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" SCHEMA ACTIVATION AND TEXT COMPREHENSION "

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R E S U M O

O objetivo do presente trabalho é investigar os efeitos de duas atividades de pré-leitura, "Possible Sentences" (Moore and Arthur, 1981) e uma versão modificada da "Request Procedure" (Manzo, 1969), na compreensão em leitura de alunos brasileiros estudando uma segunda língua no Brasil. Quarenta alunos de nível intermediário matriculados em Inglês numa escola particular em Florianópolis,no estado de Santa Catarina, participaram do estudo. Os sujeitos leram quatro textos, cada um trabalhado de maneira diferente, três precedidos de atividades de pré-leitura i.e, 1) Possible Sentences, 2) Request Procedure, 3) Possible Sentences + Request Procedure e um texto sem atividade, como controle. Imediatamente após terem lido cada texto, os sujeitos foram testados através de 5 perguntas de compreensão e 10 itens do tipo verdadeiro ou falso. Os sujeitos também avaliaram os textos em termos de dificuldade e familiaridade com o conteúdo dos mesmos. De acordo com a ANOVA (Análise de Variância) realizada nos resultados totais (soma do resultado das perguntas e dos itens verdadeiro/falso), os tratamentos tiveram efeito significativo na compreensão dos sujeitos,i.e, quando leram os textos precedidos de uma das três atividades obtiveram melhores resultados nos testes do que quando leram sem atividades. Resultados semelhantes foram encontrados para a ANOVA realizada

nos dados obtidos nas perguntas. Entretanto não foram encontrados efeitos estatísticamente significativos nos resultados dos itens verdadeiro/falso. O teste de "Tukey" para comparações múltiplas não revelou diferenças significativas entre as próprias atividades de pré-leitura. Nenhuma correlação foi encontrada entre a avaliação dos sujeitos em relação ao nível de familiaridade com o conteúdo dos textos e os resultados obtidos pelos mesmos nas perguntas de compreensão. Também não foi encontrada correlação entre o nível de familiaridade e os resultados dos testes do tipo verdadeiro / falso. Entretanto, houve uma correlação moderada entre a avaliação dos textos como fáceis / difíceis e os resultados obtidos das perguntas, mas novamente não foi encontrada correlação entre esta avaliação e os resultados obtidos nos itens verdadeiro/falso.

Todos os resultados foram analisados do ponto de vista da teoria dos esquemas da compreensão em leitura.

A B S T R A C T

The objective of the the present study was to investigate the effects of two prereading activities, namely, Possible Sentences (Moore and Arthur, 1981) and a modified version of the Request Procedure (Manzo, 1969) on the reading compreension of Brazilian EFL students of intermediate level. Forty students taking a regular English course at a private language Institute in the Southern state of Santa Catarina, in Brazil, participated in the study. They read four texts, three of them preceded by one of the three prereading treatments i.e., 1) Possible Sentences, 2) Request Procedure and 3) Possible Sentences + Request Procedure and the fourth text without any treatment, as the control. Immediately after reading each of the 4 passages, the subjects' comprehension was assessed by means of five open-ended questions and ten true/false statements. The subjects also rated their familiarity with the content of the passages and the difficulty they encountered in the texts on a 1-6 scale. The ANOVA performed on the total results (open-ended items + true-false statements) showed that treatment had a statistically significant effect on comprehension i.e., when the subjects read the passages with one of the three prereading conditions they performed better on the tests than when they read them without any prereading activity. These findings are also

true for the ANOVA performed on results of the open-ended questions. However, the results of the true/false statements did not yield any positive effects for the prereading activities. Tukey's Honestly Significant(HSD) test for pairwise comparisons indicated no significant differences among the prereading treatments. No correlation was found between the subjects' rating of the passages as familiar/unfamiliar and their scores on the open-ended tests, neither on the true/false statements. Nevertheless, there was a moderate correlation between their rating as easy/difficult and the scores on the open-ended items but not on the true- false statements.

All the results were analysed from the perspective of schema theory of reading comprehension.

TABLE OF CONTENTS

PAGE

LIST OF TABLES xi

LIST OF APPENDICES xii

CHAPTER I - INTRODUCTION..... 1

1.1 - The problem..... 6

1.2 - Prereading Activity "Possible Sentences"..... 7

1.3 - Prereading activity "Request Procedure"..... 8

1.4 - Question and Hypotheses investigated by the study..... 9

CHAPTER II - REVIEW OF THE LITERATURE..... 12

2.1 - Studies related to Schema Theory..... 12

2.2 - Activation of prior Knowledge..... 17

2.3 - Prereading Activities..... 20

2.4 - Vocabulary Instruction..... 24

2.5 - Asking and Answering questions before reading 28

2.5.1 - Prequestions..... 29

2.5.2 - Self-questioning..... 30

2.5.3 - Reciprocal questioning..... 31

2.6 - Summary of the chapter..... 32

CHAPTER III - METHODOLOGY..... 33

3.1 - Subjects..... 33

3.2 - Materials..... 34

3.2.1 - Texts..... 34

3.2.2 - Tests of language and reading proficiency..... 35

3.2.3 - Comprehension tests..... 37

3.2.4 - Difficulty and Familiarity ratings... 38

3.3 - Prereading Activities..... 39

3.3.1 - Procedure for the activity Possible Sentences..... 39

3.3.2 - Procedure for the activity Request Procedure..... 40

3.3.3 - Procedure for the activity Possible Sentences + Request Procedure..... 43

3.4 - The Pilot Study..... 46

3.5 - Design and Procedure..... 47

CHAPTER IV - RESULTS AND DISCUSSION..... 50

4.0 - Preliminaries..... 50

4.1 - Total results..... 52

4.2 - Open-ended items..... 54

4.3 - True or false statements..... 56

4.4 - Difficulty rating..... 58

4.5 - Familiarity rating..... 59

4.6 - Discussion..... 60

4.6.1 - Main question..... 60

4.6.2 - Hypothesis 1..... 62

4.6.3 - Hypothesis 2..... 65

4.6.4 - Hypothesis 3..... 67

4.6.5 - Question posed for the familiarity and difficulty ratings..... 68

CHAPTER V - CONCLUSION

5.1 - Comments and Teaching implications..... 69

5.2 - Limitations of the study and recommendations for further research..... 71

BIBLIOGRAPHY..... 74

APPENDICES..... 80

L I S T O F T A B L E S

TABLE PAGE

3.1 - Experimental Design..... 48

4.1 - Percentages of subjects' scores on both Open-ended items + True/false statements..... 53

4.2 - Percentages of subjects' scores on the Open-ended items.55

4.3 - Percentages of subjects' scores on the True/false statements..... 57

L I S T O F A P P E N D I C E S

APPENDIX — PAGE

A - Tests of language and reading proficiency..... 80

B - General explanations given to all four groups of subjects before the experiment began..... 91

C - Part of each of the texts which were presented to the subjects before the activity Request Procedure..... 92

D - Key words selected by the redsearcher from each text for the activity "Possible Sentences"..... 94

E - Text No. 1 and reading comprehension tests..... 98

F - Text No. 2 and reading comprehension tests..... 105

G - Text No. 3 and reading comprehension tests..... 112

H - Text No. 4 and reading comprehension tests..... 117

I - Sentences generated by the subjects during the activity Possible Sentences before reading each of the texts..... 124

J - Sentences generated by the subjects during the activity Possible Sentences after reading each of the texts..... 128

K - Questions formulated by the subjects during the activity Request Procedure, after being exposed to part of each text..... 131

L - Questions previously prepared by the experimenter for the activity Request Procedure..... 134

M - Expected answers for the open-ended questions on each of the texts..... 137

N - Results obtained by the subjects on the tests of language and reading proficiency..... 141

O - Raw scores obtained by the subjects on the five open-ended items and ten true/false statements..... 142

P - Results obtained from the ANOVA performed on the data. 146

Q - Results obtained from Tukey's Honestly Significant (HSD) test 149

CHAPTER I

INTRODUCTION

Recent research on reading has supported the theoretical view that meaning is not found in texts only, and that reading comprehension results from an interactive process between readers and texts. Readers bring in their knowledge of the world, or the schemata stored in their memory trying to match this knowledge to the new information which comes from the text. Schemata (the plural of schema), are defined by Rumelhart (1980) as "the building blocks of cognition". According to Rumelhart, schemata are of great importance in the processing of any information, they are employed in the process of interpreting linguistic and non-linguistic input, in the process of remembering, of organizing actions and in guiding the flow of processing.

Rumelhart states that all our experiences in the real world are represented as generic concepts or schemata in our memory. Consider for example the act of going to the supermarket. We know exactly how to act because we have a schema for "going to the supermarket" which tell us so. Such things as, getting what we need from the shelves, without the help of a clerk, waiting in

line to buy bread, meat, paying everything at the cash register, etc..., are part of that schema. So, anything which is part of this sequence is well-known and need not be told, it is implicit knowledge, part of the going to the supermarket schema. What would make such an event tellable would only be a fact which did not belong to the normal schema e.g. you were the thousandth customer of the day, and did not have to pay for anything you had already picked up.

Now consider the schema for problems with the carburator. For a layman, it probably means having to spend more money to have it fixed, whereas for a mechanic, it probably means receiving money but also all the technical aspects involved in fixing it. The mechanic knows exactly what to do because he has a schema for fixing carburators, whereas a layman does not have the same schema.

So, as we naturally activate our "going to the supermaket" schema when we need it and do our shopping, or as the mechanic activates his "fixing a carburator" schema and solves the problem with the car, we must, as readers, activate appropriate schemata while reading so that written texts can be comprehended.

Ausubel did not use the term schemata but was referring to a similar concept when he stated that for any new information to be processed and for meaningful verbal learning to occur, novelties have to be connected to concepts already existent in cognitive structure.

The role of schemata in reading comprehension is referred to as " schema theory", as stated by Carrell and Eisterhold (1983c), a text does not carry meaning by itself, readers have to bring in the relevant schemata from their memory and make sense out of the text. For Anderson and Pearson (1984) someone comprehends a text when he finds a "mental home" for the new information coming from the text, i.e., when he is able to find a place in his schemata to fit the new information. As several reading researchers have pointed out (e.g. Langer 1984, Adams and Collins 1979), this participation of the reader, bringing in his knowledge and experience when reading a text is of crucial importance in reading comprehension.

Though it is quite clear today that comprehension depends on both texts and readers, it is not clear yet whether difficulties in reading in a foreign language are due to a reading problem or a language problem. As pointed out by Alderson (1984) there is evidence for being a language problem at lower levels of competence in L2. However, once the students have acquired some knowledge of L2, a threshold level, and are also good readers in their mother tongue they tend to succeed in reading in the foreign language i.e.,they are able to transfer the strategies they employ in L1. But, as Alderson also points out, if students are poor readers in L1, their reading strategies need to be improved.

Most reading reseachers and specialists will agree that, obviously, some linguistic background in the target language is necessary for readers to pick up clues and thus access relevant schemata. However, as pointed out by Carrel and Eisterhold (1983) the problem is that most of the time the failure to access appropriate schemata in order to comprehend written texts is interpreted as only a language problem.

According to the schema theory,three factors may interfere with the comprehension of a text. First, readers may not have the schemata relevant to the subject matter dealt with in the text. Second, they may have the schemata but for some reason fail to activate them.This may be due to unknown vocabulary, insufficient clues from the part of the writer, etc. Third, reader and writer do not share the same schemata for that particular subject (Rumelhart,1981 in Taglieber, 1985). In the first case, comprehension would not take place because the reader would have nothing to contribute with, concerning that topic. He would have to build or develop schemata. In the second case, maybe only a few more cues would activate the schemata. In the third case, the reader would come to a different understanding of the text from that intended by the writer.

For example, in the case of reading a text which contains a concept like producing caviar, which is not discussed by the author, a Brazilian and a Soviet may have a different understanding of the same text. It may even be that the Brazilian will not understand the text at all. The problem is that

Brazilians do not have a "producing caviar" schema, at least well incorporated as the Soviets do. For them the whole process of producing caviar is well known, i.e. part of their schemata, so it is clear that it means, catching a fish called sturgeon, of the two most common species, Osetr and beluga, older than 15 years old, obeying the proper time allowed i.e, only two months a year and using the proper net, a sweep-net. It is also part of the schema that the fish should get to the factory alive or the caviar becomes unusable. Also, after being extracted from the fish, the caviar should be screened through a fine sieve to remove the membrane. Salt is then added and the caviar is ready to be commercialized. Therefore, if a reader does not have the appropriate schema or fails to activate it during the process of reading, he may not understand the text or probably will miss the point intended by the writer.

Knowing the language, therefore, is far from being the only important factor in reading comprehension. One may know all the grammar rules, be able to recognize the structure of a sentence, know the words in the sentence and yet not be able to grasp the meaning because of lack of relevant schemata or lack of activation of schemata.

1.1 - THE PROBLEM

We know how important the role of reading is for students of English as a Foreign Language, specially for reading materials for academic and professional purposes. Nevertheless, we also know that students do not receive proper instruction on reading comprehension in their foreign language classes. Most of the time they are not taught reading strategies but only formal aspects of language.

As research has shown, reading is an interactive process and it is important to teach students not only to recognize grammatical structures and vocabulary but also to use reading strategies to activate or develop the appropriate schemata to help students comprehend texts better. This research is aimed at trying to help solve this problem.

Two prereading activities will be investigated - one which deals with vocabulary instruction and prediction of the content of a passage, called "Possible Sentences", and another which deals with setting purposes for reading and prediction, called " The Request Procedure ".

The objective of this study then, is to test the effects of two prereading activities, namely, Possible Sentences (Moore and Arthur, 1981) and a modified version of the Request Procedure (Manzo, 1969) on Brazilian EFL students. These activities are intended as activators or developers of prior knowledge and are thus, expected to improve text comprehension. Possible Sentences has to do with preteaching vocabulary and the Request Procedure with forecasting the content of a passage by teacher and student questioning before reading.

1.2 - PREREADING ACTIVITY " POSSIBLE SENTENCES "

The prereading activity P O S S I B L E S E N T E N C E S consists of selecting key words from the text and writing them on the board, encouraging students to come up with related words. After having the words listed on the board, the teacher asks students to choose at least two words from the list and make up sentences they think will appear in the text. Then students read the text silently checking whether their predictions were correct and proceed to make the appropriate changes in their sentences.

This activity was chosen because as the students discuss the vocabulary presented by the teacher and make up sentences, they make predictions about what they will encounter in the text and thus activate or build relevant schemata. According to Smith (1978:78), " COMPREHENSION DEPENDS UPON PREDICTION." The more the students are able to predict and anticipate about a text, the better they will be able to grasp the meaning of it.

1.3 - PREREADING ACTIVITY " REQUEST PROCEDURE "

The R E Q U E S T P R O C E D U R E consists of letting students read part of the text and of asking them to pose questions which they would like to have answered in the text. The teacher also asks some questions to serve as a model. The aim of this activity is to improve comprehension by developing in the student good questioning behaviors. This activity is also suggested as a way to activate or build prior knowledge, because as students ask and answer questions they activate relevant schemata. "REQUEST" is an acronym for REciprocal QUESTioning, i. e.students and teacher ask/answer questions after having been exposed to part of the text. According to Moore, Readence and Rickelman (1982) this prereading activity is very positive in the sense that it makes the reader participate more actively in the process of reading.

For this researcher, it is also possible that by going back to the text with his own questions in mind about what he is going to read, the reader becomes more receptive and can come to a better comprehension of the text by checking his own predictions rather than by trying to answer questions formulated by others which may not be of his major interest.

In the Request Procedure developed by Manzo, the teacher previously selects how many sentences will be read at one time, and how many times along the passage the process of reading silently / asking and answering questions will be repeated before predictions about the outcome of the seletion are made and students finish to read.

In this study the process of reading silently, asking and answering questions was done once -- students read part of the passage silently, asked and answered questions and then continued to read the passage trying to find answers for the questions which they had formulated. The reason for doing so is that, for intermediate students, the repeated process of stopping reading to ask questions might turn the reading process unnatural and dull and also prevent them from reaching the global understanding of the passage.

1.4 - QUESTION AND HYPOTHESES INVESTIGATED BY THIS STUDY

The present study pursues answers for the following main question :

- To what extent will the above prereading activities influence the reading performance of Brazilian E F L students as measured by means of reading comprehension questions and true or false statements ?

Based on the rationale introduced above this dissertation investigates these hypotheses :

1 - EFL students understand and recall English passages better when they have relevant passage-related schemata activated by means of " POSSIBLE SENTENCES " than when they read the passages without any explicit prereading activity.

2 - EFL students understand and recall English passages better when they have relevant passage-related schemata activated by the " REQUEST PROCEDURE " than when they simply read the passages.

3 - EFL students comprehend and recall passages better when they have pertinent knowledge and expectations activated by " POSSIBLE SENTENCES " and " THE REQUEST PROCEDURE " together than by either one of these prereading activities separately.

The reason for using the two activities together i.e, "POSSIBLE SENTENCES" + "REQUEST PROCEDURE", is that the first could build prior knowledge and ready the students to ask their own questions in the "REQUEST PROCEDURE". For Wong (1985) the lack of relevant prior knowledge prevents the student from asking appropriate questions in self-questioning. Therefore, working the two activities together would help solve this problem.

CHAPTER II

REWIEW OF THE LITERATURE

This section reviews some of the extensive literature related to a schema theoretic view of reading comprehension and the activation of schemata prior to reading a text.

2.1 STUDIES RELATED TO SCHEMA THEORY.

For Anderson and Pearson (1984), how much a person can comprehend of a text depends on how much she already knows about the subject discussed in the text. The more she knows, the more she can comprehend. Langer (1984) found that the amount of background knowledge a person has about a specific subject is a good predictor of how much this person can comprehend of that text. Carrell and Eisterhold (1983) state that the more the reader is able to make correct predictions i. e, rely on his prior knowledge, the less he is going to have to confirm via the text. This point of view is shared by Smith (1978) who advises readers to try to make use of what they already know (nonvisual information) and to depend on the print (visual information) as little as possible.

Several studies show that content schemata play an important role on text comprehension (Steffensen,Joag-Dev and Anderson, 1979, Johnson, 1982 ; Gagne,Yarbrough,Weidemann and Bell, 1984 Gagne, Bell, Yarbrough and Weidemann, 1985 and Davey and Kapinus, 1985). Carrell (1987) examined the role of both content and formal schemata. She defines Content schemata as the schemata the reader possesses in relation to the subject of a passage and formal schemata as the schemata related to the rhetorical organization of the passage. The present study deals only with content schemata.

Steffensen et al(1979) had a group of Indian students and another group of American students read two passages, one about a traditional Indian wedding and another about a traditional American wedding. Results showed that subjects read much faster and recalled much more information from the native passage. In relation to the reading time, they reason that relevant schemata brought to bear during the process of reading, speed up processing, thus making possible for subjects to read faster. As for the amount of information recalled they explain that since students already had the schema for the content of the native passage they were able to more easily integrate the information from the passage and thus have it available for recall.

Another related study was carried out by Johnson (1982). She asked students to read a passage which contained familiar and unfamiliar information about a topic which was not part of their culture, Halloween. Half of the text was about things which they had experienced two weeks before and half about facts of Halloween which were unknown even for native speakers. Results showed that subjects recalled significantly more accurate information from the first part of the text which contained familiar information than from the unfamiliar part.

Carrel (1987) examined the effects of both content and formal schemata on reading comprehension and recall of EFL students. Two groups of EFL students, one of Muslims and another of Roman Catholics read two texts, one with a culturally familiar content and another which had a culturally unfamiliar content. Half of the students in each group read the text in a well - organized rhetorical form and the other half read an altered rhetorical form. It was found that content appears to interfere more with reading comprehension than form. For the mixed conditions, subjects seemed to have more difficulties with unfamiliar content than unfamiliar form. Subjects found the texts easy to read and performed better on the tests when the content and the form were both familiar or even when the form was unfamiliar but the content was familiar. Seemingly, when subjects read the unfamiliar content passage they found it difficult to read, even when the form was familiar.

Gagné, Yarbrough, Weidemann and Bell (1984) also investigated the effects of text familiarity on recall. They had a group of seventh and eigth grade students exposed to two highly familiar and two moderately familiar passages. They found that subjects who were exposed to highly familiar passages were able to recall a much higher number of propositions than the ones in the moderately familiar passages group. For Gagné et al (ibid) the knowledge a reader has about a subject promotes elaborative processing of novelties which helps when reconstrution is needed at recall or retrieval. Another explanation for the effects of familiarity is that the highly familiar passages made sense for the students and they learned them in a meaningful way but the moderately familiar ones were learned by memorization. According to them

> meaningful material is anchored to an ideational scaffolding, thus making it easier to retrieve than rote material which is not so anchored.
>
> (Gagné et al, 1984:211).

In another study carried out by Gagné,Bell,Yarbrough and Weidemann (1985), they examined whether familiarity affects only learning or both learning and retrieval. Results showed that subjects learned the highly-familiar paragraphs faster than the moderately-familiar ones. Subjects also recalled more propositions from the highly-familiar paragraphs. For Gagné et al(ibid) results clearly showed that although subjects had

equally learned the same material, they did not equally retain it. Thus, familiarity affects retention.

Davey and Kapinus (1985) investigated the effects of prior knowledge and information orderings (familiar - unfamiliar and unfamiliar - familiar information) on retention. They found that readers who received the order highly familiar-unfamiliar apeared to integrate the novelties with their schemata and thus lose less unfamiliar information over time. In this case, the highly familiar information functioned as a cognitive organizer (Ausubel and Fizgerald,1961, as mentioned by Davey and Kapinus, 1985) which made possible for the new information to integrate with the knowledge structures thus leading to better comprehension and retention of the information coming from the text.

All the studies reviewed in this section reinforce the importance of text familiarity and prior knowledge for comprehension and retrieval. They all bring evidence to support Ausubel's theory of meaningful verbal learning according to which learning can only occur when the new information can be connected to concepts already existent in cognitive structure. What the present study wishes to investigate is whether the prereading activities "Possible Sentences" and "Request Procedure" can serve as the conceptual bridge (Faw and Waller,1976; Tierney and Cunningham,1984) between the new information and the already existent knowledge structures and thus positively affect comprehension and recall.

2.2 - ACTIVATION OF PRIOR KNOWLEDGE

This section reviews some of the studies on the activation of relevant background knowledge prior to reading a text.

Bransford and Johnson (1972) found that presenting the appropriate semantic context before subjects heard a passage had a much greater effect on comprehension and recall than presenting the context after they heard the passage or presenting it partially before they heard the passage or not presenting it at all. They obtained similar results in other similar experiments in which subjects who received the topic of a passage before being exposed to it were able to comprehend and recall the passages much better than subjects who received the topic after or received no topic. For them, the appropriate information must be available for subjects at the moment they are trying to construct meaning from the passage. They state that conditions which promote the activation of relevant prior knowledge are very important because without this activation the subject is in a "problem-solving situation" in which he may not find the appropriate context to construct meaning from the text and therefore, may not comprehend the passage, tending instead to pay more attention to nonsemantic aspects of linguistic input.

Another study that examines whether the teaching of background information can improve comprehension is that conducted by Stevens (1982). She taught a lesson on the Texan war to an experimental group and a lesson on the U.S. civil war to a control group. On the following day, subjects on the two groups read and answered questions on the Battle for the Alamo during the Texan war. As clearly shown by the results, subjects who were provided with relevant background information about the passage to be read performed much better than the control group on the reading task.

In a study about recognition of unfamiliar words, Adams (1982) found that subjects who received script activators which contained information about the passage to be read were able to recognize more unfamiliar words correctly than subjects who did not receive script activators. According to the script theory, our experiences in the real world are stored in our memory as scripts. A script, is defined by Schank and Abelson (as mentioned in Adams, 1982) as "a predetermined, streotyped sequence of actions that defines a well-known situation".

A very recent study by Rowe and Rayford (1987) investigates the effectiveness of prepassage purpose questions of reading comprehension tests on the activation of prior knowledge of 1st, 6th, and 10th grade students. Prepassage purpose questions are

defined as questions which contain higher order information about the passage to be read.Three purpose questions were selected from each of the three test levels and students were interviewed on those questions individually. Each student received a card containing a purpose question and was asked to predict the content of the passage just by reading the question. The same was done for the other two questions. The same procedure was used for all students and students responses were all recorded. Results showed that all students from the three levels were able to use purpose questions to activate prior knowledge but the elaboration on this activation depended on familiarity with the topic and how the purpose question was formulated.

As shown by the research reviewed in this section, the activation of prior knowledge before readers approach a text is of great importance for comprehension and recall. The activation of knowledge was done in different ways -- by presenting the appropriate semantic content or the topic of the passage before subjects were exposed to it (Bransford and Johnson, 1972) ; by giving a lecture on the subject of the passage to be read (Stevens, 1982) or by presenting subjects with relevant information from the passage (Adams, 1982), and by using prepassage purpose questions (Rowe and Rayford, 1987). The present study wishes to investigate whether the two prereading activities, " Possible Sentences " -- which deals with vocabulary instruction and prediction of the content of a passage, and the "

Request Procedure " -- which deals with setting purposes for reading and prediction, can activate or build, if necessary, relevant passage related schemata and thus improve comprehension and recall.

2.3 - PREREADING ACTIVITIES

According to Tierney and Cunningham (1984) prereading activities function as a way to access the reader's prior knowledge and "provide a bridge between his knowledge and the text"(p.610). For them, prereading purposes seem to have good effect on intentional learning but tend to restrict incidental learning, i.e., providing students with objectives before they read is very effective when teachers know what they want their students to learn from the text but not when the objective is to learn everything. Tierney and Cunningham divide prereading activities in teacher-centered and student-centered activities, the latter being more positive in the sense that they promote more student-teacher and/or peer interaction, whereas the former is simply a one-way question/answer activity. The objective is to make the students use the strategies independently in the future and it seems that student-centered activities are more likely to develop a more independent behavior from the beginning. The two activities, Possible Sentences and

Request Procedure, examined in this study are both student centered.

Smith-Burke (1982) developed a sequence of activities called ECOLA (Extending COncepts through Language Activities) with the objective of helping students in content area classrooms learn from expository texts. The activity consists of 5 steps and according to Smith-Burke some of them may be omitted depending on how the students develop. The first step is setting a communication purpose for reading with the objective of readying the students to receive the message from the writer. Here, relevant schemata are believed to be activated because students have to bring all their experiences in relation to the topic to set the purposes for the reading. The second step is silent reading for a purpose and a criterion task. Here the teacher reminds the students of the purposes which were set for the reading. The third step is crystalizing comprehension through writing. The fourth is discussing the lesson, here students discuss their interpretations in small groups. Finally, in the fifth step students rewrite a second interpretation of the text.

Langer (1980,1981 a,b, 1982 a) developed a prereading plan (prep) which was used for three years as an instructional aid to help students from 3rd grade to graduate school develop and organize background knowledge by discussing what they already knew about key concepts in the texts they were going to read and by making the appropriate changes

when necessary, depending on the appropriateness of their ideas in relation to the reading task. The prep proved to be an effective teaching and assessment aid.

In 1984, Langer designed a study and tested the prep activity. From the three groups in the experiment : The prep group, i.e.,the group which received instruction using the prep plan, the motivation group i.e.,the group who simply talked about the subject of the passage to be read, and the no intervention group i.e,.the one which simply read the passage, the prep group was the one which had comprehension most significantly improved followed by the group which just received motivation and, as expected, by the group which received no treatment. Langer also reports that the prep activity significantly raises the quality of knowledge that all students have about a specific subject. Nevertheless, according to Langer, the prep affects comprehension of average and higher achieving students but it does not improve comprehension of lower achieving students. For Langer, these students need direct instruction.

Taglieber(1985) carried out a study in which the effectiveness of three prereading activities was tested with EFL students of intermediate level. Subjects were distributed in 4 groups and each group read 4 different passages (a fairy tale, a legend, an article, and a fable) each of the passages with one prereading condition (pictorial context, vocabulary preteaching, previewing and control). She found that subjects ' comprehension scores varied according to the passage they had read. She also

found that all three prereading activities improved the subjects' comprehension of the passages when compared to the control or no prereading condition. In order of effectiveness, previewing proved to be the most effective activity, followed by pictorial context and then by vocabulary preteaching, although the two first had a much greater effect than the third, vocabulary preteaching.

Hudson (1982) had 9 groups of students, three groups of each level, beginning, intermediate and advanced, read 9 different passages, 3 for each proficiency level and each of the 3 passages with a different treatment : 1) PRE - here students were given a picture about the general topic of the passage, were asked a few questions about the picture, and were also asked to write some sentences which they thought would appear in the text, before actually reading and taking a test ; 2) VOC - where students were given a list which contained words essential for the understanding of the text, then they were asked to read and take the test; 3) RT - where students were given the passage to read, took a test and then reread the passage and took another test.

Results showed that PRE enhanced comprehension of beginning and intermediate levels but for advanced students it was less effective than RT and as effective as VOC. According to Hudson,advanced level students are more able to

bring in their prior knowledge during the process of reading than beginning or intermediate level students.

Most of the research on the activation of prior knowledge brings evidence that prereading activities are beneficial. However, Alvermann, Smith and Readence (1985) found that under certain conditions the activation of prior knowledge can be negative rather than facilitative for comprehension. Subjects who had misconceptions about a given subject and got them activated before reading a related text simply refuted the conflicting information from the text and relied on their innacurate prior knowledge.

The majority of the studies reviewed in this section, however, show that readers approach texts better when they are presented with some kind of prereading activity before actually reading the text.

2.4 VOCABULARY INSTRUCTION

This section rewiews studies on vocabulary instruction. It was not found in the literature, specific research which has investigated the prereading activity "Possible Sentences", therefore, related studies which deal with vocabulary instruction in general, will be presented.

According to Mezynski (1983) a great number of the research on vocabulary instruction obtained good results in increasing the students'word knowledge but very few of them had positive effects on comprehension. For Mezynski (ibid) the negative results obtained by a great part of the studies are due to the following problems :

1) The target words are not essential to the understanding of the passage. The present study tries to take account of this fact by first selecting the main ideas i.e., the ideas which were high in the content structure of the passage and from them, the target words were extracted.

2) The number of target words chosen to be taught are not enough, the reader is still left with a great number of unknown words. This study tries to teach the most difficult words or at least the ones which are part of the high content structure of the passages.

3) The use of literal questions (rote') which can be answered by the use of syntactic clues. In this study, while answering the reading comprehension questions, students did not have access to the text, so this problem might have been avoided.

4) The use of questions which can be answered without reading the text i.e, with the reader's prior knowledge. Although this variable is very difficult to be completely controlled this study tried to take account of this fact by first, trying to ask questions which required information contained in the texts and second, by previously applying the reading comprehension tests to a group of subjects who had not read the texts (see methodology section, page 37, second paragraph).

5) There is not enough practice with the target words. In the activity "Possible Sentences" examined by this study, the definition of the words is given, the words are pronounced, put in context by the students, encountered in the text and at the end wrong sentences containing the words are reformulated and new sentences are created.

6) Learners are not actively engaged in the exercise. During the activity "Possible Sentences", the learners themselves have to select from the key words presented, the ones they want to use in a sentence which has to be related to the topic of the passage. This way, they are actively involved in the activity.

The present study tried to take account of these aspects when selecting the key words from the texts, when preparing the reading comprehension tests, and when carrying out the activity, hoping that an improvement on comprehension would take place.

Johnson(1982) tested the effectiveness of exposing students to meanings of difficult words from the passage to be read but she found no support for the idea that exposure to difficult vocabulary affects comprehension. She explains that the emphasis on vocabulary i.e., studying the target words before reading the passage and then having the same words glossed in the text might have influenced students to read word-by-word and this way not to be able to grasp the meaning of the whole text.

Mezynski (1983) points out that the success of vocabulary instruction depends on how much the learners are engaged in the activity, i.e, students must be involved to actively process the materials. This point of view is shared by Stahl and Fairbanks (1986), who state that the more deeply the information is processed, the more it will be retained by subjects. This depth of processing, according to Stahl and Fairbanks (ibid) depends on the students' mental effort and cognitive resources involved during the activity.

According to Stahl and Fairbanks' meta-analysis of vocabulary instruction (1986) methods which involved definition of words as well as learning the words in context, proved to be more effective for increasing vocabulary knowledge and also for improving text comprehension than methods which emphasized definition of words.

The activity "Possible Sentences" investigated in this experiment involves both definition of words and also learning the words in context. Therefore, it is hypothesized by this study that this activity can improve comprehension.

2.5 ASKING AND ANSWERING QUESTIONS BEFORE READING

This section reviews studies which concern asking and answering questions before reading. Three types of questioning are looked at -- Prequestions, that is, questions which are placed before the actual text, Self - questioning, questions which are generated by the students before reading a text and Reciprocal Questioning, when teacher and students take turns at asking / answering questions.

2.5.1 PREQUESTIONS

Peeck (1970) investigated the effects of prequestions on delayed retention of learning material and also on incidental and intentional learning. Two experimental groups, one which read and answered 15 prequestions and another which just read the 15 prequestions participated in the study. Two control groups were used, one with extended reading time and another with no extra reading time. He found that the two experimental groups who were exposed to the prequestions exceeded the control groups in the retention of the information related to the prequestions but not in relation to the remaining information.

The above findings add support to the contention that prequestions facilitate intentional learning but not incidental learning (Faw and Waller, 1976 ; Tierney and Cunningham, 1986; Hamilton,1985 ; Wong, 1985).

For Faw and Waller (1976),Wong (1985), and Hamilton (1985) questions requiring a higher-level of comprehension have a higher effect on total learning and retention. Hamilton (1985) states that semantic prequestions, that is, questions which lead to semantic processing, tend to make readers retain much more semantic information from a passage than do semantic postquestions.

2.5.2 SELF - QUESTIONING

For Wong (1985), from the active processing perspective, questions which are generated by the students should lead to much higher processing than the ones generated by teachers. She advocates the need for teaching students to activate relevant prior knowledge by asking higher order self-questions. According to Wong, this helps in the processing of information coming from the text.

Miyake and Norman (1979), as reviewed by Wong (1985), found that new students in computer science asked a lot of questions on an easy manual but very few on a hard one. They reason that one must have knowledge of the subject in order to be prepared to ask questions about it. According to Wong (1985), subjects should receive either direct (orally) or explicit (written) instruction on how to generate and construct questions before they start formulating their own questions appropriately.

Various ways to teach active comprehension and to encourage good questioning behaviors are presented by Singer (1978). One of the ways is to ask the student a question which will bring more questions in return instead of an answer, e.g. " what would you like to know about this picture ? ". Another technique is to show the students the title of a book and ask them what they would like to find out about the book. According

to Singer, the objective of all these techniques is to make the students learn to ask questions on higher levels of comprehension and gradually become more independent readers.

2.5.3 RECIPROCAL QUESTIONING

Helfeldt and Lalik (1976) investigated the effects of reciprocal questioning on fifth graders' interpretive reading. Two groups of students -- one which only answered questions posed by the teacher and another group in which teacher and students took turns at asking/answering questions, participated in the experiment. The results revealed that the reciprocal questioning group exceeded the unilateral teacher questioning group in developing interpretive reading abilities.

In relation to the research on asking/answering questions before reading, we can conclude that questions which are generated by the students themselves lead to better improvement of comprehension. Another important point is the level of the questions which are generated by the students, higher order questions lead to activation of prior knowledge and consequently to better comprehension.

2.6 SUMMARY OF THE CHAPTER

In general, all the studies reviewed in this chapter brought evidence that the use of prereading activities do activate prior knowledge and thus improve text comprehension. Nevertheless, all the studies reviewed here, except Taglieber's (1985), which dealt with EFL, were carried out in L1. Some studies were carried out in L2 but in the country were the target language is spoken. There have been very few studies which have investigated the effects of reading strategies on EFL reading. This study is among the few that deal with effects of prereading activities on EFL students' comprehension.

A good deal of the research on the activation of prior knowledge has investigated the effects of advance organizers (e.g.,Ausubel,1960;Ausubel and Fitzgerald, 1962; Ausubel and Youssef, 1963; West and Fensham, 1976;Meurer, 1987) and other kinds of prereading activities (e.g. Langer, 1980,1982,1984; Taglieber 1985, Hudson 1982).However, no studies were found in the literature which have examined the Request Procedure (Manzo 1969, 1970) and Possible Sentences (Moore and Arthur, 1981), the two prereading activities to be investigated in this dissertation.

CHAPTER III

METHODOLOGY

3.1 SUBJECTS

The subjects were 40 intermediate level EFL students taking a regular English course at Yázigi, a private language institute, in Florianópolis, Santa Catarina, in Brazil. There were 17 women and 23 men, their ages ranging from 14 to 40, with a mean age of 22. Most of them belonged to middle class families.

Four groups enrolled in the intermediate level participated in the study. These students were submitted to a language test and a reading proficiency test(see appendix A). Ten subjects from each group were then selected, according to the results obtained in the test. Intermediate level students were chosen because it was assumed that once learners have acquired some knowledge of the language they will be able to read in the foreign language.

Most of these students had been studying English at Yăzigi for 6 or 7 semesters with the goal of either traveling to an English speaking country or for academic and professional purposes. At the language institute they had two 75 minute classes a week and received instruction on all four skills, speaking, listening, reading and writing, using materials developed by Yăzigi.

This private language institute was chosen because this researcher was a teacher there and could include the data collection for the study as part of the subject's regular course. This unobtrusive way of collecting data was thought to improve the validity of the results.

3.2 - MATERIALS

3.2.1 - Texts

Four expository reading passages of intermediate level of difficulty were used in the study:

1)"Clothesline Literature"(THE COURIER,1986), see appendix E;

2)"Will Deserts Drink Icebergs?" (THE COURIER,1986), see appendix F;

3)"Time and Tide"(THE COURIER,1986), see appendix G;

4)"The Caviar Factory"(SCANORAMA,1986), see appendix H;

The following criteria account for the selection of these specific passages : (1) The texts contain general interest factual information,(2) The information in the texts is not something people come across every day; (3) The passages are not too long, between 500 and 750 words (4) The passages contain familiar mixed, with unfamiliar vocabulary, an important condition for the use of the prereading activity " Possible Sentences ".

3.2.2 TESTS OF LANGUAGE AND READING PROFICIENCY

Although measures of the students' proficiency were already available from regular tests taken at the school at the end of the previous semester, the subjects were submitted to a language test and a reading proficiency test (see appendix A) in order to select 40 students as similar as possible in terms of general knowledge of the language and reading ability(see appendix N for the results). In addition, the tests were necessary because the four groups chosen to participate in the study had more than ten students each and it was planned that each group would have only ten subjects.

The test consisted of two main parts: one specifically designed to test the students' reading comprehension skills and the other to test general knowledge of the language. The reading comprehension section of the test was designed to assess reading skills such as reading for details (scanning), ability to figure out vocabulary in context and to infer information implicit in the text.

The first and second parts of the reading test checked the students' ability to scan through the text looking for very specific information. The third part required the students' ability to read critically i.e., be able to infer and judge by analysing what the writer intended to convey, and the implications of this. The fourth part was designed to check the students' ability to infer the meaning of unfamiliar words from context.

The general knowledge section of the test was designed taking into account the four areas of competence as proposed by Canale (1983), namely, grammatical, sociolonguistic, discourse and strategic competence. For Canale, gramatical competence is concerned with mastery of the language code, including vocabulary, word formation, sentence formation, pronunciation, spelling and linguistic semantics.

Sociolinguistic competence refers to the appropriateness of an utterance i.e., whether what the learner says is produced and understood appropriately in different sociolinguistic contexts depending on factors such as status of participants, purposes of the interaction and norms or conventions of interaction. Discourse competence has to do with the speakers' knowledge of the texts in different genres. It has to do with cohesion and coherence. Strategic competence includes all the communication strategies an individual uses in order to compensate for possible breakdowns in communication. Although the four parts of this section of the test measured all the above aspects of competence, each one had a specific focus. The first part focused on grammatical and discourse competence, the second on sociolinguistic and grammatical competence, the third on sociolinguistic competence and the fourth on discourse and strategic competence.

3.2.3 COMPREHENSION TESTS

Two tests, a recall test with open-ended questions, and a recognition test with true or false statements, were given for each text (see appendix E,F,G,H) at the end of each activity. Open-ended questions were chosen because it is a relatively effective way of assessing comprehension

since students are not influenced by any alternative answers as it happens in a multiple choise test. The true/false test was chosen as a secondary measure, intended as a further confirmation of possible tendencies reveabled by the open-ended items.

After all the open-ended questions and true/false statements were prepared for each text, they were applied to a group of ten subjects, other than the 40 who participated in the study. The objective of this was to see whether the information demanded by the tests was part of everybody's schemata. The 10 subjects simply took the tests without any treatment and without reading the passages. The results were analysed and every item which had more than 30% of subject agreement i.e., which was answered correctly by 30% of the subjects, was considered not to be passage dependent and was eliminated from the test.

3.2.4 - DIFFICULTY AND FAMILIARITY RATINGS

At the end of both comprehension tests subjects were asked to rate on a 1-6 scale the difficulty they encountered in the texts(1 = very easy, 6 = very hard).

They also rated their familiarity with the content of the passages on a 1-6 scale (1 = totally familiar, 6 = totally unknown).

The reason for including this type of rating was that although not totally reliable, the results obtained from the ratings could highlight the results obtained from the comprehension tests. The following question was posed : "Is there any correlation between the subjects' rating of the passages as easy/ difficult or familiar/unfamiliar and their scores on the tests ? ".

3.3 PREREADING ACTIVITIES

3.3.1 PROCEDURE FOR THE ACTIVITY POSSIBLE SENTENCES

1) Teacher extracted the main ideas from the passages and from the main ideas the key words.

2) Students received a card containing the key words from the text to be read (see appendix D).

3) To help students make predictions the instructor asked: "what do you think the text will be about, just by looking at these words"?

4) Students were asked to choose at least two words from the list and make up a sentence they thought would appear in the text. As students formulated their sentences, the instructor wrote them on the board (see appendix I).

5) The students read the whole text to verify if their sentences were correct.

6) The instructor and the students made appropriate changes in the sentences which were not accurate according to the text.

7) The instructor asked students to generate new sentences (see appendix J).

8) Texts were collected and the board was erased.

9) The recall test was distributed.

10) The recall test was collected and students took the recognition test.

3.3.2 - PROCEDURE FOR THE ACTIVITY REQUEST PROCEDURE

1) The instructor gave the students part of the text to be read (check appendix C to see how much of each text was presented to the students at this point).

2) Students were asked to try to come up with questions about the subject which they would like to have answered in the text (see appendix K).

3) Whenever possible, tentative answers were given to the questions by volunteer students.

4) The instructor wrote all questions on the board and as the activity developed the instructor inserted her own questions (see appendix L) in order to help students ask more questions leading to higher levels of comprehension.

5)The students read the remaining part of the text trying to find answers for those questions which were formulated.

6) The instructor checked with students whether they found answers for the questions.

7) The texts were collected and the board was erased.

8) The recall test was distributed.

9) The recall test was collected and students took the recognition text.

3.3.3 - PROCEDURE FOR THE ACTIVITIES

POSSIBLE SENTENCES + REQUEST PROCEDURE

This time, the two activities were worked together, that is, the "Request Procedure" was added to the "Possible Sentences procedure for the same text, according to the following procedure :

1) Students received a card containing key words from the text to be read (see appendix D).

2) To help students make predictions the instructor asked: "what do you think the text will be about, just by looking at these words"?

3) Students were asked to choose at least two words from the list and make up a sentence they thought would appear in the text. As students formulated their sentences, the instructor wrote them on the board.

4) The instructor gave the students part of the text to be read (check appendix C to see how much of each text was presented to the students at this point).

5) Students were asked to try to come up with questions about the subject which they would like to have answered in the text.

6) Whenever possible, tentative answers were given to the questions by volunteer students.

7) The instructor wrote all questions on the board and as the activity developed the instructor inserted her own questions (see appendix L) in order to help students ask more questions leading to higher levels of comprehension.

8)The students read the remaining part of the text trying to find answers for those questions which were formulated and to verify if their sentences were correct.

9) The instructor checked with students whether they found answers for the questions.

10) The instructor and the students made appropriate changes in the sentences which were not accurate according to the text.

11) The instructor asked students to generate new sentences.

12) Texts were collected and the board was erased.

13) The recall test was distributed.

14) The recall test was collected and students took the recognition test.

3.4 THE PILOT STUDY

A Pilot Study was carried out in june 1987, two weeks before the main study.

The 4 students who participated in the pilot experiment were taking a regular course at the language institute where the main study was carried out and were comparable to the ones in the main study in terms of language and reading ability. The experiment was conducted during their regular classes.

As it had been planned,the pilot study was carried out in two sessions i.e., in two regular classes of 75 minutes each. It was very useful in the sense that it gave light to the reseacher in the following aspects:

1) The average time the students would take in each activity. The pilot study confirmed that the main experiment would have to be carried in two sessions, as it had been planned.

2) For the prereading activity "Possible Sentences", it had been planned that the vocabulary to be explored would be written on the board but it was found that this would take too much time and

space. Therefore, for the main study it was decided that each student would receive a card with all the words typed, thus saving space and time.

3) Since this situation was adapted to the foreign language - previous studies with this prereading activity had been carried out in the first language-it was felt necessary that, during the activity "Possible Sentences",besides pronouncing the words, the instructor also had to elicit the meaning of the words presented before students started formulating their sentences.

3.5 DESIGN AND PROCEDURE

A 4 X 4 latin square design was used, with treatment and passage as the independent variables, each one with four levels. The treatment consisted of the three prereading activities namely, (1) POSSIBLE SENTENCES, (2) REQUEST PROCEDURE, (3) POSSIBLE SENTENCES + REQUEST PROCEDURE, and (4) of the control condition. Even though with this design it would be possible to investigate the effects of the four passages, this was not done. All the four passages were chosen from the same genre, i.e. they are all expository passages and the analysis was concentrated on the treatment only. Two dependent variables were investigated: (1) The scores on the recall test (open-ended questions) and (2) the scores on the recognition test (true or false statements). Each group read all four texts, three of the texts with a different prereading activity and one without any treatment.

This way each group functioned as the control once.

(see Table 1.1).

	TEXTS			
SUBJECTS	1	2	3	4
10	PS	C	PS+ RP	RP
10	RP	PS	C	PS+ RP
10	PS+ RP	RP	PS	C
10	C	RP PS+	RP	PS

Table 1.1 - EXPERIMENTAL DESIGN

PS = Possible Sentences
RP = Request Procedure
C = Control

1 = "Clothesline Literature"
2 = "Will deserts drink icebergs?"
3 = "Time and Tide"
4 = "The Caviar Factory"

After reading each text, the subjects took the two reading comprehension tests: the recall test with open-ended questions and the recognition test with true or false statements.

The two tests were given to the students separately, for two reasons : first, one test could interfere with the other either facilitating or confusing the answers. Second, receiving the two tests together could have a negative psychological effect on the students since the test might look too long. So after having finished the open-ended questions the students received the true/false items.

It is clear that comprehension can be assessed when the students do the reading task looking back at the text but this researcher agrees with Smith (1978) that what is better comprehended is better retained and recalled. Therefore, it was decided that for this experiment the texts would be collected before the students started taking the tests.

It was also decided that when answering the open-ended questions students would use their mother tongue, Portuguese, in order to avoid the difficulties the students might have in producing in the foreign language.

The experiment was carried out in June, 1987. It was conducted in two sessions, during the students' regular classes which lasted 75 minutes each. All four groups read the four texts in the same order, two on the first session and two on the second. The researcher herself conducted the whole experiment and all four groups received the same instructions before the experiment began (see appendix B).

C H A P T E R IV

RESULTS AND DISCUSSION

4.0. Preliminaries

The purpose of this study was to investigate whether two prereading activities, namely,"Possible Sentences" and "Request procedure" improved comprehension of Brazilian intermediate EFL students. Fourty students of intermediate level from a private language institute, read four texts, three with one different prereading condition : 1) Possible Sentences, 2) Request Procedure, 3) Possible Sentences + Request Procedure, and the fourth text without any treatment, which functioned as the control.

The students' comprehension was immediately assessed after reading each passage. They answered five open-ended questions and ten true/false statements for each text.

Both the open-ended questions and the true or false statements were scored by the experimenter herself. Before the tests were applied, expected answers for the open-ended questions were constructed (see appendix M). The open-ended items

were scored on a scale from 0 - 1 : a score 1 was given to completely correct answers and a .5 to answers which were almost correct. In relation to the true or false statements a correct answer was attributed score 1.

Three results were obtained when computing the data : the scores on the open-ended items, the scores on the true or false statements and the sum of the scores on both the open-ended items and the true or false statements. For clarity, the results are shown in percentages rather than raw scores (for the raw scores see appendix O).

A one-way ANOVA (analysis of variance) was performed on the data, using the SAS package of statistical programs on IBM'S CPU model 4341 computer, available at UFSC.

The ANOVA was performed separately for the three results obtained: one for the open-ended items, another for the true/false statements and a third one for the total results which is the sum of the results on both open-ended items and true/false statements (see appendix P).

The three results were subsequently analysed using Tukey's Honestly significant (HSD) test (see appendix Q).

This chapter will first present all the results obtained : Total results, results on the open-ended items and results on the true or false statements and then the discussion.

4.1 Total Results

Results from the ANOVA for treatment main effects show that the null hypothesis, that is, that differences between means would not be significant,is rejected (F = 10.23, df = 3.39, p = 0.0001). Treatment then, had a statistically significant effect on comprehension.

As shown by table 4.1, when the subjects read the passages with one of the three prereading conditions they performed better on the tests (PS = 71.08% RP = 69.33% PS + RP = 72.74 %) than when they read them without any prereading activity (C = 54.99%).

Table 4.1 - Percentages of subjects' scores on both open-ended items + True/false statements

	TREATMENT			
SUBJECTS	PS	RP	PS+RP	C
10	71.00	73.66	68.66	57.00
10	65.00	75.00	75.66	40.00
10	65.33	61.00	67.66	54.66
10	83.00	67.66	79.00	68.33
TOTAL %	71.08	69.33	72.74	54.99

PS = Possible Sentences

RP = Request Procedure

C = Control

Differences between means were subsequently analysed with Tukey's Honestly Significant Difference (HSD) test at the .05 level of significance. Results obtained from this statistical test confirmed those from the ANOVA --- the prereading activities examined in this study had an effect on reading comprehension and recall.

Tukey's test indicated that all pairwise comparisons between treatment main effects and the control condition were significantly different at $p < .05$. However, no significant differences were found among the prereading treatments.

4.2 OPEN - ENDED ITEMS

Results from the ANOVA performed on the scores of the open-ended items confirm those of the total results --- differences between means are due to experimental effects and the null hypothesis is rejected ($F = 20.93$, $df = 3.39$, $p = 0.0001$).

Table 4.2 shows that, as with the total results, subjects scored higher on the open-ended items when the prereading conditions were present (PS = 68.25 %, RP = 73.50 % PS + RP = 70.75 %, whereas C = 43.00 %).

Table 4.2 - Percentages of subjects' scores on open-ended items

	TREATMENT			
SUBJECTS	PS	RP	PS+RP	C
10	77.00	83.00	66.00	27.00
10	59.00	87.00	69.00	32.00
10	60.00	45.00	71.00	48.00
10	77.00	79.00	77.00	65.00
TOTAL %	68.25	73.50	70.75	43.00

PS = Possible Sentences

RP = Request Procedure

C = Control

Again, as it happened with the total results, Tukey's test for the open-ended items indicated that the difference between the treatment main effects and the control condition were statistically significant but again, no difference was found among the prereading treatments.

4.3 - True - false statements

Unlike the findings presented above for the total results and the open-ended items, the ANOVA indicated that for the true/false statements the null hypothesis cannot be rejected ($F = 2.65$, $df = 3.39$, $p = 0.0520$). Tukey's test also indicated no differences between treatments and the control condition nor between treatments. According to the results yielded by this test, therefore, there was no significant difference due to the prereading activities. Even though not significantly different, the percentages show a slight difference in favor of the prereading treatments (see table 4.3).

Table 4.3 - Percentages of subjects' scores on the true / false statements

	TREATMENT			
SUBJECTS	PS	RP	PS+RP	C
10	68.00	69.00	70.00	72.00
10	68.00	69.00	79.00	44.00
10	68.00	69.00	66.00	58.00
10	86.00	62.00	80.00	70.00
TOTAL %	72.50	67.25	73.75	61.00

4.4 - DIFFICULTY RATING

After having completed both tests, as mentioned before, the subjects were asked to rate the passage in terms of perceived difficulty, on a 1 - 6 scale (1 = very easy, 6 = very hard).

The existence of a correlation between subjects' scores on the tests and their rating of the passages as easy or difficult was examined using Pearson's correlation coefficient (r).

Results showed a moderate negative correlation (- .4) between subjects' scores on the open-ended items and their rating of the passages i.e, when subjects rated the passage as difficult, thus giving higher ratings, they tended to score lower on the recall test. Similarly, when they rated the passage as easy they tended to score higher on the recall test. The correlation was significant at the .0001 level.

No correlation was found between scores on the true / false statements and the subjects rating of the passages, which reinforces the negative results obtained for the treatments on the true/false test and make us question the reliability of this type of recognition test.

4.5 FAMILIARITY RATING

At the end of the tests, as mentioned before, the subjects also rated their familiarity with the content of the passage, on a 1 - 6 scale (1 = totally familiar, 6 = totally unknown).

Results from Pearson's coefficient of correlation now indicated the existence of a very weak correlation(-.17) between the subjects' scores on the open-ended items and their rating of the passages as familiar or unknown. Therefore, this time we can not reliably conclude that when subjects rated the passage as familiar they also scored higher on the recall test, nor that, when they rated the passage as unknown they also score lower on the open-ended items.

Similarly to the results obtained for the difficulty rating, no correlation was found between subjects' scores on the true/ false statements and their rating of the passages as familiar or unknown.

4.6 - DISCUSSION

To interpret the results presented above, the main question, the three hypotheses presented in the first chapter and the question posed for the familiarity and difficulty ratings will be retaken.

4.6.1 Main question: To what extent will the prereading activities : PS, RP and PS + RP influence the reading performance of Brazilian intermediate EFL students as measured by means of a recall test with open-ended questions and a recognition test with true/false statements ?

The results presented above show that all three prereading activities examined in this study improved the subjects' comprehension of the four passages when measured by means of open-ended questions but not by true/false statements.

One possible explanation for the no effect of the treatments on the true/false statement scores is that subjects could be guessing and still have 50 % of a chance to get the item right. Another point is that the only thing the subjects had to do was to recognize the sentence as correct or incorrect, i.e, the sentence was already there in front of them, whereas to answer a question they had to make an effort and retrieve the information from memory.

Both the negative results for the true/false statements and the positive results for the open-ended questions are consistent with the findings of Slater, Graves and Piche' (1985). In a study about the effects of teaching text structure, they also found no improvement of subjects' performance on a recognition test. However, there was a significant effect of treatment on subjects' performance when comprehension was measured by means of recall protocols. On the other hand, Taglieber (1985) found the opposite in a study about the effects of prereading activities. She found that the prereading treatments had an effect on the recognition test (multiple-choice items) but not on the recall test (open-ended) items).

All these inconsistent findings lead us to reflect about a crucial point in reading comprehension, i.e. testing. The fact is that we still don't know exactly what we are testing. Therefore, a lot more research in this area is needed before final conclusions can be drawn in the field of reading comprehension.

4.6.2 - Hypothesis 1: E F L students understand and recall English passages better when they have relevant passage _ related schemata activated by "Possible Sentences " than when they read passages without any explicit prereading activity.

This hypothesis was confirmed by the statistical test applied on the total results and on the open-ended questions.

The following explanations may account for the positive results :

First, the activation of schemata prior to the subjects' reading of the passage may have influenced the way they approached the texts. While formulating sentences about the passage to be read, subjects were predicting the content of the passage and thus activating or building prior knowledge. This might have led to improvement on comprehension and recall.

Second, during the " Possible Sentences " activity the subjects were actively involved while formulating their sentences using the key vocabulary selected from the text. They had to stop and think which two words to use in what context related to the topic,i.e, they had to try to interrelate all the words presented and construct a framework for the text.

According to Faw and Waller (1976), Mezynski(1983), and Stahl and Fairbanks (1986), the subjects' involvement and participation during the learning situation leads to a deeper processing of information, which in this case might have influenced the subjects' comprehension and recall of the texts.

Third, the key words chosen from the passages were, most of the time, high in the hierarchy of the content structure of the passages. When preparing the materials, to select the key words from the passages, the experimenter extracted the main ideas first and from them the key words. According to Wixson (1984) (in Stahl and Fairbanks 1986), the eliciting of words which are high in the content structure of a passage affects the processing of information which is lower in the structure.

Fourth, motivation may have played a role. It may be that subjects were curious to read the text and find out whether their sentences were correct. This positive attitude towards reading the passage might have influenced the processing of information and led the subjects to better comprehend and recall the information from the passage.

Finally, the Possible Sentences activity might have served the function of the " Conceptual bridge " between the new and the known (Tierney and Cunningham, 1984) and as a "cognitive organizer " (Ausubel and Fitzgerald, 1961). There might have been the consolidation of the new to the known. The evaluation of the previously formulated sentences and the generation of new sentences after the subjects read the passages might also have taken to deeper processing. This might have led subjects to rely on their prior knowledge when they were correct, leaving the sentences the way they had previously formulated. It might also have led them to add new information, generating new sentences, and to reject and refine wrong information modifying prior knowledge, by reformulating the wrong sentences.

4.6.3_ Hypothesis 2 : EFL students understand and recall English passages better when they have relevant passage-related schemata activated by the " Request Procedure " than when they simply read the passages.

Tukey's post hoc procedure applied on the total results and on the open-ended questions confirmed this hypothesis - subjects performed significantly better when the prereading activity, " Request Procedure " was present before reading the passages than when the passages were read in the control condition.

Some of the explanations given for the positive results of " Possible Sentences " may also account for the findings of the " Request Procedure " :

First, the activity served as a means to activate schemata prior to the subjects' reading of the passage. While reading part of the text and then thinking about the questions they would like to have answered concerning that topic, subjects were bringing to bear relevant experiences in relation to the topic and were also forecasting the content of the passage, thus activating or developing prior knowledge.

Second, the subjects were actively involved while trying to pose their own questions about the passage to be read. Therefore, the information was more deeply processed (Faw and Waller, 1976, Mezynski, 1983 and Stahl and Fairbanks, 1986).

Third, as with the " Possible Sentences " activity, here subjects were motivated to read the text and try to find answers for their own questions. Similarly, subjects' positive attitude towards reading the passage might have influenced comprehension and recall.

Finally, this activity might have also served as the " Conceptual bridge " between the new and the known (Tierney and Cunningham, 1984) and as a "cognitive organizer " (Ausubel and Fitzgerald, 1961). As with the Possible Sentences activity, here also there might have been the consolidation of the new to the known. While setting purposes for reading, it might be that students were bringing in relevant background knowledge about the subject and went to the text with some expectations in mind trying to find answers for those questions which they had formulated. When reading the text and finding answers for their questions students either confirmed or refused their hypotheses, thus integrating the new information with the concepts already existent in their cognitive structure.

4.6.4 - Hypothesis 3 : EFL students comprehend and recall passages better when they have pertinent knowkedge and expectations activated by "Possible Sentences " and "The Request Procedure " together than by either one of these prereading activities separately.

The fact that this hypothesis was not confirmed by the statistical tests was somewhat surprising. If both activities separately could bring positive results, an integration of the two should produce even better results, but this did not happen.

One possible explanation could be that when working the first activity, " Possible Sentences ", the subject's schemata and experience for that specific subject were brought to bear and subjects were ready to read to check whether they had formulated correct sentences. Having to stop the reading to ask and answer questions might have influenced and changed the natural course of reading and caused students either not to benefit from the second activity or deviate their attention from the first activity and only benefit from the second one.

These findings go against Faw and Waller's (1976) claim about study time. They advocate that study time should be controlled in prose learning experiments because the positive results obtained could be due to extended time in studying the passage and not to a real effect of the treatments. They suggest that the control groups should study the passages for as long as the experimental groups. In the present study this suggestion was taken into account, except for the third treatment PS + RP in which the time spent was a sum of that spent in each activity separately. Even so, subjects did not perform any better receiving these two treatments together than when receiving each of them separately.

4.6.5 - Question posed for the familiarity and difficulty ratings : "Is there any correlation between the subjects rating of the passages as easy / difficult or familiar/unfamiliar and their scores on the tests ?"

The existence of a correlation between subjects' difficulty rating and their scores on the open-ended items increase the reliability of the results obtained for the effects of the treatments. Nevertheless, the weak correlation between subjects' familiarity rating and their scores on the open-ended test and the non-existence of a correlation between familiarity, difficulty and the scores on the true or false statements, tell us to look at these effects with care.

C H A P T E R V

C O N C L U S I O N

This chapter presents comments based on the results obtained in this study, teaching implications of these results, limitations of the study and recommendations for further research.

5.1 - COMMENTS AND TEACHING IMPLICATIONS

Results obtained from this study have shown that Brazilian Intermediate EFL students profit more from written texts when they have relevant passage - related schemata activated by means of the two prereading activities investigated ,i.e, Possible Sentences and Request Procedure, than when they simply read the texts.

From these findings we can conclude that, as many reading researchers have already pointed out (Carrel and Eiterhold, 1983; Langer, 1984; Adams and Collins, 1979; and others), linguistic knowledge alone does not enable a reader to

comprehend a passage. Relevant schemata also have to be activated during the process of reading, so that the entire message from the writer can be comprehended.

Knowing about these important aspects of the interactive process of reading, reading teachers should then include in their classroom curriculum reading strategies which will help students gradually become more successful and independent readers by bringing the relevant passage - related schemata to the reading task.

Two effective ways of achieving this are now suggested by this study, the two prereading activities " Possible Sentences " and the " Request Procedure ". As already discussed before, they are effective possibly because, first, they make the reader participate more actively in the process of reading. Second, they serve as " the conceptual bridge between the new and the known " (Tierney and Cunningham, 1984) and as a " cognitive organizer " (Ausubel and Fitzgerald, 1961). Third, they help readers predict about the content of the passage and to set purposes for the reading. And finally, they activate, build prior knowledge and lead readers to make the appropriate changes in their schemata when necessary.

5.2 - LIMITATIONS OF THE STUDY AND RECOMMENDATIONS FOR FURTHER REASEARCH

A lot of research on prereading activities has been carried out in English as L1 and as L2 but there have been very few studies in English as a foreign language. Fewer studies, if none have been carried out in the EFL with these two prereading activities, PS and RP. Therefore, much more research is needed before the whole field of prereading activities is covered and generalizations about the results obtained can be made.

Based on the difficulties and limitations encountered throughout the realization of the study, the following recommendations can be made for further research :

1 - READING ASSESSMENT - Testing in reading comprehension is a very complicated field which also needs to be further investigated. This was shown by the discrepancy of the results obtained in this study for the two types of tests used, the reading comprehension questions and the true or false statements.

2 - LONG - TERM INSTRUCTION - For Wong (1985) it's necessary to teach students how to generate and construct questions either by direct instructions (orally) or by explicit instructions (written), before they are able to generate their own questions appropriately. Therefore, for better results to be obtained with the RP, further studies could make use of a long term instruction.

3 - LOWER LEVEL STUDENTS - Another study could investigate the effects of these prereading activities on lower level students to compare with the intermediate group. For Adams, (1982), students with higher proficiency levels are able to use contextual clues to construct meaning from the text without the need of activators or extra help.

4 - TEXT DIFFERENCES - This study made use of expository texts, another study could investigate the effects of prereading activities on other types of texts, as Taglieber (1985) did.

5 - CONTENT AREA READING - Some studies have examined the effects of PS and RP in content area reading in English as L1, their effectiveness for content area in Portuguese still needs investigation.

6 - VOCABULARY KNOWLEDGE - This study only investigated the effects of the activity " Possible Sentences " on improving comprehension. Its effects on increasing vocabulary in a foreign language should also be examined.

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A P P E N D I X A

TESTS OF LANGUAGE AND READING PROFICIENCY

Part I READING COMPREHENSION

MORE AND MORE

There are 4.8 billion people living on our earth today. Though the world population growth rate has slowed over the past decade, analysts project that the current total will more than double in 75 years before population finally stabilizes. By the year 2050 the world population will be 10.2 billion.

The major population increases will take place in Africa, Latin America and Asia. In developing countries, the population growth rate is often twice as high as the world's average. For instance, in Africa women give birth to an average of 6 children compared to the 1.7 average number of children European women bring into the world. Today Africa has a total population somewhat smaller than the population of Europe. At the current growth rate, however, Africa's population will exceed Europe's by five times in 100 years.

The countries of the third world do not have the resources to sustain this burgeoning population. If current trends continue, analysts predict that by the year 2000, 65 of the world's least developed countries could have more than 441 million people they will not be able to feed. Statistics show that there is enough food in the world today to feed all of the hungry and that it will be possible in the future for grain production to keep pace with this escalating population growth. However, these calculations are global; on a country-by country basis, food production per capita has dropped in 55 countries, including 34 African countries.

There is concern that the earth will be stripped bare of its non-renewable natural resources by the increasing demands put upon it by a growing population. Soil is being exhausted; forests are being chopped down for fuel; oil, coal and metal reserves are rapidly being depleted. The problem will become even more serious when today's developing nations industrialize, increasing their consumption of resources. Water scarcity remains a crucial problem in North Africa and the Middle East. Even if more sophisticated water management techniques are implemented, it is doubtful that there will be sufficient water supplies in these areas to sustain more than half of the projected population in the coming century.

In some countries, nearly, all population growth shows itself as an increase in urban population. This steady movement of people to the large cities of developing countries is exerting an enormous strain on these cities' limited economic and social

facilities and services. At the same time, rural areas are being deprived of much of their available young and skilled manpower and are unable to satisfy the growing demands from the cities for food and other commodities.

Several countries have made progress in curbing population growth, among them Thailand, Hong Kong and Singapore. The most remarkable decline in birth rates, from 34 to 20 per 1,000 in only a decade, was accomplished by China. The Chinese government's current goal is not to exceed a total population of 1.2 billion citizens by the year 2000. In many countries there remains public resistance to family planning, however, and lack of government support for it. A recent U.N. World fertility Survey found that half of the women surveyed who did not wish to have more childen had no access to family planning programs.

Population growth in the world's industrialized nations has declined and in many cases stopped. The consensus among industrialized nations is that a young and vital workforce is a benefit to society; in Japan, which has few natural resources besides its 120 million people, experts are concerned about a sharply declining birth rate. Although Japan today has the youngest population of many developed countries, at the current growth rate it could have the oldest in less than 50 years. That could mean a work force possessing old skills will place an increasing burden on retirement pension payments. It could also mean an end to the country's dynamic economic growth.

March 1986 SCANORAMA

I - Read the text trying to answer the following questions :

1 - What parts of the world will have the biggest population increases?

2 - What will be the population of the least developed countries by the year 2000 ?

II - Now try to look for the following information :

1 - The world population today

2 - The world population in 75 years

3 - The population of Japan today

4 - The average number of children a family has in Europe

5 - The countries which have been able to start controlling population growth

III- Now try to use the information from the text to answer the following questions :

1 - What does the author say which shows that he believes the world population will stop growing uncontrolledly ?

2 - Does the author agree that there is going to be enough food for everybody in the future ? How does he explain this ?

3 - Does the author see any solution for the the fact that the earth's natural resources are disappearing ? How does he show this ?

4 - According to the text, what are some of the reasons why family planning programs do not work ?

5 - Japan and other countries were able to control population growth. However, the author has some considerations about it, what are they ?

IV - According to the context in which they appear in the text, what could be the meaning of the following words in Portuguese:

1 - "... do not have the resources to sustain this burgeoning population " 3rd paragraph. 3rd line.

a) alimentar

b) sobreviver

c) manter

d) ajudar

2 - "... are rapidly being depleted". 4th paragraph - 9th line.

a) diminuídos

b) ameaçados

c) recuperados

d) tratados

3 - "... is exerting an enormous strain on these cities... "
5th paragraph - 7th line.

a) força

b) pressão

c) explosão

d) origem

4 - "... world fertility survey found... " 6th paragraph - 16th line.

a) inspeção

b) exame

c) resultado

d) pesquisa

5 - "...control measures coupled with a world wide increase... "

a) acasalado

b) ligado

c) cumprido

d) aumentado

PART II - LANGUAGE

I - Complete the minidialogues :

1 - Shop assistant :.....

Customer: I was just looking around.

2 - Paulo : I've got to go to the doctor this afternoon.

Marcia :.....

3 - Student 1 : Maybe you could ask the teacher to postpone it for the next week.

Student 2 :.....

4 - Boy :.....

Girl : So what ? I like their music and besides their last show was fantastic.

5 - Teacher :.....

Student : I promise to have everything ready for the next week.

6 - Marcelo : What do you mean by "impulsive consumer " ?

Pedro :.....

7 - Mr. Costa : Do you mind if I use your telephone ?

Neighbor :.....

8 - Friend :.....

Student : I've already done that but they don't give scholarships to anyone.

9 - Mother :.....

Daughter : But I promised her I'd go. If I don't she'll be mad at me.

10 - Pedro :. .....

Paulo : No. I don't think so. what is it about ?

II - How would you refer to these different people according to the different situations :

Situation I : You're feeling hot and you want to have the window open. How would you ask them for permission.

Your teacher :

Your boss :

Your friend :

Your mother :

Situation II : You want to invite these people to have dinner at your house.

Your teacher :

Your boss :

Your friend :

Your mother :

Situation III : You have to ask these people to do you a favor.

Your teacher :

Your boss :

Your friend :

Your mother :

Situation IV : You're late and have to find a way to interrupt the person and leave.

Your teacher :

Your boss :

Your friend :

Your mother :

III - Choose the alternative which best completes the dialogue :
(Extracted from "Vestibular - 1984 - PUC - SP)

1 - Boy : Let's go to the beach this afternoon.

Girl .....

a) Ok, which one ?

b) I love the beach very much !

c) I won't go, thank you.

d) I agree very much with your suggestion.

e) I like the beach this afternoon.

2 - Tourist : Excuse me, can you tell me the way to the station, please ?

Policeman :.....

a) Of course I can't.

b) First right, second left.

c) I'd love to tell you.

d) Thank you very much.

e) Have a nice day.

3 - At the Station.

Passenger :.....

Railway clerk : The next train leaves at four thirty.

a) When does the train arrive, please ?

b) Where is the train to London, please ?

c) I want information for the next train, please.

d) When is the next train to London, please ?

e) How many trains are there for London, please ?

4 - Jim : Can I borrow your Tina Turner record ?

Bob :.....

a) Of course I can.

b) I'm sorry but I've already borrowed it.

c) Yes, of course you can.

d) Yes, you can borrow.

e) I'm sorry but you can.

IV. Write a letter to the city mayor or to the competent department, complaining about the terrible conditions of your street (at least 15 lines).

A P P E N D I X B

GENERAL EXPLANATIONS GIVEN TO ALL FOUR GROUPS OF SUBJECTS BEFORE THE EXPERIMENT BEGAN

The study you are going to participate in, is part of a reading project which this school intends to develop.

We are going to read four texts, each of them worked in a different way.

The purpose of this study is to find out which of these ways bring better results in terms of your reading performance.

The attainment of the objectives proposed depends on the effort you put on the study.

A P P E N D I X C

PART OF EACH OF THE TEXTS WHICH WERE PRESENTED TO THE SUBJECTS BEFORE THE ACTIVITY "REQUEST PROCEDURE".

TEXT No 1 : CLOTHESLINE LITERATURE

Clothesline literature - Stories told on a shoestring
Most of the small booklets or folhetos, which constitute what is known as literatura de Cordel or "Clothesline Literature" are masterpieces of Brazilian popular art.

TEXT No 2 :WILL DESERTS DRINK ICEBERGS ?

Will deserts drink icebergs ?
Every attempt has to be made to find further supplies of fresh water. There are two viable methods of doing this, and two only : the desalination of sea water, and the tapping of the only existing reserves of fresh water - the ice of the polar regions, formed by the accumulation and compression of snowfall over thousands of years.

TEXT No 3 : TIME AND TIDE

Time and Tide (only the title).

TEXT No 4 : THE CAVIAR FACTORY

The Caviar factory

Inside the belly of this sturgeon lie hundreds of tiny black eggs that once processed will be worth $80 per 100 grams. Welcome to the birthplace of caviar.

A P P E N D I X D

KEY WORDS SELECTED BY THE RESEARCHER FROM EACH TEXT FOR THE ACTIVITY "POSSIBLE SENTENCES".

TEXT: Clothesline Literature

Clothesline Literature

booklets

Brazilian popular art

ordinary paper

frontispieces

markets

sugar mills

rhyme

purchasers

rope

political events

wide following

greedy eyes

peasants

masterpieces

printed

wood engravings

photographs

cattle fairs

stanzas

declaim

display

subject-matter

epics

Roman Catholic church

Getúlio Vargas

fishermen

TEXT : Will deserts drink icebergs ?

Fresh Water

further supplies	desalination
tapping	viable methods
arctic	antarctic
icebergs	feasible
snowfall	distilled water
icecap	glaciers
tabular	transportation
towing	evaporation
melting	friction
reflective material	insulating material
offshore	shallowness
continental shelf	pump

TEXT : Time and Tide

Time and Tide

high tide

rise and fall

waters of the ocean

interval

periodical

doming up

pull of the sun

neap tides

full moon

moon's orbit

axis of the earth

diurnal tides

low tide

gravitational

pull of the moon

two high waters

sun

flowing away

spring tides

new moon

quarters of the moon

hemispheres

tilted

semidiurnal tides

TEXT : The Caviar Factory

The Caviar Factory

osetr

turk

sturgeon

fishing

spawning

tiny eggs

membrane

Volga river

roe

wooden-two boats

tepid tea

beluga

soviet union

species

shark

alive

fish-processing plant

smoking room

unusable

raw

transportation

tasters

A P P E N D I X E

TEXT NO. 1 AND READING COMPREHENSION TESTS.

Time limit for reading when activity was present : 10 minutes.

Time limit for reading the text as the control without any activity: 18 minutes.

CLOTHESLINE LITERATURE

Stories told on a shoestring

Most of the small booklets or folhetos, which constitute what is known as literatura de cordel or "clothesline liturature" are masterpieces of Brazilian popular art. Their format is small (11 X 15 centimetres) and they have between 8 and 16 or 32 and 48 pages. They are printed on ordinary paper, with pale-coloured jackets. The wood engravings forming the frontispieces illustrate the story inside. Folhetos have been produced since the end of the last century, originally in northeastern Brazil where they were sold at markets, cattle fairs, sugar mills and other centres of economic activity.

The folhetos have changed since those days. Now, some of their covers have photographs instead of engravings, and they have been influenced by modern reproduction techniques. However, today as in the past, the authors of the stories inside are

poets. They write in four, six or ten line stanzas and rhyme is all important. To get people to buy the booklets, the poet himself, or a bookseller, declaims just enough of the text to whet the curiosity of passers-by, so that only the purchasers will ever know how the story ends. The vendors often display their wares by attaching them to lengths of rope or string, like clothes hung out to dry, whence the name literatura de cordel by which they are known in Brazil.

The subject-matter varies enormously, ranging from account of political events to epics containing echoes of the Chanson de Roland, the Roman de la Rose or the Roman de Renart or, more topically, of the visit of the Pope John Paul II to Brazil or a trip to the moon. The ideas behind them are often conventional : the established order is respected, good always triumphs and punishment is meted out to wrongdoers. The authors, publishers and retailers of the folhetos are simple folk who would never dream of breaking rules. However, the texts are not entirely of their own choosing and, as we shall see some have tried - and still do to infiltrate a message into the folhetos. This is because the folhetos have such a wide following that they attract greedy eyes. To take one example, some 3 million copies have been printed of the hundred-odd folhetos about Padre Cicero , a village "miracle - worker ".

Although individual authors sometimes print and market their own work with the help of their wives and childen, specialized folheto publishers (folheterias) have existed for many years. These publishing houses, located in seven cities in northeastern Brazil, print and distribute work by many poets. However, the mass exodus of workers to Brazil's southern states in search of employment has changed the situation. The State of São Paulo, Brazil's richest, today has over one million of these "immigrants" and a large folheto publishing company has been established there.

Neither the poets nor the illustrators make fortune out of their work.Some folheto authors have steady jobs with small radio stations.It must be remembered that folhetos are not only read but recited, and the rhymed verse can give a new slant to news with which people may already be familiar. In the early 1980s, there were some 2,500 "practising" poets working for radio stations, travelling around to fairs, and so on.

The Brazilian authorities and the Roman Catholic Church were quick to grasp the importance of the folhetos as a vehicle for ideas, proposals and reforms. By the 1940s, government agencies were already making widespread use of them - five titles were published on Getúlio Vargas, the then President of the Republic.

When folhetos are funded by official bodies, Catholic associations and universities, the poets are commisioned to communicate to the general public such information as the key passages of a pastoral lettter or a piece of legislation. However, the fact that these folhetos are free may influence the way in which their message is received. This funding system may well have contributed to the survival of such features of the folheto's original appearance as the wood engravings on the covers, which might otherwise have been more frequently replaced by photographs.

Peasants in remote rural areas, waiting for help that only God can provide, fishermen setting out on their jangada rafts for a hard day at sea, and factory workers dreaming in their dormitories, these are the people who enjoy reading folhetos. Poor but proud, smiling and sad by turns, hoping that the future will bring respite from their hardships and difficulties, they love tales of ghosts and spectres, werewolves, beautiful mermaids and stately princesses. However, in a country like Brazil that is being totally changed by the transistor radio and television, it is hard to predict what the future holds for these little books that have brought joy to so many people.

Article by Clelia Pisa extracted
from The Courier - Unesco, December 1986
- Pages 26 - 28).

Reading Comprehension test no. 1

Text : CLOTHESLINE LITERATURE

I - Answer the following questions (in Portuguese) according to what you have read in the text :

1 - Why is it called "clothesline literature" /or literatura de cordel ?

2 - What are the subjects contained in the booklets ?

3 - Why do some small radio stations like to have "folheto" authors working with them ?

4 - Why did some Brazilian authorities, Catholic associations and universities become interested in the booklets ?

5 - What kind of people read the booklets ?

Reading Comprehension test No.2.

Text : CLOTHESLINE LITERATURE

II- Check whether the information contained in the sentences is true(T) or false (F) according to what you have read in the text:

1 - ( ) The booklets always have the same format and size.

2 - ( ) The covers of the booklets have either photographs or engravings.

3 - ( ) The subject of the stories stay around regional themes.

4 - ( ) The ideas behind the stories are very revolutionary.

5 - ( ) Many poor and many rich people read the booklets.

6 - ( ) All the publishing companies are located in northeastern Brazil.

7 - ( ) The booklets are free.

8 - ( ) In the past the authors were simple people but this is not true today.

9 - ( ) It's not always the authors of the booklets who choose the texts which will go inside.

10 - ( ) The author of this article believes that this kind of literature is so popular that it'll probably live long in Brazil.

Marque na escala de 1 a 6 :

Na sua opinião :

1 - O texto foi :

Muito fácil Muito difícil

1 ( ) 2 ( ) 3 ( ) 4 ( ) 5 ( ) 6 ( )

2 - A maneira como o assunto foi abordado no texto foi :

Totalmente familiar Totalmente desconhecida

1 ( ) 2 ( ) 3 ( ) 4 ( ) 5 ( ) 6 ( )

A P P E N D I X F

TEXT NO. 2 AND READING COMPREHENSION TESTS

Time limit for reading when activity was present : 9 minutes.

Time limit for reading the text as the control, without any activity : 17 minutes.

WILL DESERTS DRINK ICEBERGS ?

Every attempt has to be made to find further supplies of fresh water. There are two viable methods of doing this and two only ; the desalination of sea water and the tapping of the only existing reserves of fresh water - the ice of the polar regions formed by the accumulation and compression of snowfall over many thousands of years.

The desalination of sea water is expensive, whereas the production of fresh water by the transportation of icebergs is both economically competitive and feasible.

Icebergs are composed of fresh water so pure that it often approaches the characteristics of distilled water.

It has been estimated that the Antartic icecap loses more than 10 million million cubic metres of ice every year in the form of icebergs which eventually melt and disappear.

Why go to the South Pole to get icebergs ?

Why not the North Pole ?

There are two reasons for this. First, most Arctic icebergs are irregularly shaped and dangerously unstable.Secondly, Arctic bergs come from mountain glaciers (from Greenland, for example) which precludes their ever being large enough. The "tabular" icebergs from Antarctica, on the other hand, are often big and regular in shape.

A "suitable" iceberg should be large enough (100 million tonnes) to provide the required amount of water by the time it arrives at its destination. It should be tabular, as regular shaped as possible, and to make towing easier, much longer than it is wide.

Icebergs of this type, always supposing that no internal or invisible crack and stresses are subsequently detected, are formed in the Pacific sector, in the Atlantic sector, and in the Indian sector.

The most important problem will be to protect the icebergs against all types of erosion, such as melting,

evaporation, mechanical erosion by waves, and friction caused by movement through the sea.

It would, for instance, take eight to nine months to cover 6,000 nautical miles at optimum towing speed (about one knot or roughly two kilometres per hour).

Various solutions have been suggested. One of them involves the protection of the sides of the icebergs by strips (similar to those of Venetian blind) made of a reflective material.

The submerged portion of the sides would be protected by a similar curtain (or skirt) made of insulating material, while the insulation itself would be provided by a pool of cold fresh water between the skirt and the sides of the iceberg. The underside of the berg would also be protecded by a kind of wrap held against the bottom by inflatable floats.

The manufacture and assembling of such units in Antarctic waters will involve various problems that are not yet solved.

The actual towing operation should, in theory, cause no problems at all, as the largest modern tugs have a tractive force of 125 tonnes. The tractive force needed to shift an iceberg of 100 million tonnes is in the region of 600 to 700 tonnes, so five or six large tugs could do the job.

Once the iceberg arrived at its destination it might have to remain a certain distance offshore, depending on the shallowness of the continental shelf. Melting water would then have to be pumped by pipeline to the coast.

The production of fresh water by the transportation of icebergs is undoubledly one of the most original and exciting ventures of our time. It is also one of the most useful; the most urgent problem soon to face manking will be how to obtain fresh water.

(Article by Paul-Emile Victor, extracted from " A selection from the COURIER - Unesco - 40th anniversary issue ", May-June 1986 - Page 19).

Reading Comprehension test no. 1.

Text : Will deserts drink icebergs ?

I _ Answer the following questions (in Portuguese) according to what you have read in the text :

1 - How is the ice of the polar regions formed ?

2 - What positive aspect(s) does the method of obtaining water through icebergs presents in relation to the method of desalination of the sea water ?

3 - What are the pre requisites for an iceberg to be used by the method ?

4 - Why might the icebergs have to stay a certain distance offshore (margem) when arriving at its destination ?

5 - How is the water collected from the iceberg after arriving at its destination ?

Reading Comprehension test no. 2.

Text : Will deserts drink icebergs ?

II - Check whether the information contained in the sentences is true (T) or false (F), according to what you have read in the text :

1 - ( ) There are only two viable methods to obtain further supplies of fresh water.

2 - ( ) The transportation of icebergs is an original and exciting venture but it's almost impossible to be done.

3 - ( ) The desalination of sea water is much less expensive than the transportation of icebergs.

4 - ( ) Icebergs of the right size for the method are found in Antarctica.

5 - ( ) Icebergs of the right size for the method are found in the Pacific sector, in the Atlantic sector, and in the Indian sector.

6 - ( ) Arctic bergs have the right size for the method of obtaining fresh water.

7 - ( ) It's possible to protect the icebergs against erosion.

8 - ( ) The actual towing operation should cause no problems at all.

9 - ( ) The iceberg is taken out of the water as soon as it arrives at its destination.

10 - ( ) Icebergs contain pure water.

Marque na escala de 1 a 6.

Na sua opinião :

1 - O texto foi

Muito fácil Muito difícil

1 ( ) 2 ( ) 3 ( ) 4 ( ) 5 ( ) 6 ( )

2 - A maneira como o assunto foi abordado na texto foi :

Totalmente familiar Totalmente desconhecida

1 ( ) 2 ( ) 3 ( ) 4 ( ) 5 ( ) 6 ( )

A P P E N D I X G

TEXT NO.3 AND READING COMPREHENSION TESTS.

Time limit for reading when activity was present : 10 minutes.

Time limit for reading without any activity, as the control : 18 minutes.

Time and tide

Tides, the periodical rise and fall of the waters of the ocean, are due to the gravitational pull of the moon and, to a lesser extent, of the sun. At most seaside places there are two tides a day, the average time interval between two successive high waters being twelve hours and twenty-five minutes.

When the moon is directly over any point in the ocean, it pulls the water towards it causing a "doming up " of water under the moon. On the side of the earth opposite to this point, however, the centrifugal force generated by the rotation of the earth will exceed the attractive pull of the moon, causing the

water of the ocean to tend to dome outwards. Thus high tides will occur at the same time on opposite sides of the earth, rather than a high tide on one side and a low tide on the other.

Low tides occur at points ninety degrees away because water is flowing away from these areas towards the areas af high tides.In other words,there is a horizontal flow from every point of the ocean towards the points directly under or directly opposite to the moon.

The gravitational pull of the sun, which is less than half that of the moon, somewhat complicates matters. When there is a new moon, the moon is situated between the earth and the sun so the attraction of the sun and the moon reinforce each other. Two weeks later, when the moon is full, it has moved round to the opposite side of the earth to the sun so that the earth is between them and once again along the same axis. At these times the earth experiences its highest tides, commonly known as spring tides.

At the quarters of the moon, when the sun and the moon are at right angles to each other in relation to the earth, their respective gravitational pulls tend partly to counteract each other. At these times the tides, commonly called neap tides, are neither so high nor so low.

The moon travels in an elliptical orbit in relation to the equator, swinging back and forth over the northern and southern hemispheres. In some parts of the earth this inclination of the

moon's orbit, coupled with the fact that the axis of the earth is tilted in relation to its orbit round the sun, produces diurnal tides (tides occurring at intervals of twenty-four hours and fifty minutes) rather than the semi-diurnal tides (tides occurring at intervals of twelve hours and twenty-five minutes) described above. Semidiurnal tides predominate in the Atlantic, whereas diurnal tides are found on the coast of alaska, the Philippines and China.

(Article extracted from "The Courier - Unesco ", February 1986, Page 9.)

Reading Comprehension test no.1

Text : Time and Tide.

I- Answer the following questions (in Portuguese) according to what you have read in the text:

1 - Why do high tides occur ?

2 - Why do low tides occur ?

3 - In what phase (s) of the moon occur tides which are neither so high nor so low ?

4 - According to the interval in which the tides occur how are they classified ?

5 - What kind of tides predominate in the Atlantic (according to the classification in question No.4) ?

Reading Comprehension test no.2.

Text : Time and Tide

II - Check whether the information contained in the sentences is True(T) or False(F) according to what you have read in the text:

1 - ( ) When on one point of the earth occur high tides, on the point exactly opposite to this occur low tides.

2 - ( ) Low tides occur at points 90^{o} away from the points where high tides occur.

3 - ( ) There's a horizontal flow from some point of the ocean in direction of the areas of high tides.

4 - ( ) During a full moon the moon is situated between the earth and the sun which causes high tides.

5 - ( ) Tides are the periodical rise (aumento) of the waters of the ocean, caused by the gravitational influence of the moon.

6 - ( ) Diurnal tides are the ones which occur during the day.

7 - ( ) Diurnal tides occur predominantely in the Atlantic.

8 - ( ) Alaska has an interval between tides different from Brazil.

9 - ( ) Spring tides occur during times of full and new moon.

10 - ( ) Semidiurnal tides are found on the coast of the Philippines.

Marque na escala de 1 a 6:

Na sua opinião :

1 - O texto foi :

Muito fácil Muito difícil

1 ( ) 2 ( ) 3 ( ) 4 ( ) 5 ( ) 6 ( )

2 - A maneira como o assunto foi abordado no texto foi :

Totalmente familiar Totalmente desconhecida

1 ( ) 2 ( ) 3 ( ) 4 ( ) 5 ( ) 6 ( )

A P P E N D I X H

TEXT No. 4 AND READING COMPREHENSION TESTS.

Time limit for reading when activity was present :13 minutes.

Time limit for reading without any activity, as the control :21 minutes.

The Caviar Factory

Inside the belly of this sturgeon lie hundreds of tiny black eggs that once processed will be worth $80 per 100 grams. Welcome to the birthplace of Caviar.

The word "Caviar" is thought to be of Turk or tartar origin, and the Turkish word, Khavaya, in turn, is believed to be a corruption of the Italian Caviala, but caviar is almost exclusively a Russian product. Ninety percent of the world's caviar comes from the Soviet Union.

The two most common species of sturgeon taken in the USSR are the osetr and the beluga. The beluga is the largest of the sturgeon family and looks like a sharaken in the USSR

are the osetr and the beluga. The beluga is the largest of the sturgeon family and looks like a shark. One beluga caught during

my visit to a fishing area in the Volga River delta weighed 700 kilos and produced 180 kilos of high quality roe, or caviar.

Sturgeon do not produce roe until they are 15 to 17 years old ; some experts claim they live for up to 300 years. They are, though, a stupid fish, and their lack of intelligence is a problem. They are unable to use the steps and other aids provided by hydro-electric plant engineers to allow them to reach their spawning grounds above dams. The great spawning areas behind the Stalingrad power stations, for example, have been practically abandoned.

Sturgeon fishing is limited to two months a year and restricted to fishing with sweep-nets. Sea fishing is prohibited in the Caspian Sea near the Volga delta.

I went to Astrakhan at the mouth of the Volga River to see caviar in the raw. A lovely delta city, it was once the capital of Tartar. Its main products are fish, caviar, wine and grain. The largest fish-processing plant in the USSR is there, The Astrakhan Fish and Can and Refrigeration Complex.

The sturgeon, once caught, are brought to the complex in a string of low, wooden tow boats, each with fish compartments open to the river, for the sturgeon must be delivered to the factory alive, or the caviar becomes unusable. Sometimes, when a caught sturgeon shows that it cannot survive the tank-boat trip to the plant, a trip that may take several

hours or even days, the fishermen and women kill the sturgeon and eat the caviar.

When the tank boats with their live fish arrive at the plant, men in rubber suits climb into the boats and in waist-deep water among the thrashing fish, seize a fish by its snout, lift it with a wooden club. This is supposedly a death blow, but in the first processing room, many of the great fish slither about on the concrete floor, very much alive.

Experts here find out after an instant's examination whether or not a fish contains roe. If it does not, it is thrown or hoisted onto a conveyer belt that carries it into another room to be gutted and sent on to the smoking or freezing or canning rooms, depending upon the quality and size of the sturgeon and market needs.

Fish with roe are routed into another spotlessly clean room where the fish is washed and then cut open. The roe, contained in a membrane, spills out. It is at that moment, experts say, that it tastes best.

Each batch of caviar is put into wooden bucket-shaped containers and than screened through a fine sieve to remove the membrane. Finally, several pinches of salt are added to this glistening black mass of tiny eggs. In the bucket is finished, prime, caviar.

If, however, the little sacks that contain each egg show signs of wilting, that batch of roe is sent to another department where it is pressed into cakes. Pressed caviar is considered lower quality--though some say they like it better than prime caviar - and is less expensive.

Each separate batch of caviar is sent to the tasters' room. There are only two tasters, and they are treated with reverence. It is they who determine the quality of each separate batch of roe. They are said to eat a kilo of caviar a day, drinking tepid tea between each taste.

The tasters rate each batch. The very best will be earmarked for Soviet leaders and for fine dinners and entertaining in the Kremlin. Some of the best will go to the prime export markets. Of the lesser quality, some will be available for the buffets at the Bolshoi and at other theaters and show places.Some will go to the hard currency stores open to tourists and to Soviet international airports where foreigners await their flights.

If you trot down to you corner shop to buy some caviar from a beluga sturgeon, it'll cost you about $80 for 100 grams of it to add to the peanut butter on your sandwich.

Reading comprehension test No.1

Text : The Caviar Factory

I - Answer the following questions (in Portuguese), according to what you have read in the text :

1 - What is the birthplace of caviar ?

2 - What kind of fish produces caviar ?

3 - Why the way the fish is caught and transported to the plant so important ?

4 - What is done with the fish which do not contain roe?

5 - What are the two kinds of caviar mentioned in the text ?

Reading comprehension test No.2

II - Check whether the information contained in the sentences is True (T) or False (F) according to what you have read in the text:

1 - ( ) The word "caviar" derives from the Italian

" caviala ".

2 - ( ) One can go sturgeon fishing during six months a year.

3 - ( ) Sweep-nets are the only kind of nets one can use to catch the fish.

4 - ( ) The sturgeon are killed only after they get to the plant.

5 - ( ) All fish are cut open to see whether they contain roe.

6 - ( ) Fish which do not contain roe are not taken to the plant.

7 - ( ) The number of tasters is always the same, two, and does not vary with the amount of caviar to be qualified.

8 - ( ) The sturgeon are considered a very stupid fish.

9 - ( ) The sturgeon produce roe very early, at the age of 2 or 3.

10 - ( ) The sturgeon live for up to 300 years.

Marque na escala de 1 a 6.

Na sua opinião :

1 - O texto foi :

Muito fácil Muito difícil

1 ( ) 2 ( ) 3 ( ) 4 ( ) 5 ( ) 6 ( )

2 - A maneira como o assunto foi abordado no texto foi :

Totalmente familiar Totalmente desconhecida

1 ( ) 2 ( ) 3 ( ) 4 ( ) 5 ( ) 6 ( ).

A P P E N D I X I

SENTENCES GENERATED BY THE SUBJECTS DURING THE ACTIVITY POSSIBLE SENTENCES, BEFORE READING EACH OF THE TEXTS.

TEXT No 1 : CLOTHESLINE LITERATURE.

1-Peasants always go to cattle fairs.

2- Getúlio Vargas took part in a big number of political events.

3- The booklets are made of ordinary paper.

4- Brazilian popular art has many purchasers abroad.

5- Clothesline literature is declaimed in stanzas.

6- The booklets bring in the frontispieces Woodengravings.

7- Clothesline literature usually appears in political events and Cattle fairs.

8- We have true masterpieces in clothesline literature.

9- Political events look like cattle fairs.

10- Everybody looks at fishermen's photographs with greedy eyes

TEXT No 2 :WILL DESERTS DRINK ICEBERGS ?

1- Icebergs from the icecap generally cause bad crashes.

2- Tapping is feasible by pumping.

3- Desalination is a viable method of obtaining fresh water.

4- Glaciers are common in the Arctic.

5- We can get fresh water by melting icebergs.

6- A further supply of fresh water is desalination.

7- We have big icebergs in both Arctic and Antartic.

8- Pumping fresh water from Antarctic is feasible.

9- During the transportation the icebergs suffer evaporation.

10- Life in the Antarctic is feasible.

TEXT No 3 : TIME AND TIDE

1- The rise and fall of the tides is influenced by the pull of the moon.

2- When there's a full moon the waters of the ocean flow away slower.

3- There's a doming up of the waters of the ocean when there's a new moon.

4- With the new moon and the full moon come the spring tides.

5-The rise and fall of the waters of the ocean are caused by the moon's orbit.

6-High and low tides are periodical phenomena.

TEXT No 4 : THE CAVIAR FACTORY

1- Osetr and beluga are two species of sturgeon.

2- Sturgeon can be found in the Volga River.

3- Sharks eat sturgeon.

4- The Soviet Union is the biggest producer of caviar.

5- You can eat Caviar with tepid tea.

6- Sturgeon during their spawning are unusable to make caviar.

7- Sharks are the major enemies of sturgeon.

8- Caviar is made of raw tiny eggs of sturgeon.

9- Tasters drink tepid tea when tasting caviar.

A P P E N D I X J

SENTENCES GENERATED BY THE SUBJECTS DURING THE ACTIVITY POSSIBLE SENTENCES, AFTER READING EACH OF THE TEXTS

TEXT No. 1: CLOTHESLINE LITERATURE

1- Clothesline literature is sold in Cattle fairs, sugar mills and political events.

2- Peasants like to read the booklets.

3- Five titles of booklets were published on Getúlio Vargas.

4- Catholic Associations, Universities and politicians look at Clothesline literature with greedy eyes.

5- Politicians take advantage of this kind of literature sold in Cattle fairs.

6- The booklets are usually displayed in ropes in the markets.

7- The booklets are usually printed in ordinary paper.

8- Clothesline literature has a wide following among peasants, fishermen and factory workers.

9- Clothesline literature retells political events, epics, the life of famous people and important happenings.

TEXT No 2 : WILL DESERT DRINK ICEBERGS ?

1 - Tapping water from icebergs is feasible by pumping the melting water after the icebergs arrive at its destination.

2 - Arctic bergs are not good to be used by the method.

3 - Icebergs from Antarctica have the right shape and size for the method.

4 - During the transportation the iceberg has to be protected against erosion.

5 - A further supply of fresh water is desalination, but it's more expensive than tapping water from icebergs.

6 - Towing icebergs from Antarctic is viable.

TEXT No 3 : TIME AND TIDE

1 - The rise and fall of the waters of the ocean is influenced by the pull of the moon and to a lesser extent, of the sun.

2 - There's a doming up of the waters of the ocean at points exactly under the moon.

3 - Neap tides occur during the quarters of the moon.

TEXT No4 : THE CAVIAR FACTORY

1 - Caviar is processed in the fish processing plant.

2 - The beluga looks like a shark.

3 - The two tasters drink tepid tea between each taste.

4 - The Soviet union is the major producer of Caviar.

5 - Caviar is made of raw tiny eggs of sturgeon plus salt.

A P P E N D I X K

QUESTIONS FORMULATED BY THE SUBJECTS DURING THE ACTIVITY REQUEST PROCEDURE, AFTER BEING EXPOSED TO PART OF EACH TEXT.

TEXT No 1 :CLOTHESLINE LITERATURE

1 - What kind of people read clothesline literature ?

2 - Where is it from ?

3 - Where can one find this kind of literature ?

4 - What are the stories about ?

5 - Why is it called clothesline literature ?

6 - Who are the most famous writers ?

7 - Is this literature more popular today or in the past ?

8 - What kind of people write clothesline literature ?

9 - How much does a booklet cost ?

TEXT No2 :WILL DESERTS DRINK ICEBERGS ?

1 - Is it possible to get water from icebergs ?

2 - Which country has the best technology ?

3 - Wouldn't this technology change the environment ?

4 - How do they get water from the icebergs ?

5 - Is it necessary for human survival ?

6 - Why doesn't Brazil use this technology to end up with the drought in the Northeast ?

7 - Which method is more feasible and less expensive : desalination or tapping water from icebergs?

8 - What's the main problem with tapping water from icebergs ?

TEXT No 3 : TIME AND TIDE

1 - When are the tides high and when are they low ?

2 - What's the interval between high and low tides ?

3 - How can human beings get benefits from tides ?

4 - How long does a high / low tide last ?

5 - How many tides are there a day ?

6 - How much does the sun influence the tides ?

7 - Are the tides the same all over the word ?

8 - What's the influence of the tides in fishing?

TEXT No 4 :THE CAVIAR FACTORY

1 - How is Caviar processed ?

2 - Where can you find the sturgeon ?

3 - What is the birthplace of Caviar ?

4 - How do you eat it ?

5 - Why is it so expensive ?

A P P E N D I X L

QUESTIONS PREVIOUSLY PREPARED BY THE EXPERIMENTER FOR THE ACTIVITY REQUEST PROCEDURE

TEXT No 1 :CLOTHESLINE LITERATURE

1 - Why is it called clothesline Literature (Literatura de Cordel)?

2 - Who are the authors of the booklets ?

3 - Where can you buy the booklets ?

4 - What is their subject matter ?

5 - What kind of people buy the booklets ?

TEXT No.2 : WILL DESERTS DRINK ICEBERGS ?

1 - Which of the existing wags to obtain fresh water is more feasible and less expensive ?

2 - What kind of water do icebergs contain ? Does it need any treatment ?

3 - Is any iceberg suitable for the method ? Why/why not ?

4 - How does the water from icebergs reach its destination ?

TEXT No.3 : TIME AND TIDE

1 - How many tides are there a day ?

2 - Does the moon interfere in the process ? How ?

3 - Does the sun interfere in the process ? How ?

4 - Why do low tides occur ?

5 - Why do high tides occur ?

TEXT No. 4 : THE CAVIAR FACTORY

1 - What is the birthplace of Caviar ?

2 - What kind of fish produces Caviar ?

3 - How are the "tiny black eggs" processed ?

4 - What is done with the fish after the eggs are extracted ?

5 - How much Caviar does each fish produce ?

A P P E N D I X M

EXPECTED ANSWERS FOR THE OPEN-ENDED QUESTIONS ON EACH OF THE TEXTS.

CLOTHESLINE LITERATURE

1 - Why is it called " Clothesline literature " or "literatura de cordel " ?

- Porque durante a venda ao público, os folhetos são pendurados em cordas, como roupas para secar.

2 - What are the subjects contained in the booklets ?

- O assunto dos folhetos varia bastante, desde eventos políticos até épicos ou assuntos do momento como a visita do Papa João Paulo II ou uma viagem á lua.

3 - Why do some small radio stations like to have "folheto"

authors working with them ?

- Porque a rima usada pelos autores pode dar um novo toque á notícias até já conhecidas pelo público.

4 - Why did some Brazilian Authorities, Catholic associations and Universities become interested in the booklets ?

- Porque poderia servir como um meio de veiculação de suas idéias, (propostas e reformas).

5 - What kind of people read the booklets ?

- Camponeses, pescadores e operários.

WILL DESERTS DRINK ICEBERGS ?

1 - How is the ice of the polar regions formed ?

- Pelo acúmulo e compressão da neve durante milhares de anos.

2 - What positive aspect(s) does the method of obtaining water through icebergs present in the relation to the method of desalination of the sea water ?

- Economicamente competível e praticável.

3 - What are the pre requisites for an iceberg to be used by the method ?

- Deve ser grande, plano, ter um formato regular e ser mais

comprido do que sua largura.

4 - Why might the iceberg have to stay a certain distance offshore (margem) when arriving at its destination ?

- Porque pode encalhar dependendo da profundidade naquele local.

5 - How is the water collected from the iceberg after arriving at its destination ?

- A agua derretida é bombeada através de tubulação para a costa.

TIME AND TIDE

1 - Why do high tides occur ?

- Porque quando a lua está diretamente sobre um ponto no oceano ela atrai a água em sua direção.

2 - Why do low tides occurs ?

- Pelo escoamento das águas em direção aos pontos onde occorrem marés altas.

3 - In what phase(s) of the moon occur tides which are neither so high nor so low ?

- Quarto crescente e quarto minguante.

4 - According to the interval in which the tides occur how are they classified ?

- Marés diurnas e semidiurnas.

5 - What kind of tides predominate in the Atlantic (according to the classification in question No.4) ?

- Marés semidiurnas.

THE CAVIAR FACTORY

1 - What is the birthplace of Caviar ?

- União Soviética.

2 - What kind of fish produces Caviar ?

- Esturjão (Osetr/ Beluga).

3 - Why is the way the fish is caught and transported to the plant so important ?

- Porque ele tem que chegar lá vivo.

4 - What is done with the fish which do not contain roe ?

- Dependendo da qualidade e do tamanho são mandados para as salas de defumação (ou congelados) (ou ainda enlatados).

5 - What are the two kinds of Caviar mentioned in the text ?

- Prime and Pressed Caviar.

A P P E N D I X N

RESULTS OBTAINED BY THE SUBJECTS ON THE TESTS OF LANGUAGE AND READING PROFICIENCY

SUBJECTS	GROUP 1	GROUP 2	GROUP 3	GROUP 4
1	74.20	76.75	67.50	72.25
2	72.60	78.95	77.45	73.35
3	74.25	76.45	72.20	68.00
4	69.85	77.75	72.75	66.95
5	72.50	78.90	64.85	67.65
6	70.70	70.95	63.95	69.50
7	70.70	69.95	72.95	68.90
8	78.50	67.65	69.00	69.00
9	77.75	79.00	67.40	73.75
10	76.25	71.65	70.00	73.65
MEAN	73.73	74.80	69.80	70.30

A P P E N D I X O

RAW SCORES OBTAINED BY THE SUBJECTS ON THE FIVE OPEN-ENDED ITEMS AND TEN TRUE/FALSE STATEMENTS

	GROUP 1							
SUBJECTS	TEXT 1		TEXT 2		TEXT 3		TEXT 4	
	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE
1	4.0	7.0	1.0	4.0	3.0	8.0	4.0	6.0
2	4.0	8.0	1.0	5.0	3.0	6.0	5.0	7.0
3	4.0	7.0	1.0	5.0	2.0	7.0	3.0	7.0
4	2.0	6.0	1.5	6.0	5.0	7.0	3.0	7.0
5	4.0	5.0	2.0	9.0	5.0	8.0	5.0	9.0
6	3.5	5.0	1.5	9.0	2.0	5.0	4.0	7.0
7	4.0	4.0	2.0	8.0	3.5	8.0	4.0	5.0
8	4.0	9.0	1.5	8.0	1.5	5.0	5.0	7.0
9	5.0	9.0	1.5	9.0	3.0	8.0	3.5	4.0
10	4.0	8.0	0.5	9.0	5.0	8.0	5.0	10.0
MEAN	3.85	6.8	1.35	7.2	3.3	7.0	4.15	6.9

GROUP 2															
SUBJECTS	TEXT 1		TEXT 2		TEXT 3		TEXT 4								
	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE							
1	4.5	6.0	3.0	8.0	2.0	4.0	4.5	8.0							
2	4.5	6.0	3.0	7.0	2.5	2.0	4.0	7.0							
3	3.5	6.0	3.0	5.0	1.0	4.0	2.0	9.0							
4	5.0	8.0	2.5	7.0	1.0	4.0	4.0	8.0							
5	4.0	8.0	2.5	6.0	2.5	6.0	3.0	8.0							
6	5.0	8.0	4.0	7.0	0.0	5.0	4.0	8.0							
7	5.0	6.0	2.0	4.0	0.0	1.0	2.0	6.0							
8	3.0	5.0	0.5	7.0	2.5	6.0	4.5	7.0							
9	4.0	7.0	4.5	8.0	3.5	5.0	4.5	10.0							
10	5.0	9.0	4.5	9.0	1.0	7.0	2.0	8.0							
MEAN	4.35	6.9	2.95	6.8	1.6	4.4	3.45	7.9							

GROUP 3

SUBJECTS	TEXT 1		TEXT 2		TEXT 3		TEXT 4	
	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE
1	3.0	6.0	2.5	7.0	4.0	6.0	3.0	7.0
2	5.0	5.0	3.0	9.0	4.0	7.0	1.0	7.0
3	4.5	9.0	4.0	7.0	5.0	8.0	3.0	7.0
4	4.0	5.0	2.5	7.0	2.0	5.0	4.0	7.0
5	5.0	7.0	2.0	8.0	4.5	8.0	2.5	8.0
6	1.5	9.0	1.0	6.0	3.0	8.0	3.0	9.0
7	1.5	3.0	2.0	5.0	2.0	5.0	2.0	4.0
8	5.0	7.0	1.5	7.0	2.5	8.0	0.0	8.0
9	3.0	7.0	3.0	6.0	1.0	6.0	1.0	3.0
10	3.0	8.0	1.0	7.0	2.0	8.0	3.5	5.0
MEAN	3.55	6.6	2.25	6.9	3.0	6.8	2.4	5.8

GROUP 4								
SUBJECTS	TEXT 1		TEXT 2		TEXT 3		TEXT 4	
	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE	OPEN-ENDED	TRUE/FALSE
1	3.0	7.0	4.0	8.0	5.0	7.0	5.0	8.0
2	1.5	8.0	4.0	9.0	3.0	6.0	3.0	10.0
3	3.0	7.0	5.0	5.0	3.5	5.0	2.5	8.0
4	5.0	7.0	4.5	9.0	5.0	5.0	4.5	10.0
5	4.0	5.0	1.5	7.0	4.0	6.0	2.5	7.0
6	2.0	6.0	3.5	8.0	3.5	6.0	4.5	8.0
7	3.0	7.0	3.5	8.0	3.5	8.0	4.5	8.0
8	3.0	8.0	4.5	9.0	4.5	5.0	5.0	9.0
9	4.0	8.0	4.0	8.0	3.5	7.0	3.5	9.0
10	4.0	7.0	4.0	9.0	4.0	7.0	3.5	9.0
MEAN	3.25	7.0	3.85	8.0	3.95	6.2	3.85	8.6

A P P E N D I X P

RESULTS OBTAINED FROM THE ANOVA PERFORMED ON THE DATA

S A S

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE 0 TOTAL (OPEN-ENDED ITEMS + TRUE-FALSE STATEMENTS)

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR, F.	R=SQUARE	C.V
MODEL	45	569.14031250	12.64756250	3.04	0.0001	0.545537	20.0638
ERROR	114	474.12662500	4.15900548		ROOT MSE		TOTAL MEAN
CORRECTED TOTAL	159	1043.26693750			2.03936399		10.16437500

SOURCE	DF	ANOVA SS	F VALUE	PR . F
TRAT	3	127.60418750	10.23	0.0001

S A S

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE 0 RESULT 1 (OPEN-ENDED ITEMS)

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR, F	R=SQUARE	C.V
MODEL	45	161.79531250	3.59545139	3.66	0.0001	0.590813	31.0857
ERROR	114	112.05662500	0.98295285		ROOT MSE		RESULT 1 MEAN
CORRECTED TOTAL	159	273.85193750			0.99143979		3.18937500

SOURCE	DF	ANOVA SS	F VALUE	PR . F
TRAT	3	61.72418750	20.93	0.0001

S A S

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE 0 RESULT 2 (TRUE-FALSE STATEMENTS)

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR, F	R=SQUARE	C.V
MODEL	45	238.80000000	5.30666667	2.05	0.00012	0.447275	23.0668
ERROR	114	295.10000000	2.58859649		ROOT MSE		RESULT 2 MEA
CORRECTED TOTAL	159	533.90000000			1.60891159		6.97500000

SOURCE	DF	ANOVA SS	F VALUE	PR . F
TRAT	3	20.60000000	2.65	0.0520

A P P E N D I X Q

RESULTS OBTAINED FROM TUKEY'S HONESTLY SIGNIFICANT (HSD) TEST
S A S

ANALYSIS OF VARIANCE PROCEDURE

TUKEY'S STUDENTIZED RANGE (HSD) TEST FOR VARIABLE0 TOTAL NOTE 0 THIS TEST CONTROLS THE TYPE I EXPERIMENTWISE ERROR RATE

ALPHA=0.05 CONFIDENCE=0.95 DF=114 MSE=4.15901

CRITICAL VALUE OF STUDENTIZED RANGE=3.6687

MINIMUN SIGNIFICANT DIFFERENCE=1.189

COMPARISONS SIGNIFICANT AT THE 0.05 LEVEL ARE INDICATED BY '***'

TRAT COMPARISON		SIMULTANEOUS LOWER CONFIDENCE LIMIT	DIFFERENCE BETWEEN MEANS	SIMULTANEOUS UPPER CONFIDENCE LIMIT	
3	-1	-0.9715	0.2175	1.4065	
3	-2	-0.6765	0.5125	1.7015	
3	-4	1.0735	2.2625	3.4515	***
1	-3	-1.4065	-0.2175	0.9715	
1	-2	-0.8940	0.2950	1.4840	
1	-4	-0.8560	2.0450	3.2340	***
2	-3	-1.7015	-0.5125	0.6765	
2	-1	-1.4840	-0.2950	0.8940	
2	-4	0.5610	1.7500	2.9390	***
4	-3	-3.4515	-2.2625	-1.0735	***
4	-1	-3.2340	-2.0450	-0.8560	***
4	-2	-2.9390	-1.7500	-0.5610	***

TOTAL = OPEN-ENDED ITEMS + TRUE-FALSE STATEMENTS

S A S

ANALYSIS OF VARIANCE PROCEDURE

TUKEY'S STUDENTIZED RANGE (HSD) TEST FOR VARIABLE0 RESULT1 NOTE 0 THIS TEST CONTROLS THE TYPE I EXPERIMENTWISE ERROR RATE

ALPHA=0.05 CONFIDENCE=0.95 DF=114 MSE=0.982953

CRITICAL VALUE OF STUDENTIZED RANGE=3.687

MINIMUN SIGNIFICANT DIFFERENCE=.57804

COMPARISONS SIGNIFICANT AT THE 0.05 LEVEL ARE INDICATED BY '***'

TRAT COMPARISON		SIMULTANEOUS LOWER CONFIDENCE LIMIT	DIFFERENCE BETWEEN MEANS	SIMULTANEOUS UPPER CONFIDENCE LIMIT	
2	-3	-0.4405	0.1375	0.7155	
2	-1	-0.3230	0.2550	0.8330	
2	-4	0.9720	1.5500	2.1280	***
3	-2	-0.7155	-0.1375	0.4405	
3	-1	-0.4605	0.1175	0.6955	
3	-4	0.8345	1.4125	1.9905	***
1	-2	-0.8330	-0.2550	0.3230	
1	-3	-0.6955	-0.1175	0.4605	
1	-4	0.7170	1.2950	1.8730	***
4	-2	-2.1280	-1.5500	-0.9720	***
4	-3	-1.9905	-1.4125	-0.8345	***
4	-1	-1.8730	-1.2950	-0.7170	***

RESULT 1 = OPEN-ENDED ITEMS

S A S

ANALYSIS OF VARIANCE PROCEDURE

TUKEY'S STUDENTIZED RANGE (HSD) TEST FOR VARIABLE0 RESULT2 NOTE 0 THIS TEST CONTROLS THE TYPE I EXPERIMENTWISE ERROR RATE

ALPHA=0.05 CONFIDENCE=0.95 DF=114 MSE=2.5886

CRITICAL VALUE OF STUDENTIZED RANGE=3.687

MINIMUN SIGNIFICANT DIFFERENCE=.93804

COMPARISONS SIGNIFICANT AT THE 0.05 LEVEL ARE INDICATED BY '***'

TRAT COMPARISON		SIMULTANEOUS LOWER CONFIDENCE LIMIT	DIFFERENCE BETWEEN MEANS	SIMULTANEOUS UPPER CONFIDENCE LIMIT
3	-1	-0.8380	0.1000	1.0380
3	-2	-0.2880	0.6500	1.5880
3	-4	-0.0880	0.8500	1.7880
1	-3	-1.0380	-0.1000	0.8380
1	-2	-0.3880	0.5500	1.4880
1	-4	-0.1880	0.7500	1.6880
2	-3	-1.5880	-0.6500	0.2880
2	-1	-1.4880	-0.5500	0.3880
2	-4	0.7380	0.2000	1.1380
4	-3	-1.7880	-0.8500	-0.0880
4	-1	-1.6880	-0.7500	-0.1880
4	-2	-1.1380	-0.2000	-0.7380

RESULT 2 = TRUE-FALSE STATEMENTS