 was to do Part 2 of the KET listening paper. Students were asked to sit in pairs and open their book on page 80 (Part 2 of the exam).

a) Students were asked to have a look all the words from the task and circle the ones they did not know. Next, we checked the doubts as a group. Students did not have any doubts, probably because there were only names and numbers.

b) We read the instructions for part 2 (Listen to Sonya talking to Martin about her family. How old are her brothers and sisters?). Students were asked to highlight key words such as “**Sonya** talking about **her family**”, and “**how old/ brothers** and

**sisters**". After that, we called students' attention to the fact that there were 5 different names (for instance, Sally, Roger and Frank) but there were 8 possible answers, so 3 answers would not be used.

c) Since the ages varied between 2 to 10 and 13 to twenty, students were asked to predict what age each brother and sister was.

d) Finally, we advised students to write their answers next to the correct box and only copy them in the box after having listened to the CD twice. When they were ready we played the CD. Most students did well and got 3/4 questions out of 5.

### **Lesson 13**

The aim of lesson 13 was to do Part 3 of the KET listening paper. Students were asked to open their book on pages 81 and 82 (Part 3 of the exam).

a) We told students that Part 3 was always a dialogue and the questions were in order, so in case they missed an answer they could listen to the following question. The aim of Part 3 was to listen to a woman asking a travel agent for some information about a park in the mountains. Students were given some time to read the instructions and questions and circle the words/sentences they did not understand (guest-house, on foot and go through the park for instance).

b) After that we went over the questions, one by one, and elicited from students which words they considered important. They were encouraged to underline those key words in each of the 5 questions. For instance:

Question 11 – In the park there is...

Question 12 – The village has a...

Question 13 – You can only go through the park...

Question 14 – On weekends the visit to the parks costs...

Question 15 –In the park the woman will see...

c) When students were ready we played the CD twice. Most students got 4 out of 5 answers.

## Lesson 14

The aim of lesson 14 was to do Part 4 of the KET listening paper. Students were asked to open their book on page 83 (Part 4 of the exam).

a) We started by reading the instructions for part 4 (You will hear Mats talking to his friend, Sarah about a trip to Manchester in England. Listen and complete questions 16 to 20.).

b) Students were asked to sit in pairs and were allowed 5 minutes to read questions 16 to 20 and guess what kind of answer was expected from students according to the prompts in the task (for instance the temperature, an item of clothing or a specific price).

c) According to students' feedback question 16 would require a temperature because of the word *degrees*. We asked them what the weather was like in England in the autumn and their answer was warm, around 18<sup>o</sup> degrees. We revised numbers from 12 to 30, based on students' guesses.

d) The objective of question 17 was to say what Mats would need to wear, so we reviewed items of clothing that people might wear in the autumn and other clothes (jeans, t-shirt, trainers, sunglasses and sweater, for instance).

e) Question 18 required a name, more specifically the name of a train station in London. We elicited some train stations in London and students came up with King's Cross, Queen's Park and Waterloo. We wrote them on the board and asked students to spell them as a group.

f) According to students' opinion, question 19 would be the cost of a train ticket, so again we revised numbers.

g) Question 20 was not very easy to guess, according to students. They had to guess what Mats would have to take to Sarah. The only hint was that the word students would listen to was in the plural or an uncountable noun, due to the word "some" in "Take Sarah **some**..."

We highlighted the importance of using the strategies mentioned during the pre-listening activity and played the CD twice. The majority of students got 4 out of 5 questions and 9 students got all correct.

## **Lesson 15**

The aim of lesson 15 was to do Part 5 of the KET listening paper. Students were asked to open their book on page 84 (Part 5 of the exam).

a) We started by reading the instructions for part 5 (You will hear some information about a museum. Listen and complete questions 21 to 25.).

b) Students were asked to sit in pairs and were allowed 5 minutes to read questions 21 to 25 and guess what kind of answer was expected from students according to the prompts in the task (for instance a price, a month or a phone number).

c) For questions 21 and 22 students believed they would need the words old *paintings/sculptures* and *new/modern* artists. Although students' predictions were very good, they were warned to pay attention to questions 21 and 22 anyway.

d) According to students' feedback question 23 would require a month of the year, so we revised all the 12 months of the year.

e) For questions 24 and 25 students guessed they were supposed to use numbers. They would need a ticket price and a phone numbers. Therefore we reviewed the numbers and the distinction between the sounds of numbers finished with "teen" (as fourteen) and "ty" (as forty). We also revised the way people say their phone numbers in English, for instance: 33284530 - 33(double three), 28 (two, eight), 45 (four, five), 30 (three, oh).

After that, we highlighted the importance of using the strategies previously studied and played the CD twice. Most students got 4 out of 5 questions and 8 students got all correct.

### **3.5.4 Listening comprehension post-test**

The first group assessed was the control group (10 students), and next the experimental group (14 students). The classroom was organized similarly to the first part of the experiment: the seats were arranged in rows (the seating arrangement is usually a horseshoe). We explained that they would be doing a complete KET listening mock test, which was part of the research on the relationship between



listening comprehension and working memory. We also explained that the test was similar to the test taken two months earlier.

All data was collected individually, each subject received a booklet with 5 tasks which was handed in at the end of the test. We explained the 5 parts of the listening test and when students were ready we played the CD. Students seemed to be at ease and perhaps a bit more relaxed if compared to the pre-test. We believe it was due to their previous experience with the exam format. After approximately 30 minutes the test was over and we collected the booklets.

Four days after the mock test all the booklets were corrected and data was coded using another excel spread sheet (entitled post-test) in which participants received the same letter and number of identification from the pre-test according to the group they belonged to, either control (C) or experimental (E), for instance, Mary – C1 and John – E7.

### **3.5.5 Data analysis**

Data from all the tasks (Working Memory Test – BAMT and Listening Comprehension pre and post-test – KET) were entered in a spread sheet and submitted to statistical treatment. First, a descriptive analysis of the data was conducted; it provided an overview of the groups' performance in the tasks mentioned above. The minimum, maximum, the average scores and the standard deviation for each group were provided by the descriptive analysis.

#### **3.5.5.1 Data analysis of the relationship between Working Memory and Listening Comprehension**

To analyze the relationship between Working Memory and Listening Comprehension we used a nonparametric test designed to determine the degree of association between two variables “x” and “y” entitled “Regression and Correlation analyses” described by Triola (1999:88). Regression and correlation are two closely related techniques that involve a form of estimation. The correlation and regression analyses aim at identifying whether and how two or more variables are associated in

a given data universe. A simple linear regression is an attempt to establish a mathematical equation that describes the linear relationship.

Correlation analyses provide a number that summarizes the degree of relationship between two variables, whereas regression analyses result in a mathematical equation that describes this relationship.

### 3.5.5.2 Data analysis of Listening comprehension pre-test and post-test

To analyze whether the experimental group had increased their scores in the KET listening test after two months (15 lessons) of explicit instructions on listening strategies we used a nonparametric test which is considered adequate to compare 2 medians entitled “The Wilcoxon Rank-Sum test for independent samples” described by Triola (1999:325). The Wilcoxon Rank-Sum test for independent samples is a nonparametric test that uses data samples from two independent populations. It is used to test the null hypothesis that two independent samples come from populations with equal median. Therefore, if the final result shows a different number for each population the hypothesis is confirmed. The mathematical equation used to calculate the result is:

$$z = \frac{R - \mu_R}{\frac{\sigma_R}{\sqrt{2}}}$$

$$\mu_R = \frac{n_1(n_1 + n_2 + 1)}{2} \quad \text{and} \quad \sigma_R = \sqrt{\frac{n_1 n_2 (n_1 + n_2 + 1)}{12}}$$

|           |            |   |              |
|-----------|------------|---|--------------|
| <b>n1</b> | <b>10</b>  | $\mu_R = \frac{10(10+14+1)}{2}$                     | <b>125</b>   |
| <b>n2</b> | <b>14</b>  | $\sigma_R = \sqrt{\frac{10 \cdot 14(10+14+1)}{12}}$ | <b>17.08</b> |
| <b>R1</b> | <b>79</b>  | <b>Z =</b>  | <b>-2.69</b> |
| <b>R2</b> | <b>217</b> | <b>Z 5% significance =</b>                          | <b>-1.96</b> |

In the next chapter we present and discuss the results.

## 4 RESULTS AND DISCUSSION

The primary aim of the present study was to investigate whether individual differences in working memory capacity of L2 low-proficiency learners would predict listening comprehension performance in the proficiency exam KET. The subsidiary aim was to investigate whether learners would improve their KET (Key English Test) scores after two months of explicit training of listening strategies.

The hypotheses of the study were:

- Individual differences in working memory capacity predict listening comprehension performance in the KET tasks;
- Subjects would improve their scores in the KET tasks after 2 months of explicit training of listening strategies.

The results suggest that the hypotheses were confirmed. Individual differences in working memory capacity may be a predictor of listening comprehension performance in the KET tasks  $r = .66$  and  $p < 0.0002245$  for the WM task “*Alcance de apreensão na escrita*”, and  $r = .38$  and  $p < .031$  for the sentence Comprehension task “*Compreensão de Frases*” and  $r = .87$  and  $p < .0000001$  for the list of words task “*Lista de Palavras*”. In relation to the second hypothesis, the study showed an improvement in KET tasks scores after 2 months of explicit training and awareness raising of listening strategies,  $z = -1.96$  (result of The Wilcoxon Rank-Sum test for independent samples). The scores of the experimental group increased 14% after 2 months of explicit training on listening strategies, whereas the scores of the control group decreased 3%.

### 4.1 LISTENING COMPREHENSION AND WORKING MEMORY (BAMT-UFMG)

In this section we discuss the results obtained in the 3 tasks of the Working Memory Test entitled BAMT – UFMG (Battery for Working Memory Assessment).

#### 4.1.1 Working Memory Test: “*Alcance de apreensão na escrita*” and Listening Comprehension

The working memory test applied measures subjects’ capacity to store and process information at the same time. According to Craik (2000) working memory is involved in tasks that allow us to make sense of what we read, listen and speak and is essential for mental calculation and problem-solving, reasoning, and planning. In addition, WM tasks involve the “manipulation, storage, and transformations of held material” for a short period of time which is the aim of the test “*Alcance de apreensão na escrita.*” The results found suggest that individual differences in working memory capacity may predict listening comprehension performance in the KET tasks ( $r = .66$  and  $p < 0.001$ ).

Table 1 presents the participants’ scores for the Working Memory test in comparison to participants’ scores for the listening Pre-test and a graph showing the Regression and Correlation analyses based on the results.

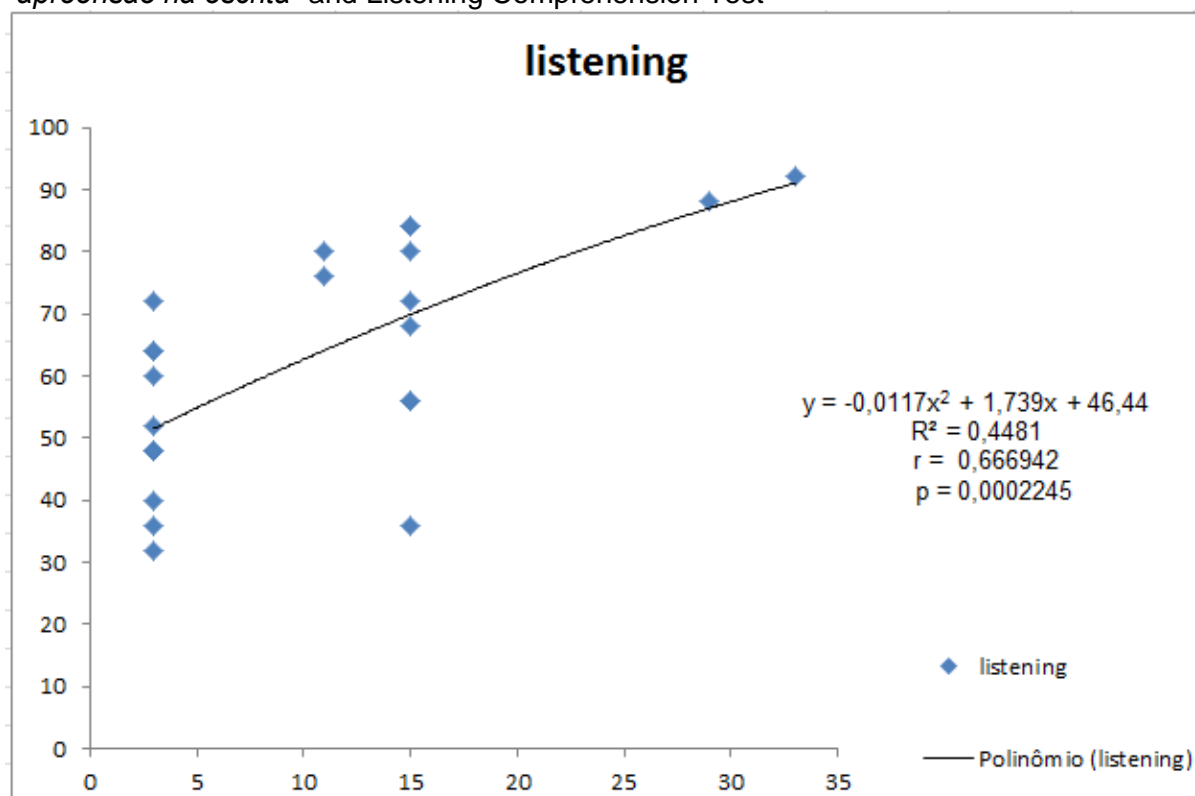
**Table 1:** Working Memory Test “*Alcance de apreensão na escrita*” and Listening Comprehension Test

| PARTICIPANTS | WORKING MEMORY | LISTENING PRE-TEST |
|--------------|----------------|--------------------|
| C1           | 15             | 72                 |
| C2           | 3              | 36                 |
| C3           | 3              | 48                 |
| C4           | 15             | 56                 |
| C5           | 15             | 36                 |
| C6           | 15             | 84                 |
| C7           | 3              | 32                 |
| C8           | 15             | 56                 |
| C9           | 3              | 72                 |
| C10          | 15             | 68                 |
| E1           | 11             | 76                 |
| E2           | 15             | 84                 |
| E3           | 11             | 80                 |
| E4           | 33             | 92                 |
| E5           | 3              | 52                 |
| E6           | 3              | 64                 |
| E7           | 15             | 80                 |
| E8           | 29             | 88                 |
| E9           | 3              | 60                 |
| E10          | 3              | 48                 |
| E11          | 3              | 48                 |
| E12          | 3              | 64                 |
| E13          | 3              | 40                 |
| E14          | 3              | 48                 |

**Table 2:** Working Memory Test “*Alcance de apreensão na escrita*” and Listening Comprehension Test: Average Score and Standard Deviation

| GROUP        | WM<br>(Average Score) | WM<br>(Standard Deviation) | LISTENING<br>(Average Score) | LISTENING<br>(Standard Deviation) |
|--------------|-----------------------|----------------------------|------------------------------|-----------------------------------|
| CONTROL      | 10.20                 | 6.20                       | 56.00                        | 17.89                             |
| EXPERIMENTAL | 9.86                  | 10.13                      | 66.00                        | 17.24                             |

**Figure 9:** Regression and Correlation Analyses: Working Memory Test “*Alcance de apreensão na escrita*” and Listening Comprehension Test



The results suggest that the ability to maintain and process information, as measured by the BAMT test applied in the study, predicts the ability to actively maintain and process auditory information. According to Unsworth & Engle (2007) individuals with low scores on complex working memory span tasks (low WMC individuals) are poorer at actively maintaining information than are individuals who score high on complex working memory span tasks (high WMC individuals).

#### 4.1.2 Working Memory Test “*Compreensão de Frases*” and Listening Comprehension

The test of speed of processing, “*Compreensão de Frases*” also may predict performance in the listening comprehension task. Though this test taps into the component of speed of processing, the results suggest a significant correlation between the scores and the test  $r = .38$  and  $p < .05$ . “Processing speed is a basic cognitive or brain processes that subserves many other higher-order cognitive domains (Salthouse, 1996:408)”. Among those higher domains is executive functioning, a somewhat broad construct that involves the organization of behaviors and behavior responses, selective attention of pertinent information and suppression of unnecessary information, and maintenance and shifting of cognitive sets. According to the author, cognitive performance is degraded when processing is slow because relevant operations cannot be successfully executed (limited time) and because the products of early processing may no longer be available when later processing is complete (simultaneity).

Table 3 shows the scores for the Working Memory test “*Compreensão de Frases*”:

**Table 3:** Working Memory Test “*Compreensão de Frases*” and Listening Comprehension

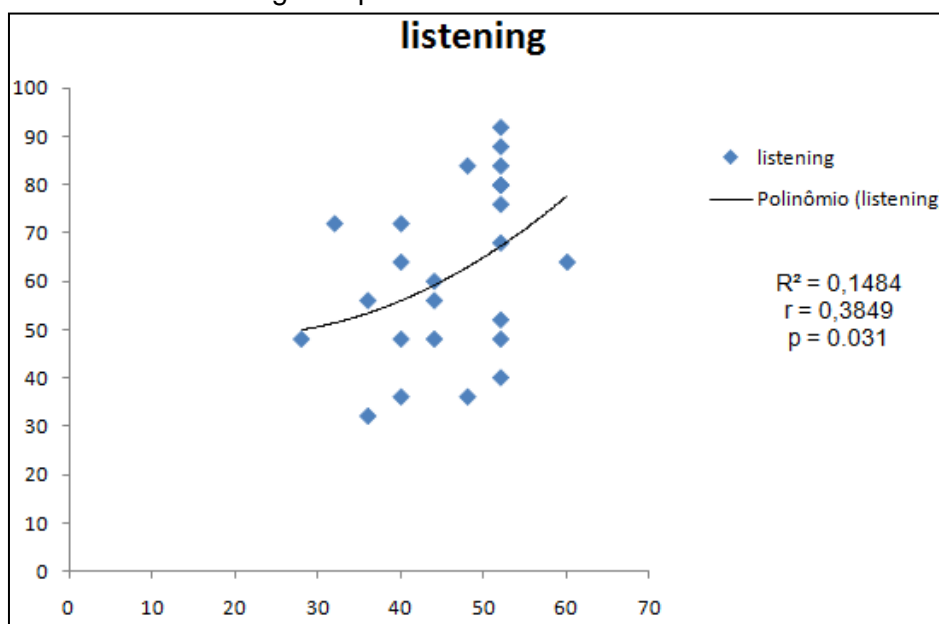
| <b>PARTICIPANTS</b> | <b>SENTENCE COMPREHENSION</b> | <b>LISTENING PRE-TEST</b> |
|---------------------|-------------------------------|---------------------------|
| C1                  | 40                            | 72                        |
| C2                  | 40                            | 36                        |
| C3                  | 40                            | 48                        |
| C4                  | 36                            | 56                        |
| C5                  | 48                            | 36                        |
| C6                  | 52                            | 84                        |
| C7                  | 36                            | 32                        |
| C8                  | 44                            | 56                        |
| C9                  | 32                            | 72                        |
| C10                 | 52                            | 68                        |
| E1                  | 52                            | 76                        |
| E2                  | 48                            | 84                        |
| E3                  | 52                            | 80                        |
| E4                  | 52                            | 92                        |
| E5                  | 52                            | 52                        |
| E6                  | 40                            | 64                        |
| E7                  | 52                            | 80                        |
| E8                  | 52                            | 88                        |
| E9                  | 44                            | 60                        |
| E10                 | 28                            | 48                        |

|     |    |    |
|-----|----|----|
| E11 | 44 | 48 |
| E12 | 60 | 64 |
| E13 | 52 | 40 |
| E14 | 52 | 48 |

**Table 4:** Working Memory Test “*Compreensão de Frases*” and Listening Comprehension: Average Score and Standard Deviation.

| GROUP        | <i>Compreensão de Frases</i><br>(Average Score) | <i>Compreensão de Frases</i><br>(Standard Deviation) | LISTENING<br>(Average Score) | LISTENING<br>(Standard Deviation) |
|--------------|---|--|------------------------------|-----------------------------------|
| CONTROL      | 42.00   | 6.86   | 56.00                        | 17.89                             |
| EXPERIMENTAL | 48.57   | 7.66   | 66.00                        | 17.24                             |

**Figure 10:** Regression and Correlation Analyses: Working Memory Test “*Compreensão de Frases*” and Listening Comprehension



#### 4.1.3 Working Memory Test “*Lista de Palavras*” and Listening Comprehension

The aim of the working memory task “*Lista de Palavras*” was to listen to lists of words. Each list started with 3 words (3 columns of 3 words each) and increased up to 6 words (6 columns of 6 words each), which was the maximum level reached by all the participants.



The results indicate that individual differences in working memory capacity predict differences in listening comprehension performance in the KET tasks  $r = .8735$  and  $p < .0001$ .

Table 5 shows the participants' scores for the working memory test in comparison to the participants' scores for the Listening Pre-test:

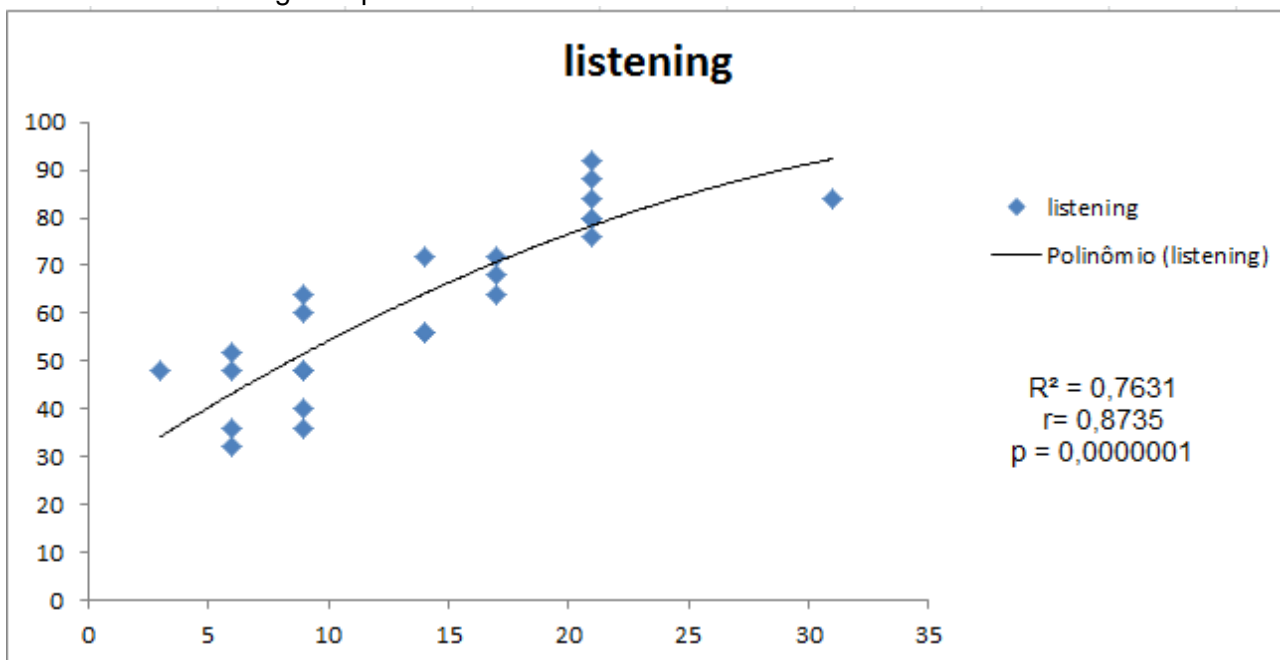
**Table 3:** Working Memory Test “*Lista de palavras*” and Listening Comprehension

| PARTICIPANTS | WORD LIST | LISTENING PRE-TEST |
|--------------|-----------|--------------------|
| C1           | 17        | 72                 |
| C2           | 6         | 36                 |
| C3           | 9         | 48                 |
| C4           | 14        | 56                 |
| C5           | 9         | 36                 |
| C6           | 21        | 84                 |
| C7           | 6         | 32                 |
| C8           | 14        | 56                 |
| C9           | 14        | 72                 |
| C10          | 17        | 68                 |
| E1           | 21        | 76                 |
| E2           | 31        | 84                 |
| E3           | 21        | 80                 |
| E4           | 21        | 92                 |
| E5           | 6         | 52                 |
| E6           | 9         | 64                 |
| E7           | 21        | 80                 |
| E8           | 21        | 88                 |
| E9           | 9         | 60                 |
| E10          | 3         | 48                 |
| E11          | 6         | 48                 |
| E12          | 17        | 64                 |
| E13          | 9         | 40                 |
| E14          | 9         | 48                 |

**Table 4:** Working Memory Test “*Lista de palavras*” and Listening Comprehension: Average Score

| GROUP        | Lista de Palavras<br>(Average Score) | WM<br>(Standard Deviation) | LISTENING<br>(Average Score) | LISTENING<br>(Standard Deviation) |
|--------------|--------------------------------------|----------------------------|------------------------------|-----------------------------------|
| CONTROL      | 12.70                                | 5.03                       | 56.00                        | 17.89                             |
| EXPERIMENTAL | 14.57                                | 8.26                       | 66.00                        | 17.24                             |

**Figure 11:** Regression and Correlation Analyses: Working Memory Test “*Compreensão de Frases*” and Listening Comprehension



Individual differences in working memory capacity predicted listening comprehension performance in the KET tasks  $r = .87$  and  $p < .0001$ .

Different from the listening span task, this task does not require the storage and processing of information at the same time. For the task “*Lista de Palavras*,” participants were supposed to store information only. The first studies using list of words were the studies carried out under the free-recall paradigm, in which participants were presented with lists of unrelated words and asked to recall as many words as possible in any order (different from the BAMT, in which participants are presented with lists of unrelated words and asked to recall as many words as possible in the order they are presented). When recall was immediate, these studies consistently showed a recency effect<sup>35</sup>. When recall was delayed, the recency effect disappeared, which led researchers to suggest that for immediate recall, items were maintained in a kind of temporary storage, while for delayed recall, items were retrieved from a long-term store.

The distinction between short-term memory and working memory is not as simple as it may seem but that is largely the result of different investigators using

<sup>35</sup> According to Baddeley (1990:31), recency effect refers to the enhanced recall of the most recently presented items.

different definitions. Miller et al. (1960) used the term “working memory” to refer to temporary memory from a functional standpoint, so from their point of view there is no clear distinction between short-term and working memory. Baddeley and Hitch (1974) were fairly consistent with this definition but overlaid some descriptions on the terms that distinguished them. They claimed that short-term memory was an unitary holding place as described by, for example, Atkinson and Shiffrin (1968). When they realized that the evidence actually was consistent with a multi-component system that could not be reduced to a unitary short-term store, they used the term working memory to describe that entire system. Cowan (1995) maintained a multi-component view, like Baddeley and Hitch, but without a commitment to precisely their components; instead, the basic subdivisions of working memory were said to be the short-term storage components.

According to participants’ report the task “*Lista de Palavras*” was easier than the task “*Alcance de apreensão na escrita*”, because they only had to listen and memorize a list of words. The majority of the participants claimed to have kept the words in mind by repeating the words over and over again, until they were told to write the list of words down. What participants did not know is that there is a process whereby one imagines how the words on the list are pronounced without saying them aloud, a process called covert verbal rehearsal. With practice, this process comes to occur with a minimum of attention. Guttentag et al (1984) used a secondary task to show that rehearsal of a list to be recalled was effortful in young children, but not in adults. If, in a particular experimental procedure, no loss of short-term memory is observed, one can attribute that response pattern to rehearsal. Therefore, steps have been taken to eliminate rehearsal through a process termed articulatory suppression, in which a simple utterance such as the word “the” is repeatedly pronounced by the participant during part or the entire short-term memory task (e.g., Baddeley et al., 1975).

In summary, as far as individual differences are concerned, Just and Carpenter (1992), state that the nature of a person's language comprehension depends on his or her working memory capacity. The results presented above suggested that individual differences in working memory capacity may predict listening comprehension performance. The results also demonstrated that larger WM capacity generally facilitates the process of skill learning (in this case listening) and

knowledge acquisition, by making it easier for learners to keep all the relevant pieces of information simultaneously active within WM, which, according to Daneman and Green (1986), is a process considered crucial for forming a new production rule or putting together different pieces of relevant information in order to make appropriate inferences.

#### 4.1.4 Listening Pre-test Data Analysis – Control and Experimental Group

For the listening pre-test task all data was collected individually, each subject received a booklet with 5 tasks (25 questions in total) which was handed in at the end of the test. The test lasted for approximately 30 minutes.

Table 7 shows the results found in Listening Pre-test.

**Table 7:** Listening Pre-test Data Analysis – Control (10 participants) and Experimental Group (14 participants).

| <b>PARTICIPANTS</b> | <b>GROUP</b> | <b>LISTENING PRE-TEST</b> |
|---------------------|--------------|---------------------------|
| C1                  | CONTROL      | 72                        |
| C2                  | CONTROL      | 36                        |
| C3                  | CONTROL      | 48                        |
| C4                  | CONTROL      | 56                        |
| C5                  | CONTROL      | 36                        |
| C6                  | CONTROL      | 84                        |
| C7                  | CONTROL      | 32                        |
| C8                  | CONTROL      | 56                        |
| C9                  | CONTROL      | 72                        |
| C10                 | CONTROL      | 68                        |
| E1                  | EXPERIMENTAL | 76                        |
| E2                  | EXPERIMENTAL | 84                        |
| E3                  | EXPERIMENTAL | 80                        |
| E4                  | EXPERIMENTAL | 92                        |
| E5                  | EXPERIMENTAL | 52                        |
| E6                  | EXPERIMENTAL | 64                        |
| E7                  | EXPERIMENTAL | 80                        |
| E8                  | EXPERIMENTAL | 88                        |
| E9                  | EXPERIMENTAL | 60                        |
| E10                 | EXPERIMENTAL | 48                        |
| E11                 | EXPERIMENTAL | 48                        |
| E12                 | EXPERIMENTAL | 64                        |
| E13                 | EXPERIMENTAL | 40                        |
| E14                 | EXPERIMENTAL | 48                        |

**Table 8:** Listening Pre-test Data Analysis: Average Score and Standard Deviation

| GROUP        | LISTENING<br>(Average Score) | LISTENING<br>(Standard Deviation) |
|--------------|------------------------------|-----------------------------------|
| CONTROL      | 56                           | 17.8                              |
| EXPERIMENTAL | 66                           | 17.2                              |

#### 4.1.5 Listening Post-test Data Analysis – Control and Experimental Group

Table 9 shows the results for the post-test.

**Table 9:** Listening Post-test Analysis – Control and Experimental Group

| PARTICIPANTS | GROUP        | LISTENING POST-TEST |
|--------------|--------------|---------------------|
| C1           | CONTROL      | 70                  |
| C2           | CONTROL      | 36                  |
| C3           | CONTROL      | 45                  |
| C4           | CONTROL      | 58                  |
| C5           | CONTROL      | 44                  |
| C6           | CONTROL      | 80                  |
| C7           | CONTROL      | 30                  |
| C8           | CONTROL      | 60                  |
| C9           | CONTROL      | 56                  |
| C10          | CONTROL      | 64                  |
| E1           | EXPERIMENTAL | 84                  |
| E2           | EXPERIMENTAL | 85                  |
| E3           | EXPERIMENTAL | 82                  |
| E4           | EXPERIMENTAL | 95                  |
| E5           | EXPERIMENTAL | 65                  |
| E6           | EXPERIMENTAL | 87                  |
| E7           | EXPERIMENTAL | 80                  |
| E8           | EXPERIMENTAL | 87                  |
| E9           | EXPERIMENTAL | 60                  |
| E10          | EXPERIMENTAL | 80                  |
| E11          | EXPERIMENTAL | 60                  |
| E12          | EXPERIMENTAL | 64                  |
| E13          | EXPERIMENTAL | 60                  |
| E14          | EXPERIMENTAL | 60                  |

**Table 10:** Listening Post-test Analysis – Control and Experimental Group: Average Score and Standard Deviation

| GROUP        | LISTENING<br>(Average Score) | LISTENING<br>(Standard Deviation) |
|--------------|------------------------------|-----------------------------------|
| CONTROL      | 54                           | 15.5                              |
| EXPERIMENTAL | 75                           | 12.6                              |

The results for the Experimental Group, who received 2 months (15 lessons) of explicit training on listening strategies focusing on the *KET* test, show a significant improvement (75) in comparison to the Control Group (54). I

Table 11 shows the results obtained by the Control Group decreased from the Pre-test to the Post-Test.

**Table 11:** Comparison between results obtained from the Listening Pre-test and Post-Test

| PARTICIPANTS | GROUP        | LISTENING<br>PRE-TEST | LISTENING<br>POST-TEST | VARIATION |
|--------------|--------------|-----------------------|------------------------|-----------|
| C1           | CONTROLE     | 72                    | 70                     | -2.7778   |
| C2           | CONTROLE     | 36                    | 36                     | 0.0000    |
| C3           | CONTROLE     | 48                    | 45                     | -6.2500   |
| C4           | CONTROLE     | 56                    | 58                     | 3.5714    |
| C5           | CONTROLE     | 36                    | 44                     | 22.2222   |
| C6           | CONTROLE     | 84                    | 80                     | -4.7619   |
| C7           | CONTROLE     | 32                    | 30                     | -6.2500   |
| C8           | CONTROLE     | 56                    | 60                     | 7.1429    |
| C9           | CONTROLE     | 72                    | 56                     | -22.2222  |
| C10          | CONTROLE     | 68                    | 64                     | -5.8824   |
| E1           | EXPERIMENTAL | 76                    | 84                     | 10.5263   |
| E2           | EXPERIMENTAL | 84                    | 85                     | 1.1905    |
| E3           | EXPERIMENTAL | 80                    | 82                     | 2.5000    |
| E4           | EXPERIMENTAL | 92                    | 95                     | 3.2609    |
| E5           | EXPERIMENTAL | 52                    | 65                     | 25.0000   |
| E6           | EXPERIMENTAL | 64                    | 87                     | 35.9375   |
| E7           | EXPERIMENTAL | 80                    | 80                     | 0.0000    |
| E8           | EXPERIMENTAL | 88                    | 87                     | -1.1364   |
| E9           | EXPERIMENTAL | 60                    | 60                     | 0.0000    |
| E10          | EXPERIMENTAL | 48                    | 80                     | 666667    |
| E11          | EXPERIMENTAL | 48                    | 60                     | 25.0000   |
| E12          | EXPERIMENTAL | 64                    | 64                     | 0.0000    |
| E13          | EXPERIMENTAL | 40                    | 60                     | 50.0000   |
| E14          | EXPERIMENTAL | 48                    | 60                     | 25.0000   |

**Table 12:** Comparison between results obtained from the Listening Pre-test and Post-Test: Average Score and Standard Deviation

| GROUP        | LISTENING<br>(Average Score: Pre<br>and Post-Test) | LISTENING<br>(Standard Deviation: Pre<br>and Post-Test) |
|--------------|--|---|
| CONTROL      | 55   | 16.32   |
| EXPERIMENTAL | 70   | 15.52   |

The Control group (10 participants) had an average score of 56 in the Listening Pre-test and a score of 54 after two months (the Post-test), which shows a variation of - 3%. Therefore, the results from the Control group decreased 3%. However, the Experimental group achieved a score of 66 in the Listening Pre-test and a score of 75 after two months (the Post-test), which shows a variation of 14%. Table 13 shows the results from the Experimental group increased 14% after two months of explicit training on listening strategies<sup>36</sup>.

**Table 13:** Data Analysis Summary

| <b>GROUP</b> | <b>NUMBER OF PARICIPANTS</b> | <b>LISTENING PRE-TEST</b> | <b>LISTENING POST-TEST</b> | <b>VARITION</b> |
|--------------|------------------------------|---------------------------|----------------------------|-----------------|
| CONTROL      | 10                           | 56                        | 54                         | -3%             |
| EXPERIMENTAL | 14                           | 66                        | 75                         | 14%             |

The first conclusion that can be drawn based on the results presented in Tables 9, 11 and 13 above is that the use of Top-down and Bottom-up strategies was quite effective for the Experimental Group, whose listening scores increased 14% after having received the explicit training on listening strategies. Hedge (2007) claims that top-down strategies rely on the use of context and prior knowledge (topic, genre, culture, and other types of schemata) to build a conceptual framework for comprehension. Bottom-up strategies rely on the decoding of smaller units of auditory information. Bottom-up strategies are text/speech based. Listeners rely on the combination of sounds, words, and grammar that creates meaning. According to Hedge (2007), listeners use whatever clues they have available to infer meaning from the developing speech in order to overcome their limitations in the ability to process information while listening and completing comprehension tasks.

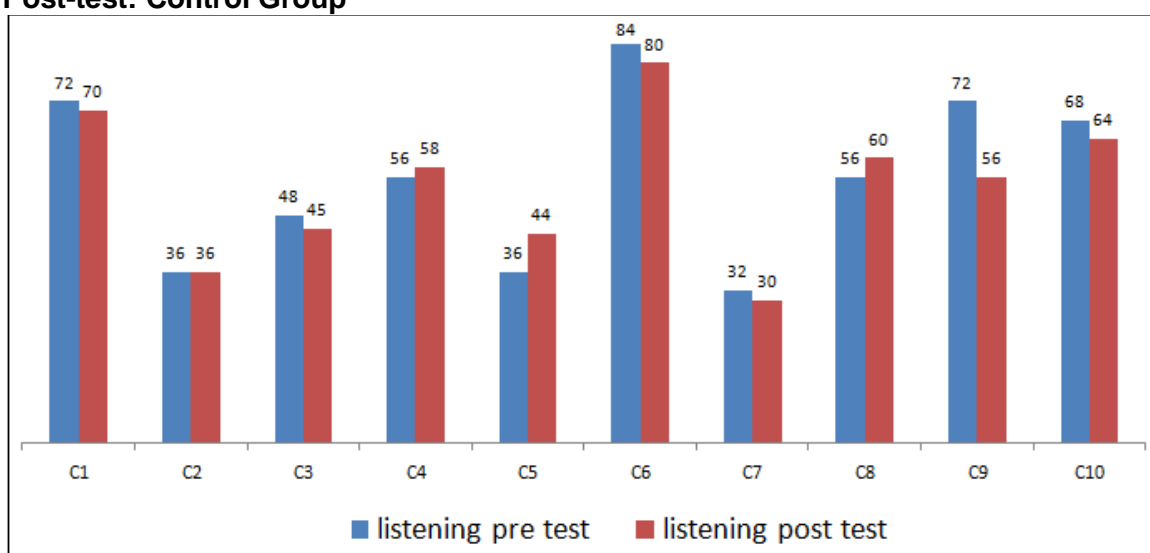
Moreover, in addition to the explicit training, the Experimental group was also given the opportunity to learn how to perform each and every task from the proficiency exam *KET*; thus, instead of simply testing students we taught them different approaches to each comprehension task as fully described in subsection 3.5.3.

<sup>36</sup> The training on listening strategies is fully described in subsection 3.5.3 (Methods)

In this sense, the use of effective listening comprehension strategies during the explicit training on listening strategies actually helped participants to overcome listening comprehension difficulties while performing tasks in proficiency exams. According to Richards (1985), a great number of listening activities “test” rather than “teach.” Activities that “teach” learners usually have both pre-listening and post-listening tasks. Pre-listening activities give learners the chance to activate their schematic knowledge about the topic of the listening activity and set a purpose for listening. Post-listening activities help integrate information for the development of another language skill (such as speaking or writing).

In Figure 12 we have a graph showing a comparison between participants’ scores in the Listening Pre-test and Post-test:

**Figure 12: Comparison between participants’ scores in the Listening Pre-test and Post-test: Control Group**



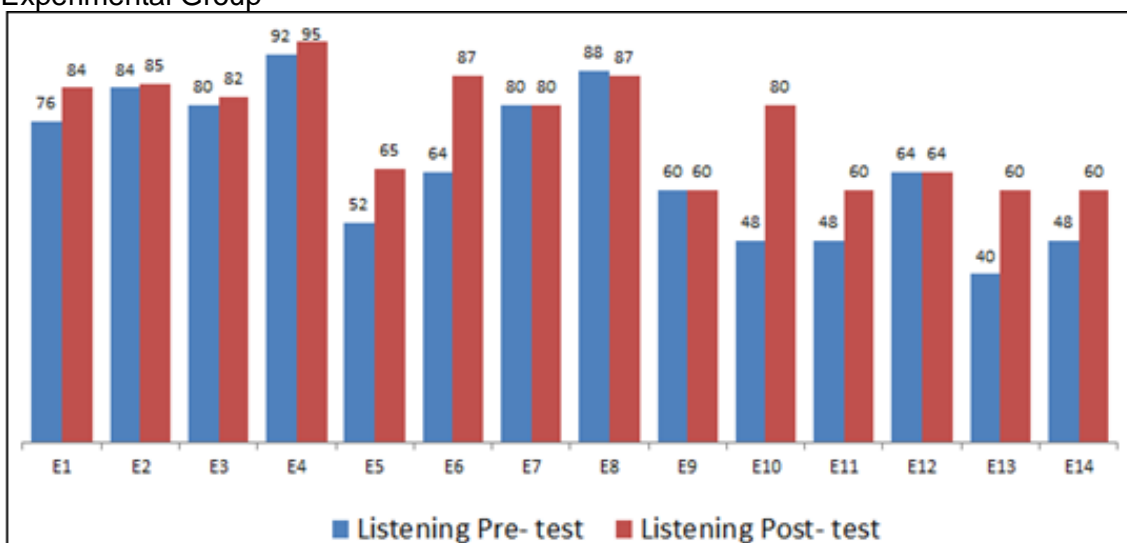
Participants C4, C5 and C8 were the only participants whose scores increased after 2 months, showing a variation of 3, 5714 (C4), 22, 2222 (C5) and 7, 1429 (C8). Participants C1, C2, C3, C6, C7, C9 and C10 either decreased or kept the same scores from the Listening Pre-test. Based on participants’ results it can be inferred that simply practicing the listening tasks from exam practice books may not be enough to increase students’ scores. The results showed that only 3 out of 10 participants increased their previous scores.



Therefore, candidates taking proficiency exam may benefit from classes whose aim is to teach them how to approach listening tasks by using all the strategies and resources available to successfully accomplish the task.

Figure 13 shows the comparison between participants' scores in the Listening Pre-test and Post-test for the Experimental Group.

**Figure 13:** Comparison between participants' scores in the Listening Pre-test and Post-test: Experimental Group



Participants E1, E2, E3, E4, E5, E6, E10, E11, E13 and E14 increased their scores from the Pre-test to the Post-test. After two months of explicit instructions on listening strategies, the participants showed a variation of 10, 5263 (E1), 1,1905 (E2), 2,5000 (E3), 3,2609 (E4), 25,0000 (E5), 35,9375 (E6), 66,6667(E10), 25,000(E11) 50,000(E13) 25,0000 (E14). Only one participant (E8) showed a decrease in the score (88% to 87%), the other 3 participants (E7, E9 and E12) remained with the same scores, 80%, 60% and 64%, respectively.

The results showed that the explicit training on listening strategies may have helped more than 10 participants to overcome their difficulties in listening tasks; the other participants were at least able to maintain their scores. Participants E5, E10, E11, E13 and E14 managed to increase their scores and reach 60% or more, which is the minimum required to apply for the *KET* Exam at the English Course where the participants are enrolled.

One of the listening strategies used with the Experimental group was “prediction”. When making predictions students had to observe, make inferences and finally deduce/predict something from the listening task. Celce-Murcia and Olshtain (2000) claim that when teachers ask students to make predictions or give an opinion they are helping activate students’ schematic and contextual knowledge. Teachers elicit predictions and opinions in order to enable students to improve understanding of a listening activity. Mendelsohn (1995) suggested that predicting goes beyond showing pictures and paying attention to background knowledge. He argues that teachers should make use of setting, interpersonal relations, mood and topic before students actually listen to a conversation.

#### 4.1.6 The Wilcoxon Rank-Sum Test for Independent Samples

Below we have the data used to rank the results obtained after the Listening Pre and Post-test. As the “Ranking column” shows the positions varied from 1 (Participant C9, 0.7778 variation) to 24 (Participant E10, 1.6667 variation).

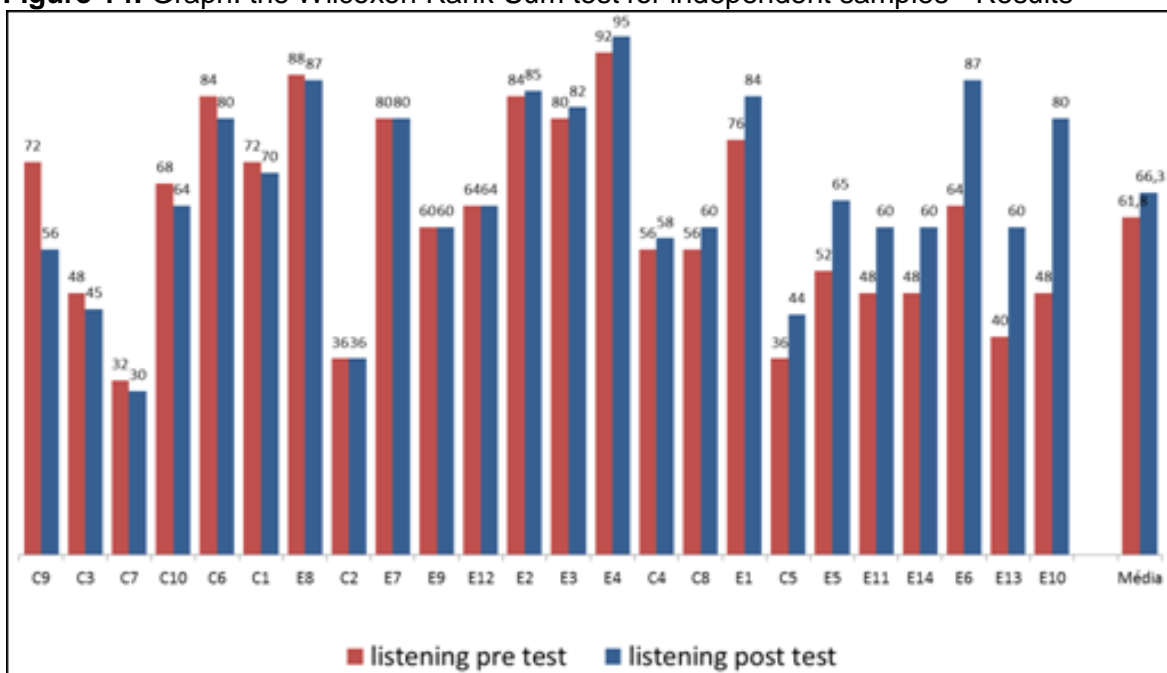
Table 14 shows the results for the Wilcoxon Rank-Sum Test for Independent Samples.

**Table 14:** Wilcoxon Rank-Sum Test for Independent Samples

| PARTICIPANTS       | Listening pre test | Listening post test | VARIATION | RANKING |              |
|--------------------|--------------------|---------------------|-----------|---------|--------------|
|                    |                    |                     |           | CONTROL | EXPERIMENTAL |
| C9                 | 72                 | 56                  | 0,7778    | 1,00    |              |
| C3                 | 48                 | 45                  | 0,9375    | 2,50    |              |
| C7                 | 32                 | 30                  | 0,9375    | 2,50    |              |
| C10                | 68                 | 64                  | 0,9412    | 4,00    |              |
| C6                 | 84                 | 80                  | 0,9524    | 5,00    |              |
| C1                 | 72                 | 70                  | 0,9722    | 6,00    |              |
| E8                 | 88                 | 87                  | 0,9886    |         | 9,00         |
| C2                 | 36                 | 36                  | 1,0000    | 9,00    |              |
| E7                 | 80                 | 80                  | 1,0000    |         | 9,00         |
| E9                 | 60                 | 60                  | 1,0000    |         | 9,00         |
| E12                | 64                 | 64                  | 1,0000    |         | 9,00         |
| E2                 | 84                 | 85                  | 1,0119    |         | 12,00        |
| E3                 | 80                 | 82                  | 1,0250    |         | 13,00        |
| E4                 | 92                 | 95                  | 1,0326    |         | 14,00        |
| C4                 | 56                 | 58                  | 1,0357    | 15,00   |              |
| C8                 | 56                 | 60                  | 1,0714    | 16,00   |              |
| E1                 | 76                 | 84                  | 1,1053    |         | 17,00        |
| C5                 | 36                 | 44                  | 1,2222    | 18,00   |              |
| E5                 | 52                 | 65                  | 1,2500    |         | 19,00        |
| E11                | 48                 | 60                  | 1,2500    |         | 19,00        |
| E14                | 48                 | 60                  | 1,2500    |         | 18,00        |
| E6                 | 64                 | 87                  | 1,3594    |         | 22,00        |
| E13                | 40                 | 60                  | 1,5000    |         | 23,00        |
| E10                | 48                 | 80                  | 1,6667    |         | 24,00        |
| Average Score      | 61,83333333        | 66,33333333         | Rank Sum  | 79,00   | 217,00       |
| Standard Deviation | 17,84880136        | 17,1176661          |           |         |              |

The graph below, figure 14, shows the ranking of participants' scores (Control group and Experimental group), comparing their results from the Pre-test to the Post test:

**Figure 14:** Graph: the Wilcoxon Rank-Sum test for independent samples - Results



Our hypothesis was that the Experimental group would increase their scores after 2 months (15 lessons) of explicit training on listening strategies. According to Triola (1999), the objective of The Wilcoxon Rank-Sum test is to test the null hypothesis that two independent samples come from populations with equal median by showing a different result for each population. The final result (Control Group 79.00, Experimental Group 217.00 and  $z = - 1.96$ ) showed a different number for each population, therefore our hypothesis was confirmed.

## FINAL CONSIDERATIONS

The objectives of the present study were to investigate whether individual differences in working memory capacity of L2 low-proficiency learners predict listening comprehension performance in the proficiency exam *KET*; and to investigate whether learners would improve their *KET* (Key English Test) scores after two months of explicit training of listening strategies. In the experiment the control group (ten subjects in total) was not given any training on listening strategies. The experimental group (fourteen subjects in total), was administered two months (15 classes) of explicit training. As stated in chapter III, subsection 3.4.3, the classes focused on strategies to be used in the *KET* tasks, so the teacher raised students' awareness by focusing on specific strategies pertinent to performing the tasks in the listening exam.

I have been preparing students for proficiency exams for over 10 years in English courses and private schools. Cambridge Proficiency Exams usually have 5 parts: Reading, Writing, Use of English (grammar and vocabulary, for instance), Listening and Speaking. The reason why I decided to investigate listening skills (as stated in the Introduction) was due to the fact that the majority of my students who were preparing for those proficiency exams complained about listening tasks, these complaints included not understanding the content and the task being too demanding, to the point that students were not able to accomplish them. What most students do not know is that the nature of a person's language comprehension depends on the capacity of a system called working memory (Just and Carpenter, 1992). This capacity differs among individuals, and the differences are reliable predictors of performance on higher-level cognitive tasks, such as language comprehension. Individuals with larger working memory capacity perform better on reading and listening tasks than individuals with smaller capacity (Fortkamp, 2000).

Listening involves several sub processes as discussed in the theoretical background of this study. Listening comprehension involves the processing of language and critically analyzing the received information. As we could see in section 2.2 listening strategies are techniques or activities that help enhance comprehension and recall of listening input. The strategies can be categorized according to the listening comprehension processes. Top-down strategies draw on the listener's

previous knowledge to promote understanding, whereas bottom-up strategies are associated with lower-level processes, such as “decoding,” identifying words, stress and intonation. Thornbury (2006) also advocates that these strategies exist across languages. In theory, learners would be able to transfer the skills from L1 to L2.

However, the author believes there are some reasons why the transfer does not happen smoothly. One of the reasons is that speakers of different languages process speech signals differently depending on the phonological features of their first, or most frequently used, language. Another reason is the lack of second language knowledge, vocabulary and grammar, which posed a problem to our participants, since they were all beginning L2 learners. According to Vandergrift (2004) listeners with more language knowledge have more room in working memory to retain more information and make necessary revisions or inferences as they listen.

We had two assumptions that we intended to confirm. The assumptions were that individual differences in working memory capacity would predict listening comprehension performance in the KET tasks and that participants would improve their scores in the KET tasks after 2 months of explicit training of listening strategies.

The results show that the component of working memory measured by the listening span predicts the comprehension performance of beginning learners. The two hypotheses were confirmed. Individual differences in working memory capacity predicted listening comprehension performance in the KET tasks, showing a correlation of  $r = .66$  and  $p < 0.0002245$  for the “WM task” and  $r = .87$  and  $p < .0000001$  for “The list of words task” and  $r = .38$  and  $p < .031$  for the “Sentence Comprehension task”. Although  $r = .38$  is a positive correlational coefficient, it shows a weak correlation between “the sentence comprehension task” and *KET* listening comprehension task. Participants improved their scores in the KET tasks after 2 months of explicit training and awareness raising of listening strategies, showing  $z = -1.96$  (result of The Wilcoxon Rank-Sum test for independent samples). The scores of the experimental group increased 14% after 2 months of explicit training on listening strategies, whereas the scores of the control group decreased 3%, probably as a result of lack of explicit training.

Behavioral studies have shown that listening and reading comprehension are two closely-related skills (Buchweitz et al, 2009). Most of the studies concerning working memory are related to reading comprehension and speech production, not

listening. Furthermore, these studies usually investigate high-proficiency L2 learners not beginning L2 learners. Therefore, we believe that the present study contributed to research on the relationship between working memory capacity and listening comprehension in beginning L2 learners. The study also corroborates the findings on individual differences in working memory capacity of Daneman and Carpenter (1980) and Just and Carpenter (1992), who state that the nature of a person's language comprehension depends on his or her working memory capacity.

One of the direct pedagogical implications of the study is that the methods applied in the study are being assessed by the school where the study was carried out. The scores of the experimental group increased 14% after 2 months of explicit training on listening strategies. The administration of the institution believes that the use of awareness-raising strategies in regular courses may help improve students' scores in Cambridge Exams.

The limitations of the present study included the number of participants in each group and the duration of the teaching intervention. These limitations directly limit the generalizability of the results. Although the English Language Course offers all proficiency levels (from Elementary to Post-advanced), there were only 2 groups of low-proficiency learners. The present study is also limited in the duration of the explicit training on listening strategies. The ideal intervention would be 30 lessons of explicit training, which is almost the total number of lesson taught in the English course where data was collected (one semester corresponds to 36 lessons). The aim would be to analyze the results participants could obtain by having a more strategy-based approach for six months, which is the regular course duration. According to Mendelsohn (1995), a strategy-based approach teaches learners how to listen by instructing them in the use of strategies. The author also argues that a good listening course should have two main aims: first, to help learners develop strategies to recognize and use the signals that are provided in the spoken target language; second, to teach students how to use these signals to make predictions, guesses and inferences.

Our study does allow for suggestions for further research. According to Ortega (2009) people usually differ in how fast, how well and by what means they learn an L2. The variability in rates, outcomes and processes can be enormous, particularly for the ones who begin learning an L2 later in life. Our suggestion is to

develop a study whose aim is to investigate whether individual differences in working memory capacity in children and adult students with low proficiency in English as L2 can help predict performance on listening comprehension tasks in proficiency exams. In addition, the study could also investigate whether listening comprehension strategies would help more the adult learners or children to overcome difficulties associated with individual differences in working memory capacity and listening skills.

It is also important for language teachers to be aware of how they can positively influence their students' perception and understanding of listening strategies. Students should be aware of the strategies required to be a successful "listener" and overcome difficulties in proficiency exams, regardless of low working memory capacity and low proficiency in English.

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## APPENDIXES

### Appendix A –Placement Test

# PLACEMENT TEST

(PART 1)

LEIA AS INSTRUÇÕES COM ATENÇÃO.

**NÃO ESCREVA NA PROVA.**

MARQUE A RESPOSTA NA FOLHA DE RESPOSTAS.

ENTREGUE TUDO NA SECRETARIA.

AGUARDE O RESULTADO.

**BOA SORTE!**

## Part 1

Marque a opção correta.

1

**Speaker 1:** '\_\_\_\_\_ Coimbra a Brazilian city?'

**Speaker 2:** 'No, it \_\_\_\_\_.'

- A Are / aren't
- B Is / isn't
- C Are / are
- D Is / is

Complete os diálogos com a resposta mais apropriada.

2

**Speaker 1:** 'What do they do?'

**Speaker 2:** 'They're \_\_\_\_\_ lawyers.'

- A a
- B the
- C an
- D -

3

**Speaker 1:** 'When's Bob's birthday?'

**Speaker 2:** 'I \_\_\_\_\_ it's \_\_\_\_\_ May.'

- A find / in
- B think / on
- C think / in
- D find / on

4

**Speaker 1:** '\_\_\_\_\_ you and your brother \_\_\_\_\_ tennis at the weekend?'

**Speaker 2:** 'No, we \_\_\_\_\_. We \_\_\_\_\_ football.'

- A - / play / don't / do
- B Do / plays / don't / do
- C Do / play / don't / play
- D - / plays / don't / play

Marque a alternativa que completa corretamente os espaços em branco.

5

**Speaker 1:** 'What time do you \_\_\_\_\_ lunch?'

**Speaker 2:** '\_\_\_\_\_ 13:00. And you?'

**Speaker 1:** 'Me \_\_\_\_\_, but not \_\_\_\_\_ Sundays.'

- A eat / in / don't / in
- B have / at / too / on
- C eat / on / do / at
- D have / in / not / on

Complete o diálogo com a pergunta correta.

6

**Speaker 1:** '\_\_\_\_\_?'

**Speaker 2:** 'She lives in Spain.'

- A Where's she live?
- B Where she lives?
- C Where does she live?
- D Where do she live?

Qual destas frases está correta?

7

- A 'Gladiator' is an excellent film and I love him.
- B We have a nice teacher and she likes we a lot.
- C Jack's a great man and Mary loves him.
- D Malu Mader's a fantastic actress and I like she very much.

Correlacione as colunas e marque a opção correta.

8

- |                                 |   |
|---------------------------------|---|
| 1. How often do you go jogging? | <input type="checkbox"/> No, I'm sorry. I need it this afternoon. |
| 2. Can you lend me your car?    | <input type="checkbox"/> At a French restaurant.                  |
| 3. When's your birthday?        | <input type="checkbox"/> On the fourth of June.                   |
| 4. Where do you work?           | <input type="checkbox"/> Twice a week.                            |

- A 2 / 3 / 1 / 4
- B 1 / 3 / 4 / 2
- C 2 / 4 / 3 / 1
- D 4 / 2 / 3 / 1

Marque a alternativa que completa corretamente os espaços em branco.

9

**Speaker 1:** 'Are there \_\_\_\_\_ tomatoes in the fridge?'

**Speaker 2:** 'Yes, there are \_\_\_\_\_.'

**Speaker 1:** 'And \_\_\_\_\_ milk do we have?'

**Speaker 2:** 'None.'

- A any / some / how much
- B some / some / how many
- C any / any / how much
- D any / some / how many



10

**Speaker 1:** '\_\_\_\_\_ you speak French?'

**Speaker 2:** 'No, I \_\_\_\_\_, but I \_\_\_\_\_ speak Spanish.'

- A Are / am / am
- B Can / can't / can't
- C Can / can't / can
- D Are / 'm not / am

11

\_\_\_\_\_ many interesting pubs in my neighbourhood.

- A It has
- B There's
- C Have
- D There are

12

**Speaker 1:** 'What \_\_\_\_\_ you \_\_\_\_\_ at the moment?'

**Speaker 2:** '*I \_\_\_\_\_ working.*'

- A do / do / is
- B are / doing / am
- C are / do / work
- D **do / doing / are**

13

**Speaker 1:** '\_\_\_\_\_ get to work?'

**Speaker 2:** 'By car.'

- A What you
- B What do you
- C How you
- D How do you

14

**Speaker 1:** 'Would you like to go to the cinema?'

**Speaker 2:** '\_\_\_\_\_.'

- A Sorry, I can't.
- B Sorry, I don't.
- C Yes, I do.
- D Yes, I can.

15

**Speaker 1:** 'What \_\_\_\_\_ to do tomorrow?'

*Speaker 2: 'I \_\_\_\_\_ to see a concert.'*

- A are you going / go
- B do you go / am going
- C are you going / am going
- D am I going / go

16

**Speaker 1:** '\_\_\_\_\_ you watch the football match yesterday?'

**Speaker 2:** 'No, I \_\_\_\_\_.'

- A Did / am not
- B Did / didn't
- C Were / am not
- D Were / didn't

17

'Tom \_\_\_\_\_ in the restaurant when the fire started.'

- A ate
- B was eating
- C is eating
- D eats

18

Which sentence is wrong?

- A Jim couldn't be a basketball player because he wasn't tall enough.
- B Helen didn't buy a new camera because it was too expensive.
- C Isaac didn't get the job because he wasn't enough old.
- D **She couldn't put all her things in that bag. It was too small.**

19

'I think football is the \_\_\_\_\_ sport of all.'

- A interesting
- B more interesting
- C most interesting
- D **less interesting**

20

**Speaker 1:** 'What \_\_\_\_\_ your teacher \_\_\_\_\_?'

**Speaker 2:** 'He's good-looking and friendly.'

- A does/ like
- B is/ like
- C does/ look like
- D **is/ look like**

21

'A waiter is a person \_\_\_\_\_ serves food at a restaurant.'

- A which
- B who
- C where
- D **what**

**22** Rio de Janeiro isn't \_\_\_\_\_ big \_\_\_\_\_ São Paulo.

- A as / than
- B more / than**
- C far / as
- D as / as

**23** **Speaker 1:** 'Whose magazines are these? Are they \_\_\_\_\_, Jane?'  
**Speaker 2:** 'Yes, they're \_\_\_\_\_.'

- A yours/ mine
- B your/ my**
- C yours/ my
- D **your/ mine**

**24** 'If it \_\_\_\_\_ next weekend, I \_\_\_\_\_ to the beach.'

- A rains/ don't go
- B rains/ won't go**
- C will rain/ don't go
- D **will rain/ didn't go**

**PLACEMENT TEST**

(PART 2)

LEIA AS INSTRUÇÕES COM ATENÇÃO.

**NÃO ESCREVA NA PROVA.**

MARQUE A RESPOSTA NA **FOLHA DE RESPOSTAS**.

ENTREGUE TUDO NA SECRETARIA.

AGUARDE O RESULTADO.

**BOA SORTE!**

## **Part 2:**

Marque a alternativa que completa corretamente os espaços em branco.

**25**

**Speaker 1:** ' \_\_\_\_\_ you \_\_\_\_\_ a good film recently?'

**Speaker 2:** 'Yes, I \_\_\_\_\_ 'Alice in Wonderland' last weekend.'

- A Have / seen / saw
- B Did / see / 've seen
- C Have / saw / saw
- D Are / seen / see

**26**

My wife usually looks \_\_\_\_\_ the children when I go \_\_\_\_\_ on business.

- A at / after
- B after / off
- C at / down
- D after / away

**27**

Look at the sign! Drivers \_\_\_\_\_ talk on the phone. And you're driving too fast. You \_\_\_\_\_ respect the speed limit.

- A mustn't / must
- B don't have / have to
- C may not / might
- D mustn't / may

28

**Speaker 1:** ' \_\_\_\_\_ tall are you?'

**Speaker 2:** '1.72m.'

- A What
- B How
- C How much
- D **What's**

29

**Speaker 1:** 'Here are the tickets. I \_\_\_\_\_ to Paris tomorrow at 8:00.'

**Speaker 2:** 'How nice! Remember to send me a postcard.'

**Speaker 1:** 'Don't worry. I \_\_\_\_\_.'

- A fly / don't forget
- B 'm flying / I'm not forgetting
- C 'm flying / won't forget
- D **'ll fly / I'm not going to forget**

30

**Speaker 1:** Have you bought the flowers \_\_\_\_\_?

**Speaker 2:** Yes, and I've \_\_\_\_\_ made the cake!

- A yet / already
- B just / yet
- C still / already
- D yet / still

31

Mona Lisa \_\_\_\_\_ by Leonardo da Vinci.

- A was painting
- B was painted
- C is painted
- D **painted**

32

I don't have any money. \_\_\_\_\_ a million dollars, \_\_\_\_\_ around the world.

- A If I won / I travelled
- B If I win / I'd travel
- C If I won / I'd travel
- D **If I won / I was going to travel**

33

Which of the following sentences **is** correct?

- A Do I look pretty in this dress?
- B That house is old but it looks like new.
- C It's amazing how much you seem my brother.
- D They look mother and son but they're actually married.

34

The children are playing with their new toys. They are enjoying \_\_\_\_\_.

- A yourself
- B them
- C each other
- D **themselves**



35

I can't find the earrings \_\_\_\_\_ Charles gave me.

- A where
- B who
- C which
- D **whose**

36

Before the accident, she \_\_\_\_\_ go running every day.

- A usually
- B **used to**
- C didn't use
- D uses to

37

\_\_\_\_\_ gyoza \_\_\_\_\_ sunomono are Brazilian dishes. They're Japanese.

- A Either/ or
- B **Both/ and**
- C Neither/ nor
- D Neither/ and

38

Which of the following sentences is **not** correct?

- A I've been there before.
- B **He's been sleeping for almost twelve hours!**
- C How long are you studying English?
- D Working out is relaxing.

39

Ana doesn't speak \_\_\_\_\_ English. She only knows \_\_\_\_\_ words.

- A many / a little
- B plenty of / much
- C hardly any / a lot of
- D **much / a few**

40

We've rung the doorbell five times. There \_\_\_\_\_ be anybody at home.

- A mustn't
- B could
- C can't
- D **may**

**Marque a opção correta.**

41

If I were you, \_\_\_\_\_ a doctor as soon as possible.

- A I'll see
- B I saw
- C I'd see
- D **I'd seen**

42

Lucy: 'What did you do yesterday?' Lucy asked me what \_\_\_\_\_.

- A I'd do that day
- B I'd done the day before
- C I've done the previous day
- D **did I do yesterday**

43

'Can you lend me some money, Paul?' 'I'm afraid I won't be able to, Sophie.'

- A Paul refused to lend Sophie some money.
- B Paul denied he had lent Sophie some money.
- C Sophie threatened Paul to lend her some money.
- D **Sophie warned Paul that she needed some money.**

44

When I \_\_\_\_\_ home from the party, my mother was \_\_\_\_\_ for me, but my father wasn't. He \_\_\_\_\_ to bed.

- A got – was waiting – had gone
- B was getting – waited – went
- C have got – has waited – has gone
- D **got – was waiting – would go**

45

Which of the following sentences is wrong?

- A That's the girl I travelled with.
- B I believe Brazil will win the next World Cup.
- C I don't like people talk too much.
- D **The hotel which we stayed in was very good.**

46

'Can you tell me how much \_\_\_\_\_, please?'

- A this sweater does cost
- B this sweater costs
- C does this sweater cost
- D **cost this sweater**

47

\_\_\_\_\_ it was raining hard, they decided to cancel the match.

- A As
- B However
- C Unless
- D **Although**

48

Alice doesn't live here \_\_\_\_\_. She has moved to Paris.

- A still
- B anymore
- C yet
- D **at all**

## PLACEMENT TEST – WRITING

**Name:** \_\_\_\_\_

Write about yourself. Cover as many points as possible. Use the back of this sheet, if necessary.

1. What you look like, your interests and hobbies, your family
2. Your previous experience learning English or other foreign languages
3. The importance of learning foreign languages nowadays
4. Why you decided to study at Cultura Inglesa
5. Advantages and disadvantages of having an international language for communication

## PLACEMENT TEST ANSWER SHEET

Nome: \_\_\_\_\_

**Marque uma letra para cada pergunta**

Exemplo: 0    A ~~B~~ C D

| PART 1 |         |    |         |    | PART 2  |    |         |  |  |
|--------|---------|----|---------|----|---------|----|---------|--|--|
| 01     | A B C D | 13 | A B C D | 25 | A B C D | 37 | A B C D |  |  |
| 02     | A B C D | 14 | A B C D | 26 | A B C D | 38 | A B C D |  |  |
| 03     | A B C D | 15 | A B C D | 27 | A B C D | 39 | A B C D |  |  |
| 04     | A B C D | 16 | A B C D | 28 | A B C D | 40 | A B C D |  |  |
| 05     | A B C D | 17 | A B C D | 29 | A B C D | 41 | A B C D |  |  |
| 06     | A B C D | 18 | A B C D | 30 | A B C D | 42 | A B C D |  |  |
| 07     | A B C D | 19 | A B C D | 31 | A B C D | 43 | A B C D |  |  |
| 08     | A B C D | 20 | A B C D | 32 | A B C D | 44 | A B C D |  |  |
| 09     | A B C D | 21 | A B C D | 33 | A B C D | 45 | A B C D |  |  |
| 10     | A B C D | 22 | A B C D | 34 | A B C D | 46 | A B C D |  |  |
| 11     | A B C D | 23 | A B C D | 35 | A B C D | 47 | A B C D |  |  |
| 12     | A B C D | 24 | A B C D | 36 | A B C D | 48 | A B C D |  |  |

TOTAL (P.1) =    / 24

TOTAL (P. 2) =    / 24

## PLACEMENT TEST

(Chave de respostas para a secretaria)

| PART 1 |          |          |          |          | PART 2 |          |          |          |          |    |          |          |          |          |    |          |          |          |          |
|--------|----------|----------|----------|----------|--------|----------|----------|----------|----------|----|----------|----------|----------|----------|----|----------|----------|----------|----------|
| 01     | A        | <b>B</b> | C        | D        | 13     | A        | B        | C        | <b>D</b> | 25 | A        | <b>B</b> | C        | D        | 37 | A        | B        | <b>C</b> | D        |
| 02     | A        | B        | C        | <b>D</b> | 14     | <b>A</b> | B        | C        | D        | 26 | A        | B        | C        | <b>D</b> | 38 | A        | B        | <b>C</b> | D        |
| 03     | A        | B        | <b>C</b> | D        | 15     | A        | B        | <b>C</b> | D        | 27 | <b>A</b> | B        | C        | D        | 39 | A        | B        | C        | <b>D</b> |
| 04     | A        | B        | <b>C</b> | D        | 16     | A        | <b>B</b> | C        | D        | 28 | A        | <b>B</b> | C        | D        | 40 | A        | B        | <b>C</b> | D        |
| 05     | A        | <b>B</b> | C        | D        | 17     | A        | <b>B</b> | C        | D        | 29 | A        | B        | <b>C</b> | D        | 41 | A        | B        | <b>C</b> | D        |
| 06     | A        | B        | <b>C</b> | D        | 18     | A        | B        | <b>C</b> | D        | 30 | <b>A</b> | B        | C        | D        | 42 | A        | <b>B</b> | C        | D        |
| 07     | A        | B        | <b>C</b> | D        | 19     | A        | B        | <b>C</b> | D        | 31 | A        | <b>B</b> | C        | D        | 43 | <b>A</b> | B        | C        | D        |
| 08     | A        | B        | <b>C</b> | D        | 20     | A        | <b>B</b> | C        | D        | 32 | A        | B        | <b>C</b> | D        | 44 | <b>A</b> | B        | C        | D        |
| 09     | <b>A</b> | B        | C        | D        | 21     | A        | <b>B</b> | C        | D        | 33 | <b>A</b> | B        | C        | D        | 45 | A        | B        | <b>C</b> | D        |
| 10     | A        | B        | <b>C</b> | D        | 22     | A        | B        | C        | <b>D</b> | 34 | A        | B        | C        | <b>D</b> | 46 | A        | <b>B</b> | C        | D        |
| 11     | A        | B        | C        | <b>D</b> | 23     | <b>A</b> | B        | C        | D        | 35 | A        | B        | <b>C</b> | D        | 47 | <b>A</b> | B        | C        | D        |
| 12     | A        | <b>B</b> | C        | D        | 24     | A        | <b>B</b> | C        | D        | 36 | A        | <b>B</b> | C        | D        | 48 | A        | <b>B</b> | C        | D        |

TOTAL (P.1) = / 24

TOTAL (P. 2) = / 24

## PLACEMENT TEST

### CORRESPONDÊNCIA ENTRE ACERTOS E MÓDULOS

| <b>Total de acertos</b> | <b>Módulo indicado</b>                 |
|-------------------------|--|
| <b>Parte 1:</b>         |  |
| <b>0 – 6</b>            | <b>C Exp <i>New Interlink 1</i></b>    |
| <b>7 – 11</b>           | <b>C Exp <i>New Interlink 1/2</i></b>  |
| <b>11 – 14</b>          | <b>C Exp <i>New Interlink 2</i></b>    |
| <b>15 – 18</b>          | <b>C Exp <i>New Interlink 2/3</i></b>  |
| <b>19 – 22</b>          | <b>C Exp <i>New Interlink 3</i></b>    |
| <b>23 – 24</b>          | <b>C Exp <i>New Interlink 3/ 4</i></b> |
|                         | <b>Aplicar a Parte 2 + composição</b>  |
| <b>Parte 2:</b>         |  |
| <b>0 – 6</b>            | <b>C Exp <i>New Interlink 4</i></b>    |
| <b>7 – 11</b>           | <b>C Exp <i>New Interlink 4/5</i></b>  |
| <b>11 – 14</b>          | <b>C Exp <i>New Interlink 5</i></b>    |
| <b>15 – 18</b>          | <b>C Exp <i>New Interlink 5/6</i></b>  |
| <b>19 – 25</b>          | <b>C Exp <i>New Interlink 6</i></b>    |

## CORRESPONDÊNCIA ENTRE QUESTÕES E MÓDULOS

|    |   |   |                                 |    |    |   |                                 |    |    |   |                                 |   |
|----|---|---|---------------------------------|----|----|---|---------------------------------|----|----|---|---------------------------------|---|
| 1  | B | A | M<br>O<br>D<br>U<br>L<br>O<br>1 | 17 | B  | A | M<br>O<br>D<br>U<br>L<br>O<br>3 | 33 | A  | A | M<br>O<br>D<br>U<br>L<br>O<br>5 |   |
| 2  | D |   |                                 | 18 | C  |   |                                 | 34 | D  |   |                                 |   |
| 3  | C |   |                                 | B  | 19 | C |                                 | B  | 35 | C |                                 | B |
| 4  | C |   |                                 |    | 20 | B |                                 |    | 36 | B |                                 |   |
| 5  | B |   |                                 | C  | 21 | B |                                 | C  | 37 | C |                                 | C |
| 6  | C |   |                                 |    | 22 | D |                                 |    | 38 | C |                                 |   |
| 7  | C |   |                                 | D  | 23 | A |                                 | D  | 39 | D |                                 | D |
| 8  | C |   |                                 |    | 24 | B |                                 |    | 40 | C |                                 |   |
| 9  | A | A | M<br>O<br>D<br>U<br>L<br>O<br>2 | 25 | A  | A | M<br>O<br>D<br>U<br>L<br>O<br>4 | 41 | C  | A | M<br>O<br>D<br>U<br>L<br>O<br>6 |   |
| 10 | C |   |                                 | 26 | D  |   |                                 | 42 | B  |   |                                 |   |
| 11 | D |   |                                 | B  | 27 | A |                                 | B  | 43 | A |                                 | B |
| 12 | B |   |                                 |    | 28 | B |                                 |    | 44 | A |                                 |   |
| 13 | D |   |                                 | C  | 29 | C |                                 | C  | 45 | C |                                 | C |
| 14 | A |   |                                 |    | 30 | A |                                 |    | 46 | B |                                 |   |
| 15 | C |   |                                 | D  | 31 | B |                                 | D  | 47 | A |                                 | D |
| 16 | B |   |                                 |    | 32 | C |                                 |    | 48 | B |                                 |   |



**PART 1A**

**St A:**

You see an advertisement for a new restaurant in town. Arrange to eat there with St B and St C some time this weekend.

**St B and St C:**

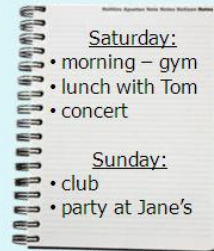
Look at your diaries. Find some time to meet St A this weekend.

**PART 1A**

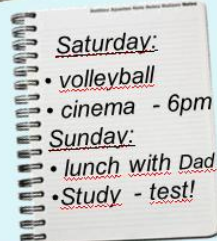
**St A**



**St B**



**St C**



**PART 1B**

**St B: Choose 3 topics. Ask 3 questions about C's predictions.**

The weather next weekend

The world

A film star

Your partner's career / studies



**PART 2**

**St A: Describe and compare these people.**



**Tell us about someone in your family.**

**Appendix B - Informed Consent Form**

**PONTIFÍCIA UNIVERSIDADE CATÓLICA DO RIO GRANDE DO SUL  
INSTITUTO DE LETRAS – PROGRAMA DE PÓS- GRADUAÇÃO  
TERMO DE CONSENTIMENTO INFORMADO**

**Título da pesquisa: *Listening comprehension and working memory capacity in beginning L2 learners: an exploratory study.***

**Do convite**

Por você ser aluno do curso de Inglês Cultura Inglesa e estar no nível de preparação para o exame de proficiência da Universidade de Cambridge, KET (*Key English Test*) você está sendo convidado (a) a participar da pesquisa "*Listening comprehension and working memory capacity in beginning L2 learners: an exploratory study*" (*Compreensão auditiva e capacidade de memória de trabalho em aprendizes/iniciantes de L2: estudo exploratório*)

Se decidir participar desta pesquisa, é importante que leia as informações contidas neste documento a respeito do estudo e do seu papel neste estudo. Sua participação não é obrigatória e, a qualquer momento, você pode desistir de participar e retirar o seu consentimento. Sua recusa não trará nenhum prejuízo em sua relação com o(a) pesquisador(a) ou com a Pontifícia Universidade Católica do Rio Grande do Sul. É preciso entender a natureza e os riscos da sua participação e dar o seu consentimento informado por escrito ao final deste documento. Você poderá fazer todas as perguntas que precisar para entender os objetivos da pesquisa, esclarecer dúvidas acerca dos riscos, dos benefícios e outros. São-lhe garantidos esclarecimentos, antes e durante o curso da pesquisa, sobre a metodologia. Você receberá uma cópia fidedigna deste termo na qual constam as informações relativas à pesquisa bem como o telefone e endereço do (a) pesquisador (a) principal, por meio dos quais poderá entrar em contato para dirimir quaisquer dúvidas do projeto e de sua participação.

## **1. Dos pesquisadores**

Esta pesquisa tem como pesquisador responsável o Prof. Dr. Augusto Buchweitz, professor adjunto da Pontifícia Universidade Católica do Rio Grande do Sul - PUCRS. Seu endereço é Avenida Ipiranga, 6681, telefone: (51) 3320-3528. A pesquisa conta com a participação da mestranda em Linguística Aline Fay de Azevedo, que é professora de Inglês da escola de idiomas Cultura Inglesa, local onde se dará a coleta de dados.

## **2. Do objetivo e da justificativa**

O objetivo deste estudo é – no lado experimental – investigar relação entre compreensão oral e capacidade de memória de trabalho em aprendizes iniciantes de Inglês como L2. A capacidade de memória de trabalho será medida com um teste simples. Basicamente, a sua memória de trabalho é a sua capacidade de processar informações no dia-a-dia, como quando você tem de memorizar um número de telefone ao mesmo tempo em que conversa com alguém. O nosso objetivo é de verificar como as estratégias de compreensão oral podem ajudá-los a superar problemas causados por sua pouca capacidade de memória de trabalho – no lado didático – a partir deste

conhecimento, oferecer insumos para que estes possam melhor desenvolver suas estratégias de compreensão oral.

### **3. Dos procedimentos de coleta**

A Bateria de Avaliação de Memória de Trabalho – BAMT (UFMG) é uma bateria de testes muito confiável e válida, baseada em um modelo que divide a memória de trabalho em três aspectos: eficiência ou velocidade de processamento, armazenamento temporário e coordenação de operações. Esta bateria já foi testada com centenas de pessoas.

Se concordar em participar deste estudo, a realização das seguintes tarefas lhe será solicitada. Responder perguntas e ao mesmo tempo memorizar palavras. As alternativas para cada problema estão dentro de molduras. À medida que cada frase for lida, marque um "x" na resposta correta. Ao mesmo tempo, memorize a última palavra de cada frase. Quando o professor disser "podem transcrever", anote as palavras memorizadas no espaço sublinhado ao lado do problema correspondente.

A ordem é importante. Lembre-se: não pode anotar as palavras nos espaços sublinhados antes do professor dizer "pode transcrever". Mas não se preocupe, estas instruções serão repassadas quantas vezes necessário quando você for fazer o teste.

### **4. Dos desconfortos e riscos possíveis**

A coleta de dados será realizada na sala 10 da escola de Idiomas Cultura Inglesa (Av. Nilo Peçanha, 2457). O local garante condições de trabalho seguras e tranquilas. Não há quaisquer riscos à sua integridade física ou emocional. Salienta-se, no entanto, que esta pesquisa será realizada somente se você se sentir em boas condições físicas e emocionais para realizar todas as atividades solicitadas.

### **5. Dos benefícios esperados**

A pesquisa poderá ou não trazer-lhe benefícios com relação a tarefas de compreensão oral. Contudo, as informações obtidas por meio deste estudo serão relevantes para compreendermos a relação entre memória de trabalho e compreensão oral de aprendizes de Inglês como L2, bem como para a produção de conhecimento na área.

## **6. Dos custos e reembolso para o participante**

Sua participação é voluntária e espontânea. Não haverá pagamento pela sua participação.

## **7. Da confidencialidade da pesquisa**

Será garantido sigilo absoluto para assegurar a privacidade de todos os sujeitos participantes quanto aos dados confidenciais envolvidos na pesquisa. Você não será identificado quando o material de seu registro for utilizado, seja para propósitos de publicação científica ou educativa. Assim, ao assinar este consentimento informado, você autoriza as inspeções em seus registros.

## **8. Da Declaração de consentimento informado**

Eu,.....  
.....(nome legível e por extenso), declaro que tive tempo suficiente para ler e entender as informações acima. Declaro também que fui devidamente informado (a) pelo pesquisador(a) ..... sobre os procedimentos que serão utilizados, os riscos e desconfortos, os benefícios, o custo/reembolso, dos participantes e a confidencialidade da pesquisa. Confirmando que toda a linguagem técnica utilizada na descrição da pesquisa foi satisfatoriamente explicada e que recebi respostas para todas as minhas dúvidas. Declaro ainda que me foi assegurado que posso retirar o consentimento a qualquer momento, sem que isso leve a qualquer penalidade ou a perda de benefícios. Confirmando ainda que recebi uma cópia desse Termo de Consentimento informado.

Caso tiver novas perguntas sobre esse estudo, posso chamar o Prof. Dr. Augusto Buchweitz e a mestrande Aline Fay de Azevedo no seguinte endereço: Av Ipiranga, 6681. Prédio 8 sala 407. Telefone: 33203500 ou Av. Ipiranga 6690 Prédio 60 - Sala 314. Telefone: 3320.3345

Dou meu consentimento de espontânea vontade e sem reservas para participar deste estudo.

Assinatura do(a) participante:

\_\_\_\_\_

Data: \_\_\_\_/\_\_\_\_/\_\_\_\_

Eu.....  
.....atesto que expliquei cuidadosamente a natureza e o objetivo deste estudo, os possíveis riscos e benefícios da participação nesta pesquisa. Acredito que o(a) participante recebeu todas as informações necessárias, as quais foram fornecidas em uma linguagem adequada e compreensível, e que o(a) participante compreendeu tais explicações.

Assinatura do pesquisador: \_\_\_\_\_

Data: \_\_\_\_/\_\_\_\_

## **Appendix C - Teste de memória de trabalho: BAMT (UFMG)**

### **4- Alcance de Apreensão na Escrita**

A tarefa é:

Responder perguntas e ao mesmo tempo memorizar palavras.

As alternativas para cada problema estão dentro de molduras.

À medida que cada frase for lida, marque um "x" na resposta correta. Ao mesmo tempo, memorize a última palavra de cada frase.

Quando eu disser "podem transcrever", anatem as palavras memorizadas no espaço sublinhado ao lado do problema correspondente.

A ordem é importante.

Lembrem-se: não vale anotar as palavras nos espaços sublinhados antes de eu dizer "pode transcrever".

### **ALCANCE DE COMPUTAÇÃO NA ESCRITA**

Listas de 1 frase (**marque 4 segundos**)

Juca exigiu do vendedor uma mesa. Quem?

O galo

Juca

b

Óculos

A galinha pôs o ovo e saiu do ninho. Pôs o quê?

|  |   |
|--|---|
| O ovo  | a |
| O cachorro   |   |
| O vento  |   |
| O namorado de Eunice a beijou no meio da vila. Quem? |   |
| O namorado de Eunice                                 | a |
| João   |   |
| O tio de Eunice                                      |   |

Listas de 2 frases (**marque 8 segundos**)

|  |         |
|--|---------|
| Ontem, João Ricardo capinou todo o mato.           | Quando? |
| Na sexta-feira                                     |         |
| No mês passado                                     |         |
| Ontem  | c       |
| Durante o blecaute, Cecília procurou por uma vela. | Quem?   |
| Papai  |         |
| O cachorro   |         |
| Cecília  | c       |

|  |                |
|--|----------------|
| A secretária informou que o diretor lhe contou tudo. | Quem informou? |
| O Diretor  |                |
| O repórter   |                |
| A secretária   |                |
| De manhã, a menina alimentou o gato.                 | Quando?        |
| Semana que vem                                       |                |
| Ontem  |                |
| De manhã   | c              |

|  |       |
|--|-------|
| A menina lembrou que não se penteou depois do banho. | Quem? |
| O homem  |       |
| O garoto   |       |
| A menina   | c     |
| Heloísa recebeu notícias de sua mãe. Recebeu o quê?  |       |

A mesa

Notícias

b

O caixa

Listas de 3 frases (**marque 12 segundos**)

Sempre me surpreendo com tanta terra. Quem?

Os peões

Eu

b

O dono da terra

Longe da rua o menino pode empinar a pipa. Onde?

No banco

Longe da rua

b

Perto da praça

Pedro sabe que seu amiguinho perdeu o papel. Quem sabe?

Seu amiguinho

O homem

Pedro

c

A qualidade de vida se revelou boa naquela ilha. O quê?

A qualidade de vida

a

As curvas

As florestas

O carteiro que procurava Amélia olhou no mapa. Procurava quem?

Serviço

Casas

Amélia

c

A moça desceu do ônibus e tomou um táxi. Desceu de onde?

Da escada

Do poste

Do ônibus

c

Suas amigas acham que se confundiram com a roupa. Quem?



|  |   |
|--|---|
| Suas amigas  | a |
| Maria  |   |
| Sua tia  |   |
| Aquele senhor recebeu um bilhete e procurou o moço. Recebeu o quê? |   |
| Um bilhete   | a |
| Um cheque  |   |
| A roupa  |   |
| Eu pedi uma salada e recebi uma sopa. Quem?                        |   |
| O médico   |   |
| Mamãe  |   |
| Eu   | c |

Listas de 4 frases (**marque 16 segundos**)

|  |   |
|--|---|
| A maior parte dos marinheiros se empenha no navio. A maior parte do quê? |   |
| Da cerca   |   |
| Dos marinheiros  | b |
| Dos assuntos   |   |
| Marina se comportou muito bem na aula. Quem?                             |   |
| Marina   | a |
| A cunhada  |   |
| Cláudia  |   |
| Os plantadores acreditam que se beneficiarão com a próxima chuva. Quem?  |   |
| Os plantadores   | a |
| O gato   |   |
| O seu vizinho  |   |
| Zé do Bode se veste bem em dia de lua. Como?                             |   |
| Bem  | a |
| Amarrotado   |   |
| De calção  |   |

|  |
|--|
| A professora elogiou Carla e sua saia. Quem elogiou? |
|--|

|  |   |
|--|---|
| A professora   | a |
| A menina   |   |
| Os meninos   |   |
| Hoje, o chefe de vendas apresentou o novo milho. Quando?   |   |
| Durante a semana   |   |
| Ontem  |   |
| Hoje   | c |
| Sua tia confiou as jóias ao hotel. Confiou o quê?          |   |
| Jóias  | a |
| Passarinho   |   |
| Barco  |   |
| A casa que me deu alegrias pertence ao meu avô. Deu o quê? |   |
| Trabalho   |   |
| Alegrias   | b |
| Dinheiro   |   |

|  |   |
|--|---|
| O ladrão tentou levar o dinheiro do caixa. Quem?           |   |
| O ladrão   | a |
| Celso  |   |
| A multidão   |   |
| O partido do senador exigiu dele um sinal. Exigiu de quem? |   |
| De seu secretário  |   |
| Do senador   | b |
| Do motorista   |   |
| Rogério descobriu que a merenda era bolo. Quem?            |   |
| Um garoto  |   |
| Rogério  | b |
| Um amigo   |   |
| No serviço, Amanda sempre obedeceu ao chefe. Onde?         |   |

|              |   |
|--------------|---|
| No serviço   | a |
| No passeio   |   |
| Nos feriados |   |

Listas de 5 frases (**marque 20 segundos**)

Ela pensou que sua tia lhe venderia uma cama. Quem pensou?

O remo

Ela b

O cachorro

O repórter informou que aquilo não era um sapo. Quem?

O livro

O repórter b

Armando

Os amiguinhos de Tiago gostaram do bolinho de peixe. Amiguinhos de quem?

Tiago a

Carro

Marta

Para o bolo, precisamos de leite. Para o quê?

Bolo a

Construção

Envelope

O motorista sabe que se enganou de rua. Quem?

Pérola

O motorista b

Papai

Dona Sinhá perguntou o preço e levou um choque. Perguntou o quê?

A matéria

Meu nome

O preço c

O rato comeu o pedaço de queijo. Quem?

Marcela

O gato

O rato c

Agora só dependemos do molho para o pato. Dependemos de quê?

Do açúcar

Do cozinheiro

Do molho c

A noite inteira, Totó roeu o osso. Quanto tempo?

Uns minutos

A noite inteira b

Horas

O presidente admite que o partido o abandonou sem pena. Quem o abandonou?

João

O partido b

À vegetação

No comício, todos devem ficar antes da faixa. Quem?

A garota

Nossa tia

Todos c

Mariana devolveu o carro com defeito para a loja. O quê?

Paulo

O carro b

A casa

O professor se lembrou daquela moça. Quem?

O professor a

As plantas

A zeladora

O primo do Afonso perdeu o baile. O quê do Afonso?

Primo a

|   |
|---|
| Cunhado                                     |
| Um vizinho                                  |
| O porteiro disse que se feriu na mão. Quem? |
| O porteiro                                  |
| O homem                                     |
| O leão                                      |

## 5- listas de palavras

Vou apresentar listas de palavras para vocês memorizarem. Depois que eu apresentar cada lista, quero que vocês escrevam as palavras da lista na mesma ordem em que eu falei. Usem uma linha para cada **palavra!** Atenção! Somente comecem a escrever ao final de cada lista.

### listas de 3 palavras

|      |      |      |
|------|------|------|
| FOTO | RATO | NOTA |
| JILÓ | DOCE | ÉGUA |
| COLA | BONÉ | PÁ   |

### listas de 4 palavras

|      |       |      |
|------|-------|------|
| BOTE | GALO  | MAÇO |
| JACA | RÉGUA | ANGÚ |
| MARÉ | DIA   | REMO |
| REDE | CIPÓ  | GIBI |

### listas de 5 palavras

|      |       |       |
|------|-------|-------|
| JATO | MICO  | RÃ    |
| PÓ   | ROLO  | VERÃO |
| RIFA | SABÃO | ALHO  |
| CHÃO | LIXO  | SUCO  |
| BALÉ | MOLA  | DONA  |

### listas de 6 palavras

|       |       |       |
|-------|-------|-------|
| TIA   | TALCO | VINHO |
| OURO  | VALA  | MUSEU |
| BICO  | BIFE  | TUBO  |
| FILÓ  | OLHO  | FOCA  |
| ALÇA  | JÓIA  | SOLO  |
| BURRO | MEL   | VARA  |

## **6- Compreensão de Frases**

Agora nós vamos responder perguntas sobre frases. Na próxima página do caderno vocês encontrarão todas as frases. Atenção! Para responder às perguntas, quero que vocês façam um “X” na resposta que acharem correta. Trabalhem o mais rápido que puderem e respondam ao maior número possível de frases. Quando eu disser para virarem a folha, vocês podem começar a fazer a tarefa e, quando eu disser que o tempo acabou, vocês não deverão resolver mais nenhum problema.

**Você deverá marcar um prazo de 20 segundos para cada folha**

Caderno do Participante

**Bateria de Avaliação da Memória de Trabalho - BAMT**

Caderno **B**

Nome:.....

Data:...../...../..... Idade:..... Sexo: (M)/(F)

Escolaridade (anos):.....

**Não abra ainda este caderno!**

Quando autorizado pelo aplicador, abra o caderno na página que lhe for indicada e preste atenção ao que for pedido fazer. Use lápis ou caneta para responder as questões. Não é necessário utilizar borracha.

Não escreva no espaço abaixo. Ele é reservado para a correção de seu teste.

|             |  |
|-------------|--|
| Nº do teste |  |
| ALCESC      |  |
| APRP        |  |
| CPRSENT     |  |

|                |                      |                          |
|----------------|----------------------|--------------------------|
| <b>Quem?</b>   | <b>Pôs o quê?</b>    | <b>Quem?</b>             |
| ( ) O galo     | ( ) O ovo            | ( ) O namorado de Eunice |
| ( ) Juca _____ | ( ) O cachorro _____ | ( ) João _____           |
| ( ) Óculos     | ( ) O vento          | ( ) O tio de Eunice      |

|                          |                       |                       |
|--------------------------|-----------------------|-----------------------|
| <b>Quando?</b>           | <b>Quem informou?</b> | <b>Quem?</b>          |
| ( ) Na sexta-feira       | ( ) O Diretor         | ( ) O homem           |
| ( ) No mês passado _____ | ( ) O repórter _____  | ( ) O garoto          |
| ( ) Ontem                | ( ) A secretária      | ( ) A menina _____    |
| <b>Quem?</b>             | <b>Quando?</b>        | <b>Recebeu o quê?</b> |
| ( ) Papai                | ( ) Semana que vem    | ( ) A mesa            |
| ( ) O cachorro _____     | ( ) Ontem _____       | ( ) Notícias _____    |
| ( ) Cecília              | ( ) De manhã          | ( ) O caixa           |

|                        |                         |                       |
|------------------------|-------------------------|-----------------------|
| <b>Quem?</b>           | <b>O quê?</b>           | <b>Quem?</b>          |
| ( ) Os peões           | ( ) A qualidade de vida | ( ) Suas amigas       |
| ( ) Eu _____           | ( ) As curvas _____     | ( ) Maria _____       |
| ( ) O dono da terra    | ( ) As florestas        | ( ) Sua tia           |
| <b>Onde?</b>           | <b>Procurava quem?</b>  | <b>Recebeu o quê?</b> |
| ( ) No banco           | ( ) Serviço             | ( ) Um bilhete        |
| ( ) Longe da rua _____ | ( ) Casas _____         | ( ) Um cheque _____   |
| ( ) Perto da praça     | ( ) Amélia              | ( ) A roupa           |
| <b>Quem sabe?</b>      | <b>Desceu de onde?</b>  | <b>Quem?</b>          |
| ( ) Seu amiguinho      | ( ) Da escada           | ( ) O médico          |
| ( ) O homem _____      | ( ) Do poste _____      | ( ) Mamãe _____       |
| ( ) Pedro              | ( ) Do ônibus           | ( ) Eu                |



|                              |                       |                             |
|------------------------------|-----------------------|-----------------------------|
| <b>A maior parte do quê?</b> | <b>Quem elogiou?</b>  | <b>Quem?</b>                |
| ( ) Da cerca                 | ( ) A professora      | ( ) O ladrão                |
| ( ) Dos marinheiros _____    | ( ) A menina _____    | ( ) Celso _____             |
| ( ) Dos assuntos             | ( ) Os meninos        | ( ) A multidão              |
| <b>Quem?</b>                 | <b>Quando?</b>        | <b>Exigiu de quem?</b>      |
| ( ) Marina                   | ( ) Durante a semana  | ( ) De seu secretário _____ |
| ( ) A cunhada _____          | ( ) Ontem _____       | ( ) Do senador              |
| ( ) Cláudia                  | ( ) Hoje              | ( ) Do motorista            |
| <b>Quem?</b>                 | <b>Confiou o quê?</b> | <b>Quem?</b>                |
| ( ) Os plantadores           | ( ) Jóias             | ( ) Um garoto               |
| ( ) O gato _____             | ( ) Passarinho _____  | ( ) Rogério _____           |
| ( ) O seu vizinho            | ( ) Barco             | ( ) Um amigo                |
| <b>Como?</b>                 | <b>Deu o quê?</b>     | <b>Onde?</b>                |
| ( ) Bem                      | ( ) Trabalho          | ( ) No serviço              |
| ( ) Amarrado _____           | ( ) Alegrias _____    | ( ) No passeio _____        |
| ( ) De calção                | ( ) Dinheiro          | ( ) Nos feriados            |

|                            |                           |                      |
|----------------------------|---------------------------|----------------------|
| <b>Quem pensou?</b>        | <b>Perguntou o quê?</b>   | <b>Quem?</b>         |
| ( ) O remo                 | ( ) A matéria             | ( ) A garota         |
| ( ) Ela _____              | ( ) Meu nome _____        | ( ) Nossa tia _____  |
| ( ) O cachorro             | ( ) O preço               | ( ) Todos            |
| <b>Quem?</b>               | <b>Quem?</b>              | <b>O quê?</b>        |
| ( ) O livro                | ( ) Marcela               | ( ) Paulo            |
| ( ) O repórter _____       | ( ) O gato _____          | ( ) O carro _____    |
| ( ) Armando                | ( ) O rato                | ( ) A casa           |
| <b>Amiguinhos de quem?</b> | <b>Dependemos de quê?</b> | <b>Quem?</b>         |
| ( ) Tiago                  | ( ) Do açúcar             | ( ) O professor      |
| ( ) Carro _____            | ( ) Do cozinheiro _____   | ( ) As plantas _____ |

|  |  |  |
|--|--|--|
| <input type="checkbox"/> Marta             | <input type="checkbox"/> Do molho          | <input type="checkbox"/> A zeladora    |
| <b>Para o quê?</b>                         | <b>Quanto tempo?</b>                       | <b>O quê do Afonso?</b>                |
| <input type="checkbox"/> Bolo              | <input type="checkbox"/> Uns minutos _____ | <input type="checkbox"/> Primo         |
| <input type="checkbox"/> Construção _____  | <input type="checkbox"/> A noite inteira   | <input type="checkbox"/> Cunhado _____ |
| <input type="checkbox"/> Envelope          | <input type="checkbox"/> Horas             | <input type="checkbox"/> Um vizinho    |
| <b>Quem?</b>                               | <b>Quem o abandonou?</b>                   | <b>Quem?</b>                           |
| <input type="checkbox"/> Pérola            | <input type="checkbox"/> João              | <input type="checkbox"/> O porteiro    |
| <input type="checkbox"/> O motorista _____ | <input type="checkbox"/> O partido _____   | <input type="checkbox"/> O homem _____ |
| <input type="checkbox"/> Papai             | <input type="checkbox"/> À vegetação       | <input type="checkbox"/> O leão        |

Listas de palavras

|       |       |       |
|-------|-------|-------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

|       |       |       |
|-------|-------|-------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

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|  |  |  |
|  |  |  |

**COMPREENSÃO DE FRASES**

Os meninos brincaram muito de peteca e de bola.

Quem?

- À janela
- Paulo
- Os meninos

Os vaqueiros sabem que o patrão gosta de gado.

Quem gosta de gado?

- Os homens
- O patrão
- A natureza

A qualidade de vida se revelou boa naquela ilha.

O quê?

- A qualidade de vida
- As curvas
- As florestas

Sempre me surpreendo com tanta terra.

Quem?

- Os peões
- Eu
- O dono da terra

Os meninos queriam ganhar o jogo.

Quem?

- Os meninos
- O treinador
- O padre

O médico que tinha um barco nos ajudou na cheia.

Tinha o quê?

- Os brinquedos
- Farofa
- Um barco

O partido do senador exigiu dele um sinal.

Exigiu de quem?

- De seu secretário
- Do senador
- Do motorista

Aquela senhora recebeu um bilhete e procurou o moço.

Recebeu o quê?

- Um bilhete
- Um cheque

De casa, Lúcia telefonou ao pai.

De onde?

- Da escola
- Do orelhão
- De casa

Sua tia confiou a chave ao vizinho.

Confiou o quê?

- Jóias
- Chave
- Barco

Todos os meus filhos fazem o dever de casa.

Quantos filhos?

- Metade
- Todos
- Apenas um

Pedro sabe que seu amiguinho perdeu o papel.

Quem sabe?

- Seu amiguinho
- O homem
- Pedro

Para o bolo, precisamos de leite.

Para o quê?

- Bolo
- Construção
- Envelope

O ladrão tentou levar o dinheiro do caixa.

Quem?

- O ladrão
- Celso
- A multidão

Mariana devolveu o carro com defeito para a loja.

O quê?

- Paulo
- O carro
- A casa

O primo do Afonso perdeu o baile.

O quê do Afonso?

- Primo
- Cunhado

A roupa

Madalena lembrou que vocês encontraram o bicho.

Quem encontrou?

Vocês

Eustáquio

A escola

Suas amigas acham que se confundiram com a roupa.

Quem?

Suas amigas

Maria

Sua tia

Ontem, João Ricardo capinou todo o mato.

Quando?

Na sexta-feira

No mês passado

Ontem

Ele entregou os documentos ao porteiro da noite.

Entregou o quê?

Os documentos

Um carro

Acúcar

No comício, todos devem ficar antes da faixa.

Quem?

A garota

Nossa tia

Todos

Um vizinho

Hoje, o chefe de vendas apresentou o novo milho.

Quando?

Durante a semana

Ontem

Hoje

Agora só dependemos do molho para o pato.

Dependemos de quê?

Do acúcar

Do cozinheiro

Do molho

A galinha pôs o ovo e saiu do ninho.

Pôs o quê?

O ovo

O cachorro

O vento

Todos os convidados receberam um brinde e uma rosa.

Quantos convidados?

Só os amigos

Todos

Alguns

## Appendix D – Listening Task Pre-Test and Post-Test

### Part 1

#### Questions 1 – 5

You will hear five short conversations.  
You will hear each conversation twice.  
There is one question for each conversation.  
For questions 1 – 5, put a tick (✓) under the right answer.

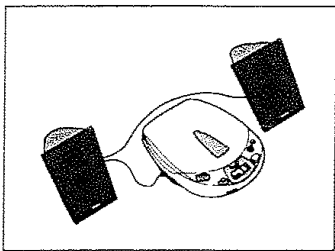
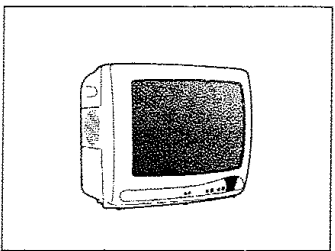

#### Example:

How many people were at the meeting?

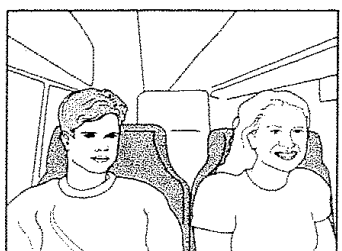

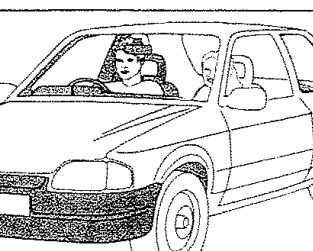
|                            |                            |                                       |
|----------------------------|----------------------------|---------------------------------------|
| <b>3</b>                   | <b>13</b>                  | <b>30</b>                             |
| A <input type="checkbox"/> | B <input type="checkbox"/> | C <input checked="" type="checkbox"/> |

---

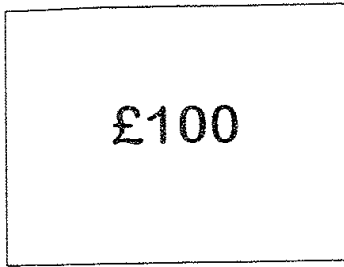
1 What is the man going to take to the repair shop?

|   |   |   |
|---|---|---|
|  |  |  |
| A <input type="checkbox"/>  | B <input type="checkbox"/>  | C <input type="checkbox"/>  |

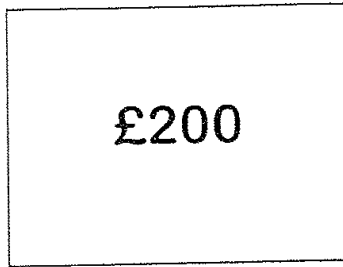
2 How will Nancy and Joe get to the sports centre?

|   |   |   |
|---|---|---|
|  |  |  |
| A <input type="checkbox"/>  | B <input type="checkbox"/>  | C <input type="checkbox"/>  |

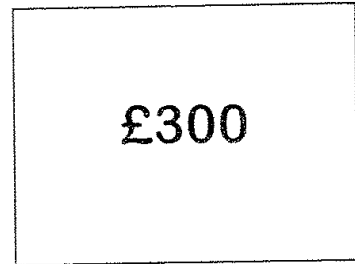
3 How much is the prize for the competition?



A

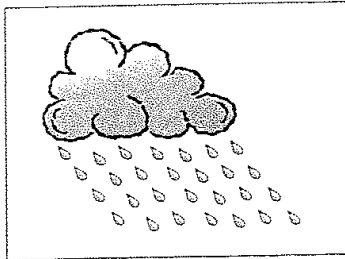


B

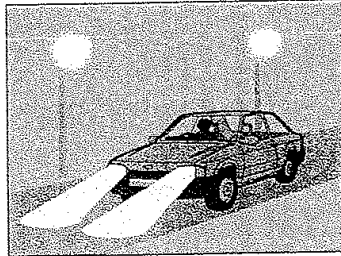


C

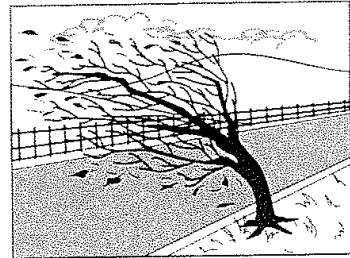
4 What will the weather be like tomorrow lunchtime?



A

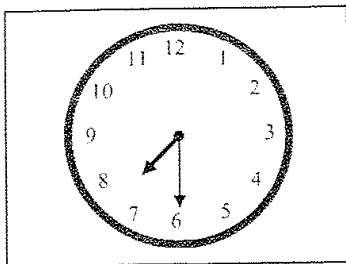


B

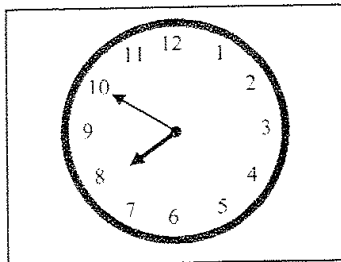


C

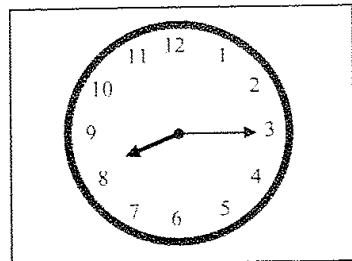
5 What time will they leave home?



A



B



C

Part 2

Questions 6 – 10

Listen to Ben talking to his wife about the clothes in his suitcase.  
Which clothes will he wear each day?

For questions 6 – 10, write a letter A – H next to each day.  
You will hear the conversation twice.

Example:

0 Sunday  D

---

DAYS

6 Monday

7 Tuesday

8 Wednesday

9 Thursday

10 Friday

CLOTHES

A blue shirt

B coat

C jacket

D jeans

E light trousers

F shorts

G suit

H sweater



Part 3

Questions 11 – 15

Listen to Duncan talking to a friend about a tennis course.

For questions 11 – 15, tick (✓) A, B or C.  
You will hear the conversation twice.

Example:

- |   |                                 |   |           |                                     |
|---|---------------------------------|---|-----------|-------------------------------------|
| 0 | How long was the tennis course? | A | one day   | <input type="checkbox"/>            |
|   |                                 | B | two days  | <input type="checkbox"/>            |
|   |                                 | C | five days | <input checked="" type="checkbox"/> |
- 

- |    |                          |   |                   |                          |
|----|--------------------------|---|-------------------|--------------------------|
| 11 | Duncan stayed in a hotel | A | in a town.        | <input type="checkbox"/> |
|    |                          | B | near the sea.     | <input type="checkbox"/> |
|    |                          | C | in the mountains. | <input type="checkbox"/> |

- |    |                             |   |          |                          |
|----|-----------------------------|---|----------|--------------------------|
| 12 | Duncan's teacher comes from | A | England. | <input type="checkbox"/> |
|    |                             | B | France.  | <input type="checkbox"/> |
|    |                             | C | Canada.  | <input type="checkbox"/> |

- |    |   |   |      |                          |
|----|---|---|------|--------------------------|
| 13 | How much did Duncan pay for the course? | A | £185 | <input type="checkbox"/> |
|    |   | B | £205 | <input type="checkbox"/> |
|    |   | C | £265 | <input type="checkbox"/> |

- |    |  |   |          |                          |
|----|--|---|----------|--------------------------|
| 14 | Before the course, Duncan bought himself some tennis | A | shoes.   | <input type="checkbox"/> |
|    |  | B | clothes. | <input type="checkbox"/> |
|    |  | C | balls.   | <input type="checkbox"/> |

- |    |                                |   |                 |                          |
|----|--------------------------------|---|-----------------|--------------------------|
| 15 | On the last evening, there was | A | a party.        | <input type="checkbox"/> |
|    |                                | B | a film show.    | <input type="checkbox"/> |
|    |                                | C | a tennis match. | <input type="checkbox"/> |

Part 4

Questions 16 – 20

You will hear a woman phoning for information about a boat trip.

Listen and complete questions 16 – 20.  
You will hear the conversation twice.

### Boat Trip on the River Dee

Days of boat trip: Friday and Sunday

Get on boat at the: 16

Time boat leaves: 17 ..... p.m.

Boat goes to: 18

On boat, you can buy: 19 drinks and

Cost of adult ticket: 20 £

Part 5

Questions 21 – 25

You will hear a woman giving information on the radio about a theatre school.

Listen and complete questions 21 – 25.  
You will hear the information twice.

---

| Children's Theatre School          |                    |
|------------------------------------|--------------------|
| Name of school:                    | Silver Star        |
| Cost for children over 14:         | 21 £..... per week |
| Children must take their own:      | 22                 |
| There is a show every:             | 23                 |
| The first summer course starts on: | 24 21st .....      |
| Phone number:                      | 25                 |

You now have 8 minutes to write your answers on the answer sheet.

Test 3

**PAPER 2 LISTENING** (approximately 30 minutes including 8 minutes transfer time)

**PART 1**

**QUESTIONS 1-5**

You will hear five short conversations.

You will hear each conversation twice.

There is one question for each conversation.

For questions 1-5, put a tick  under the right answer.

**EXAMPLE**

0 How many people were at the meeting?

3

A

13

B

30

C

1 When will they go on holiday?

June

A

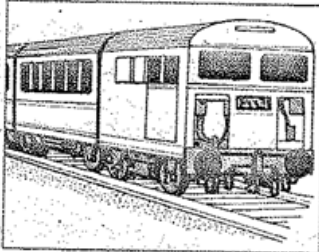
July

B

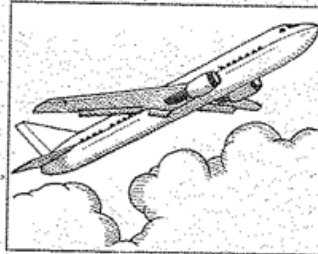
September

C

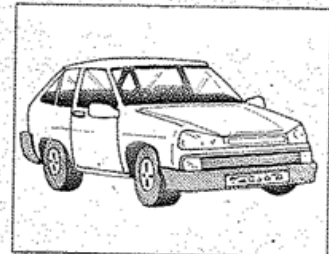
2 How is Patti going to travel?



A

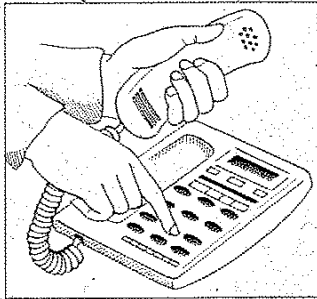


B

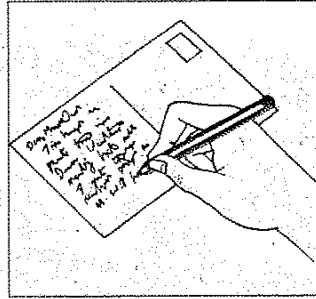


C

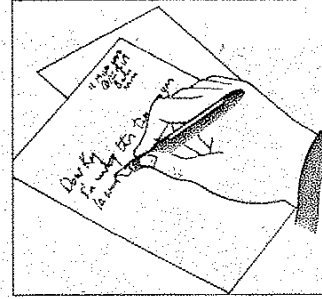
3 What will Sam do?



A

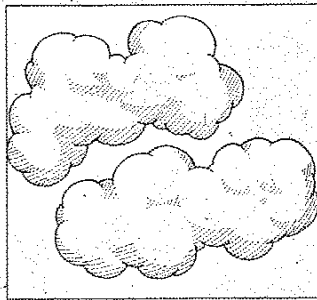


B

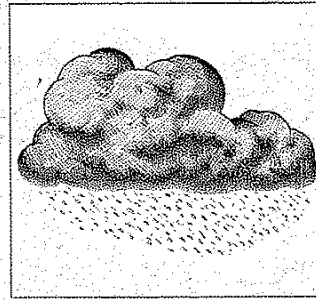


C

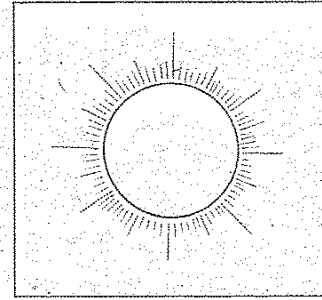
4 What was the weather like in Portugal?



A

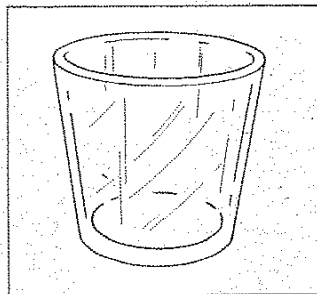


B

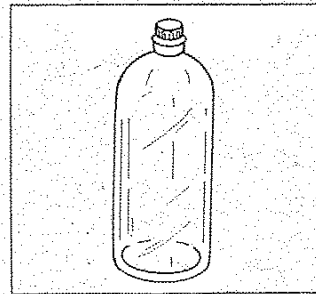


C

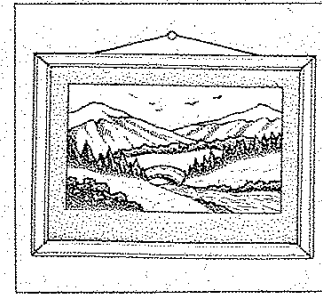
5 What has the girl broken?



A

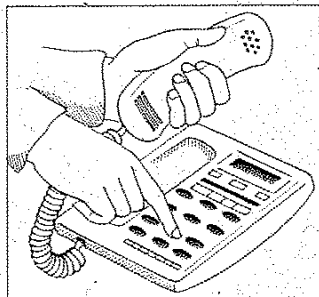


B

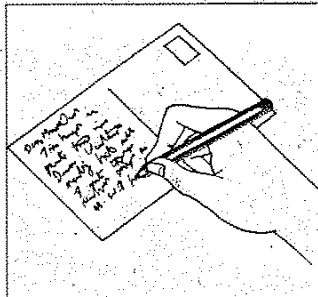


C

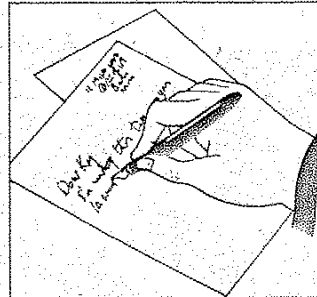
3 What will Sam do?



A

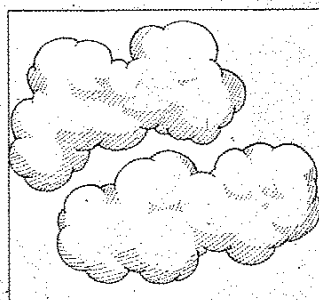


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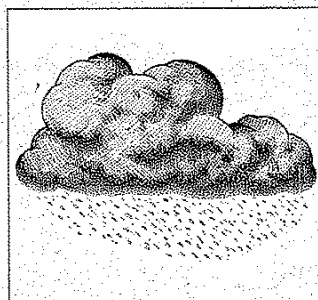


C

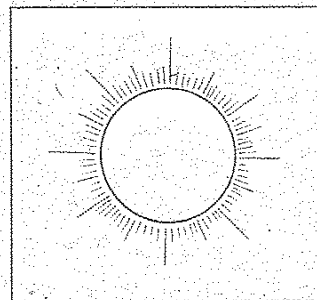
4 What was the weather like in Portugal?



A

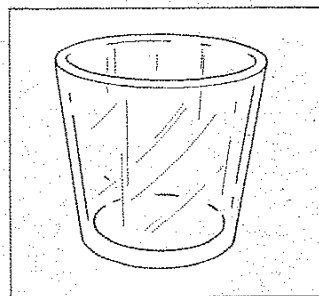


B

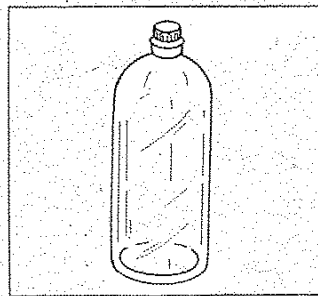


C

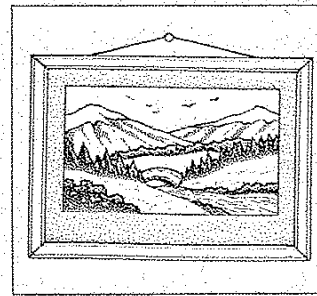
5 What has the girl broken?



A

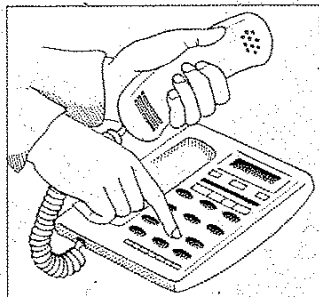


B

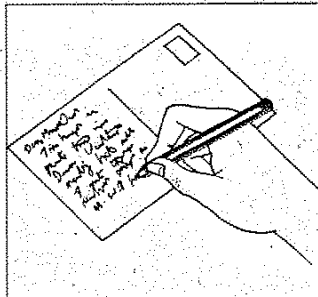


C

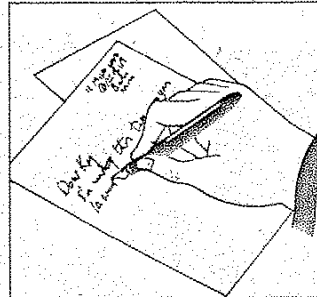
3 What will Sam do?



A

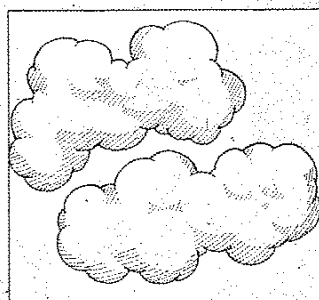


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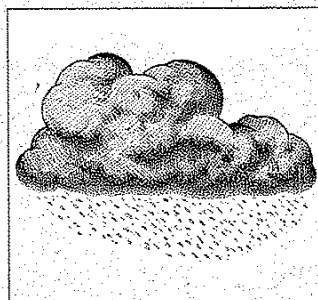


C

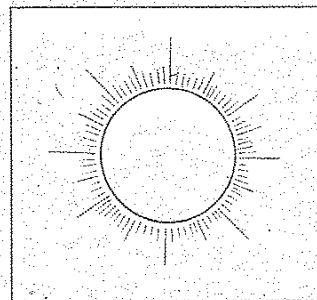
4 What was the weather like in Portugal?



A

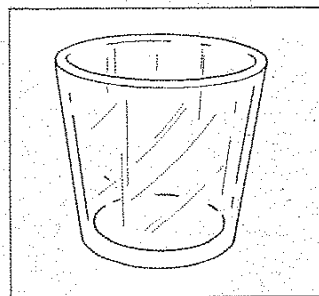


B

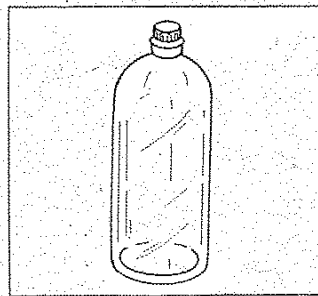


C

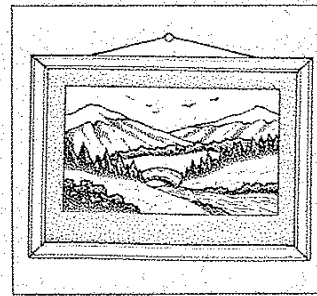
5 What has the girl broken?



A



B



C





Test 3

**PART 2**

**QUESTIONS 6–10**

Listen to Patrick talking to his mother about a photo of his old school friends.

What is each person wearing?

For questions 6–10, write a letter A–H next to each person.

You will hear the conversation twice.

**EXAMPLE**

0 Peter

D

**PEOPLE**

6 Martin

7 Joanna

8 Amy

9 James

10 Robert

**THEIR CLOTHES**

A coat

B dress

C hat

D jacket

E jeans

F shirt

G sweater

H t-shirt

**PART 3**

**QUESTIONS 11–15**

Listen to Jenny asking Mark about school holiday activities.

For questions 11–15, tick  A, B or C.

You will hear the conversation twice.

| EXAMPLE                     | ANSWER                              |
|-----------------------------|-------------------------------------|
| 0 The children's show is at |                                     |
| A the theatre.              | <input type="checkbox"/>            |
| B the shopping centre.      | <input type="checkbox"/>            |
| C the library.              | <input checked="" type="checkbox"/> |

11 The show begins at

- A 1.15.
- B 2.00.
- C 3.30.

12 A child's ticket costs

- A 25p.
- B 75p.
- C £1.50.

13 The holiday reading course is for

- A 4 weeks.
- B 6 weeks.
- C 10 weeks.

Test 3

14 This year from the library, children can win

- A a pen.
- B a school bag.
- C a book.

15 Jenny should meet Mark again

- A next week.
- B tomorrow.
- C today.

**PART 4**

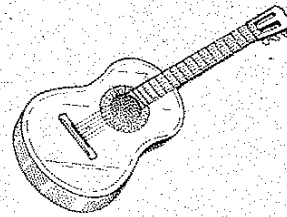
**QUESTIONS 16–20**

You will hear **Judy** asking about music lessons.

Listen and complete questions 16–20.

You will hear the conversation twice.

# GUITAR LESSONS FOR JUDY



Class:

Day:

Starting time:

Price of each lesson:

Teacher's name:

Room number:

Test 3

**PART 5**

**QUESTIONS 21–25**

You will hear a teacher talking about a school trip.

Listen and complete questions 21–25.

You will hear the information twice.

| <b>SCHOOL TRIP</b> |                           |
|--------------------|---------------------------|
| Day:               | Saturday                  |
| Visit:             | 21 <input type="text"/>   |
| Leave at:          | 22 <input type="text"/>   |
| Meet in:           | 23 <input type="text"/>   |
| Cost:              | 24 £ <input type="text"/> |
| Bring:             | 25 <input type="text"/>   |

You now have 8 minutes to write your answers on the answer sheet.

## Appendix E - Exam-oriented listening activities – Explicit Training

### PART 1

#### QUESTIONS 1–5

You will hear five short conversations.

You will hear each conversation twice.

There is one question for each conversation.

For questions 1–5, put a tick  under the right answer.

#### EXAMPLE

0 How many people were at the meeting?

**3**

A

**13**

B

**30**

C

1 When did Gary start his new job?

|              |
|--------------|
| <b>MARCH</b> |
|              |
|              |
|              |
|              |

A

|              |
|--------------|
| <b>APRIL</b> |
|              |
|              |
|              |
|              |

B

|            |
|------------|
| <b>MAY</b> |
|            |
|            |
|            |
|            |

C

2 What time does the film start?

|             |
|-------------|
| <b>4.30</b> |
| <b>and</b>  |
| <b>7.00</b> |

A

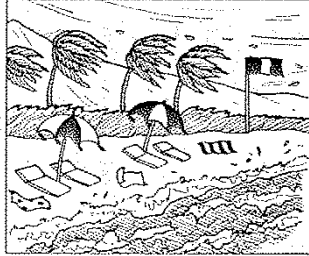
|             |
|-------------|
| <b>4.30</b> |
| <b>and</b>  |
| <b>7.30</b> |

B

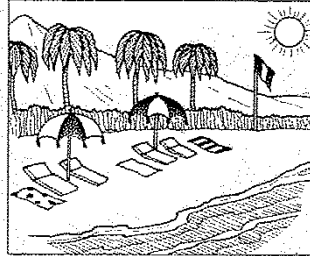
|             |
|-------------|
| <b>4.00</b> |
| <b>and</b>  |
| <b>7.30</b> |

C

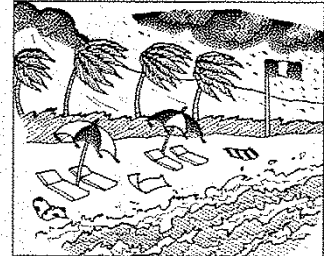
3 What was the weather like on Saturday?



A

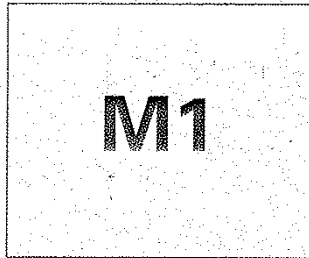


B

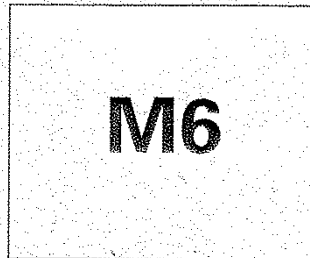


C

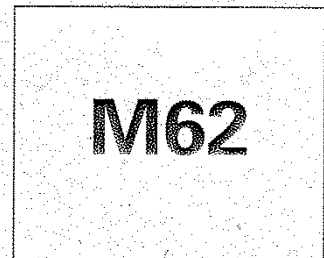
4 Which motorway will they take?



A

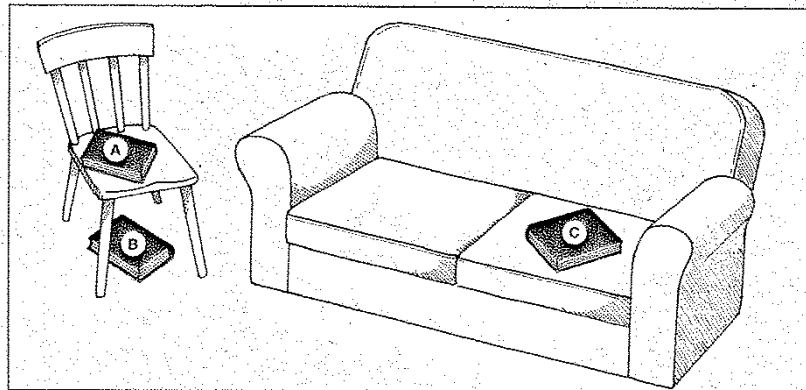


B



C

5 Which book does Lorna want?



A

B

C

**PART 2**

**QUESTIONS 6–10**

Listen to Sue talking to a friend about her new clothes.

Why did Sue decide to buy each thing?

For questions 6–10, write a letter A–H next to the clothes.

You will hear the conversation twice.

**EXAMPLE**

0 jeans

**F**

**CLOTHES SUE BOUGHT**

6 jacket

7 dress

8 sweater

9 coat

10 t-shirt

**WHY?**

A big

B cheap

C expensive

D light

E long

F purple

G short

H soft



## PART 3

## QUESTIONS 11–15

Listen to Jan talking to Steve about getting a student travel card.

For questions 11–15, tick  A, B or C.

You will hear the conversation twice.

| EXAMPLE                               | ANSWER                              |
|---------------------------------------|-------------------------------------|
| 0 How is Steve going to go to London? |                                     |
| A by bus                              | <input type="checkbox"/>            |
| B by car                              | <input type="checkbox"/>            |
| C by train                            | <input checked="" type="checkbox"/> |

11 How much is a travel card?

- A £6
- B £16
- C £60

12 Jan will need

- A one photo.
- B two photos.
- C four photos.

13 Photos are less expensive

- A in the photographer's shop.
- B in the library.
- C in the post office.

Test 1

14 For the travel card, Jan must take

A a letter.

B her passport.

C her driving licence.

15 Jan can get a travel card from

A her college.

B the travel agent's.

C the tourist office.

**PART 4**

**QUESTIONS 16–20**

You will hear a man speaking on the telephone.  
Listen and complete questions 16–20.  
You will hear the conversation twice.



**TELEPHONE MESSAGE**



To: Mr Brown

From: 16 David .....

Not in school because he has: 17 a bad .....

Students should read pages: 18 ..... to .....

David will return to school on: 19 ..... afternoon

at: 20 ..... p.m.

**PART 5**

**QUESTIONS 21–25**

You will hear some information about a pop concert.

Listen and complete questions 21–25.

You will hear the information twice.

# POP CONCERT

Name of group: Red River

In London: From: October 28th

To: 21 November .....

Price of ticket: 22 £ .....

Telephone no: 23 .....

Place: 24 ..... Bank Hall

In: 25 ..... Street

You now have 8 minutes to write your answers on the answer sheet.

Test 2

**PAPER 2 LISTENING** (approximately 30 minutes including 8 minutes transfer time)

**PART 1**

**QUESTIONS 1-5**

You will hear five short conversations.

You will hear each conversation twice.

There is one question for each conversation.

For questions 1-5, put a tick  under the right answer.

**EXAMPLE**

0 How many people were at the meeting?

**3**

A

**13**

B

**30**

C

1 What colour is Kathy's bedroom now?

PINK

A

GREEN

B

BLUE

C

2 Which platform does the woman's train leave from?

PLATFORM

2

A

PLATFORM

6

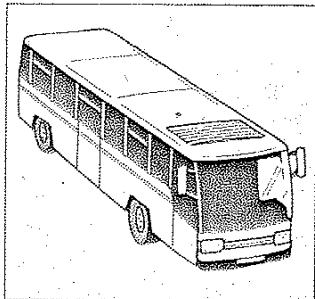
B

PLATFORM

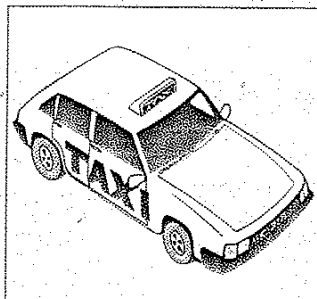
10

C

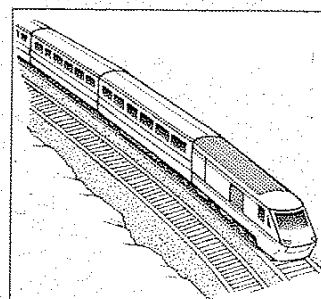
3 How is Susan going to get to the airport?



A

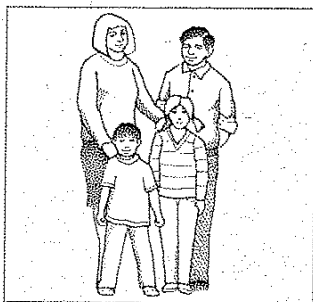


B

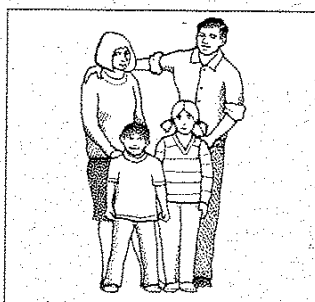


C

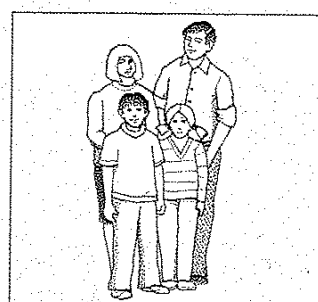
4 Which is Anna's family?



A



B



C

5 When is Kim's birthday party?

| June 11 |
|---------|
|         |
|         |
|         |
|         |
|         |
|         |
|         |

A

| June 16 |
|---------|
|         |
|         |
|         |
|         |
|         |
|         |
|         |

B

| June 30 |
|---------|
|         |
|         |
|         |
|         |
|         |
|         |
|         |

C

Test 2

**PART 2**

**QUESTIONS 6–10**

Listen to Rose talking to Steve about her day.

What is Rose going to do at each time?

For questions 6–10, write a letter A–H next to each time.

You will hear the conversation twice.

**EXAMPLE**

0 9.00 a.m.

E

**TIMES**

**ACTIVITIES**

6 10.00 a.m.

A art lesson

7 11.00 a.m.

B have lunch

8 12.00 a.m.

D meet Bill

9 1.00 p.m.

E see doctor

10 2.00 p.m.

F see teacher

G study

H swim

## PART 3

## QUESTIONS 11–15

Listen to Peter talking to a friend about learning to drive.

For questions 11–15, tick  A, B or C.

You will hear the conversation twice.

| EXAMPLE                                 | ANSWER                              |
|---|-------------------------------------|
| 0 The name of Peter's driving school is |                                     |
| A AA.                                   | <input type="checkbox"/>            |
| B AC.                                   | <input type="checkbox"/>            |
| C ABC.                                  | <input checked="" type="checkbox"/> |

11 Each driving lesson costs

A £14.

B £40.

C £60.

12 A lesson is

A 30 minutes.

B 45 minutes.

C 60 minutes.

13 The teacher's car is

A slow.

B old.

C big.



Test 2

14 Peter failed the test because he

- A drove too fast.
- B didn't see a crossing.
- C didn't stop at the traffic lights.

15 Peter thinks the teacher is too

- A expensive.
- B unfriendly.
- C young.

**PART 4**

**QUESTIONS 16–20**

You will hear a man asking about theatre tickets.

Listen and complete questions 16–20.

You will hear the conversation twice.

## PLAYHOUSE THEATRE

**EVENING SHOW:**

The White Room

Time:

16

**AFTERNOON SHOW:**

17

The School .....

Time:

3 o'clock

Ticket prices:

18

£15 and £ .....

All tickets £6 on:

19

Car park in:

20

..... Street

Test 2

**PART 5**

**QUESTIONS 21–25**

You will hear some information about a health centre.

Listen and complete questions 21–25.

You will hear the information twice.

| <b>MILL HOUSE HEALTH CENTRE</b>  |                         |
|----------------------------------|-------------------------|
| Opens again tomorrow at:         | 8 a.m.                  |
| Phone number (for appointments): | 21 <input type="text"/> |
| Phone after:                     | 22 <input type="text"/> |
| Get medicines from:              | 23 ..... Chemist's Shop |
| Bus number:                      | 24 <input type="text"/> |
| For accidents, go to:            | 25 ..... Hospital       |

You now have 8 minutes to write your answers on the answer sheet.

**PAPER 2 LISTENING** (approximately 30 minutes including 8 minutes transfer time)

**PART 1**

**QUESTIONS 1-5**

You will hear five short conversations.

You will hear each conversation twice.

There is one question for each conversation.

For questions 1-5, put a tick  under the right answer.

**EXAMPLE**

0 How many people were at the meeting?

**3**

A

**13**

B

**30**

C

1 Which is Tom's mother?



A

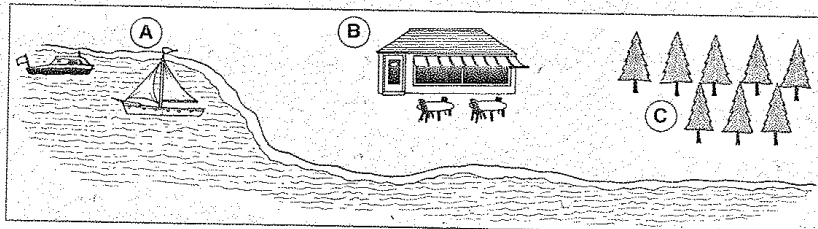


B



C

2 Where will the beach party be?

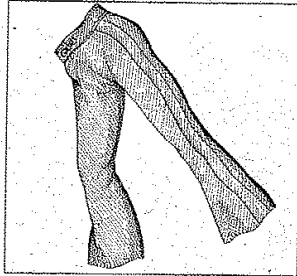


A

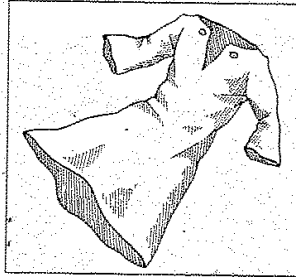
B

C

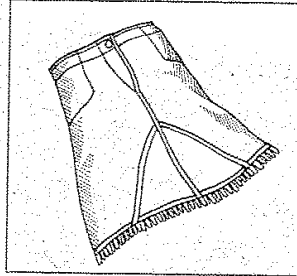
3 What will Fiona wear to the dance?



A

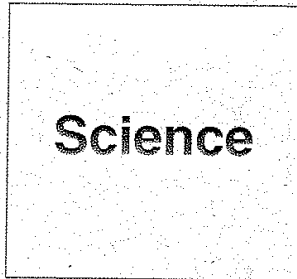


B

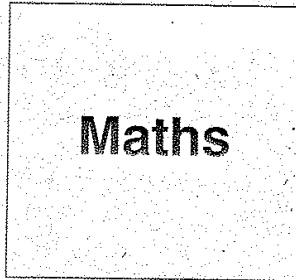


C

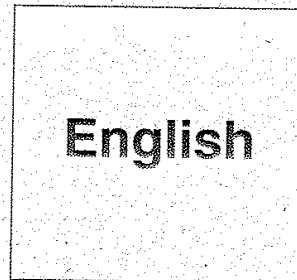
4 What homework is the girl doing now?



A

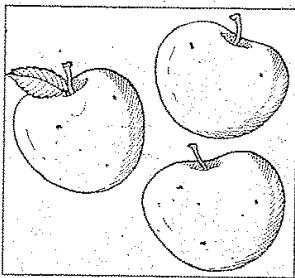


B

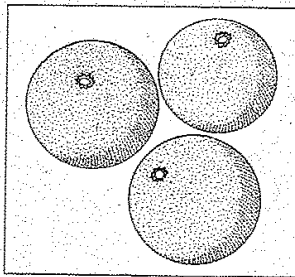


C

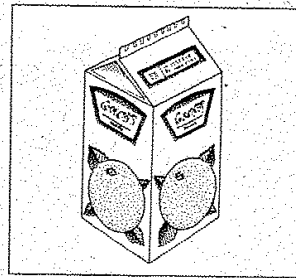
5 What's David going to buy?



A



B



C

**PART 2**

**QUESTIONS 6–10**

Listen to Sonya talking to Martin about her family.

How old are her brothers and sisters?

For questions 6–10, write a letter A–H next to each person.

You will hear the conversation twice.

|                |       |                                       |
|----------------|-------|---------------------------------------|
| <b>EXAMPLE</b> |       |                                       |
| 0              | Sonya | <input checked="" type="checkbox"/> H |

**PEOPLE**

**AGES**

6 Sally

A two

7 Vivienne

B five

8 Roger

C seven

9 Frank

D ten

10 Deborah

E thirteen

F fifteen

G eighteen

H twenty

## PART 3

## QUESTIONS 11–15

Listen to a woman asking a travel agent for some information about a park in the mountains.

For questions 11–15, tick  A, B or C.

You will hear the conversation twice.

| EXAMPLE                             | ANSWER                              |
|-------------------------------------|-------------------------------------|
| 0 The woman will visit the park for |                                     |
| A one week.                         | <input checked="" type="checkbox"/> |
| B two weeks.                        | <input type="checkbox"/>            |
| C four weeks.                       | <input type="checkbox"/>            |

11 In the park, there is

A a café.

B a hotel.

C a guest-house.

12 The village has a

A swimming pool.

B cinema.

C food shop.

13 You can only go through the park

A by car.

B by bus.

C on foot.

Test 4

14 On weekdays, a visit to the park costs

A \$12.

B \$13.

C \$16.

15 In the park, the woman will see

A animals.

B flowers.

C snow.





Test 4

**PART 5**

**QUESTIONS 21–25**

You will hear some information about a museum.

Listen and complete questions 21–25.

You will hear the information twice.

| <b>THE REDFERN MUSEUM</b> |                    |
|---------------------------|--------------------|
| Open:                     | Monday to Thursday |
| You can see:              |                    |
| Downstairs                | 21 old .....       |
| Upstairs: pictures by     | 22 ..... artists   |
| Concerts during month of: | 23 .....           |
| Student ticket:           | 24 £ .....         |
| Telephone number:         | 25 .....           |

You now have 8 minutes to write your answers on the answer sheet.

## Appendix F - Questionnaire



PONTIFÍCIA UNIVERSIDADE CATÓLICA DO RIO GRANDE DO SUL

PROGRAMA DE PÓS-GRADUAÇÃO EM LETRAS

Prof.Orientador: Dr. Augusto Buchweitz (abuchweitz@gmail.com)

Aluna pesquisadora: Aline Fay de Azevedo (alinefay@gmail.com.)

### QUESTIONÁRIO

Participante nº \_\_\_\_\_

Data: \_\_\_\_\_

Hora: \_\_\_\_\_

1. Nome do participante:

\_\_\_\_\_

2. Sexo: ( ) F ( ) M

3. Idade: \_\_\_\_\_ anos

4. Local de nascimento: \_\_\_\_\_ Nacionalidade: \_\_\_\_\_

5. Contato:

Telefone(s):

\_\_\_\_\_

Endereço:

\_\_\_\_\_

6. Nível de escolaridade:

( ) ensino superior completo

( ) ensino superior incompleto

7. Profissões:

| Ocupação | Data início (mês/ano) | Data fim (mês/ano) | Comentários |
|----------|-----------------------|--------------------|-------------|
|          |                       |                    |             |
|          |                       |                    |             |
|          |                       |                    |             |

8. Etnicidade (informação sobre descendência):

Etnia do pai: \_\_\_\_\_ Etnia da Mãe: \_\_\_\_\_

09. Que línguas você fala?

\_\_\_\_\_

10. Qual língua você considera a sua língua materna?

\_\_\_\_\_

11. Aquisição:

| Língua | Idade de exposição | Onde foi exposto                 | Com quem aprendeu   |
|--------|--------------------|----------------------------------|---|
|        |                    | Casa / escola / outro<br>(_____) | Pais / avós / babá / professora / vizinhos /<br>amigos / outros (_____) |
|        |                    | Casa / escola / outro<br>(_____) | Pais / avós / babá / professora / vizinhos /<br>amigos / outros (_____) |
|        |                    | Casa / escola / outro<br>(_____) | Pais / avós / babá / professora / vizinhos /<br>amigos / outros (_____) |
|        |                    | Casa / escola / outro<br>(_____) | Pais / avós / babá / professora / vizinhos /<br>amigos / outros (_____) |

12. Performance: Avalie as suas habilidades linguísticas numa escala de 1 a 5, sendo que 1 equivale a muito pouco e 5 a muito bem.

| Língua | Leitura   | Escrita   | Ouvir e entender | Falar     |
|--------|-----------|-----------|------------------|-----------|
|        | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5        | 1 2 3 4 5 |
|        | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5        | 1 2 3 4 5 |
|        | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5        | 1 2 3 4 5 |
|        | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5        | 1 2 3 4 5 |

13. Que línguas estas pessoas falavam com você quando era criança?

Pai: \_\_\_\_\_ Mãe: \_\_\_\_\_ Avó materna: \_\_\_\_\_ Avô materno:

\_\_\_\_\_

Avó paterna: \_\_\_\_\_ Avô paterno: \_\_\_\_\_ Irmão 1: \_\_\_\_\_ Irmão 2: \_\_\_\_\_

14. Qual é a sua língua dominante agora? (qual você acha que sabe melhor, se sente más cômodo?)

\_\_\_\_\_

15. Frequência de uso da(s) língua(s):

| Língua | Lugar / situação               | Percentual de uso |    |    |    |    |    |    |    |    |    |     | Comentários |
|--------|--------------------------------|-------------------|----|----|----|----|----|----|----|----|----|-----|-------------|
|        |                                | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |
|        | Em casa                        | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |
|        | Ao visitar familiares          | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |
|        | Na universidade                | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |
|        | No trabalho                    | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |
|        | Na igreja / eventos religiosos | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |
|        | Ao visitar amigos              | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |
|        | Ao telefone                    | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |
|        | Nas férias                     | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |
|        | Ao fazer compras               | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |
|        | Em festas ou eventos sociais   | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |
| Língua | Lugar / situação               | Percentual de uso |    |    |    |    |    |    |    |    |    |     | Comentários |
|        | Em casa                        | 0                 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |             |

|               |                                |                          |    |    |    |    |    |    |    |    |    |                    |  |
|---------------|--------------------------------|--------------------------|----|----|----|----|----|----|----|----|----|--------------------|--|
|               | Ao visitar familiares          | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Na universidade                | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | No trabalho                    | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Na igreja / eventos religiosos | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Ao visitar amigos              | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Ao telefone                    | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Nas férias                     | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Ao fazer compras               | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Em festas ou eventos sociais   | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
| <b>Língua</b> | <b>Lugar / situação</b>        | <b>Percentual de uso</b> |    |    |    |    |    |    |    |    |    | <b>Comentários</b> |  |
|               | Em casa                        | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Ao visitar familiares          | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Na universidade                | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | No trabalho                    | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Na igreja / eventos religiosos | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Ao visitar amigos              | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Ao telefone                    | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Nas férias                     | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Ao fazer compras               | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Em festas ou eventos sociais   | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
| <b>Língua</b> | <b>Lugar / situação</b>        | <b>Percentual de uso</b> |    |    |    |    |    |    |    |    |    | <b>Comentários</b> |  |
|               | Em casa                        | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Ao visitar familiares          | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Na universidade                | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | No trabalho                    | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Na igreja / eventos religiosos | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Ao visitar amigos              | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Ao telefone                    | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Nas férias                     | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Ao fazer compras               | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |
|               | Em festas ou eventos sociais   | 0                        | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100                |  |

16. Que língua se fala diariamente em sua casa?

\_\_\_\_\_

17. Que línguas você estudou formalmente? Por quanto tempo? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_