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**The Effect of Learners' Retrospective Reflection on Direct Strategy
Use in Developing Their Reading Proficiency**


by


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ABSTRACT

This thesis investigates the effect of learners' retrospective reflection on strategy use (without explicit training in strategy use) in developing their reading comprehension. There is need for such research as there is little evidence in the area of the usefulness of promoting learners' individual reflection on the reading process and use of strategies to cope with the reading material under conditions of receiving no explicit training in reading strategies.

The research is carried out with one group using a pre-post test experiment format. During the experiment, the eleven participants read five reading passages taken from TOEFL preparation course manuals and were required to reflect on the strategies they used to answer the questions on the reading passages in their learning logs. The participants were administered a pre-test before the experiment began and a post-test at the end of the treatment period. The mean scores for both tests are compared using a paired t-test. The results show that there is no statistically significant difference between the mean scores.

The researcher discovered that the participants made no significant progress in reading comprehension.

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CHAPTER 1

INTRODUCTION

Since the 1980's considerable attention has been paid to language learning strategies. Research on language learning testifies that strategies are essential in the foreign language instruction process, as learners apply various strategies in language learning situations. Therefore, many methodologists recommend that language instructors pay attention to these strategies and incorporate strategy instruction into language programs.

Strategies are used while mastering all of the four language skills and are aimed at the improvement of learners' communicative competence. O'Malley & Chamot (1994, p.371) differentiate between learning and learner strategies:

We use the term learner strategies to identify strategies that students have developed on their own to solve language learning problems ... We contrast this term with learning strategies, which we use to describe the strategies that have been ... taught explicitly as part of instruction in both first and second language contexts.

Oxford (1990) has shed light on the issue of strategy instruction with a lot of evidence in favour of explicit strategy instruction. It would also be interesting to see if the promotion of learner strategies, as opposed to learning strategies, which are taught explicitly, can be beneficial for developing learners' reading comprehension.

Reading comprehension is recognized as one of the most important language skills and, therefore, has been extensively researched and investigated from a number of perspectives: linguistic, psycholinguistic, educational, and others. In educational settings, reading has an undeniably important role in language teaching, and is, consequently, one of the major issues addressed in the field of English teaching methodology.

According to Alderson (2000), recent approaches to reading have concentrated not only on product but also on the process of reading. The product approach considers mainly text variables, such as text topic, genre, organization, and their contribution to the reading process. The reading process involves a mixture of cognitive operations taking place in the human brain, such as top-down and bottom-up processing, for example. The reading process is difficult to observe but can be perceived through various techniques (introspective and retrospective reflection through think-aloud protocols and learning logs) that can help to promote reflective thinking as well as to gain insight into the use of strategies people employ to become successful readers.

The lack of information about what effect learners' personal reflection on the reading may have on a certain language skill has brought the researcher to the idea of trying and testing its effects on learners' reading comprehension. In this research design, the researcher minimizes the degree of the teacher's explicit strategy instruction, without completely ignoring the elements of consciousness-raising, and focuses on learners' independent development of learner strategies while reading and coping with unfamiliar texts, and its effect on the learners' reading comprehension. Thus, the present research seeks to find a relationship between learners' reflection on strategy use, without explicit strategy training, and their progress in reading proficiency.

This paper will proceed as follows. In the first part, there will be a brief overview of the literature related to reading, strategy instruction and reflection, as one of the techniques of consciousness raising. In the second part, the methodology of the research will be presented in terms of the participants of the experiment, the materials used during the experiment, the procedures of the experiment and the analysis of the qualitative data obtained from the learning logs and the quantitative data obtained from

the pre-test and post-test results. The conclusion will sum up the results of the research and offer suggestions for further research.

CHAPTER 2

LITERATURE REVIEW

In order to prepare the ground for the present research, it is necessary to review the literature related to it.

This literature review section consists of three parts. The first part will give the definition of language learning strategies, and discuss their role in the ESL/EFL classroom. It will also touch upon reflection, as another way of achieving consciousness in learning, and point out the ways of promoting cognitive and reflective learning, such as learning logs, think-aloud protocols, among others. In the second part, the nature of reading will be defined, and various approaches to reading and the variables that affect it will be presented. The third section of the literature review will discuss some illustrative cases of previously conducted research in the areas of TOEFL test-taking strategies (Alderson, 2000), comprehension strategies of non-proficient ESL readers (Brock, 1986), test methods and their effect on learners' performance on a test (Shohamy, 1984), and the effect of strategy instruction in a reading course (Janzen, 1996).

2.1 Learning strategies and their role in promoting cognitive and reflective learning

Various approaches to language teaching – Grammar-translation, Audiolingualism, Communicative, and others - emerged and developed at different periods of time under the influence of both philosophical ideas and demands of society (Savignon, 2001). However, teaching practice testifies that no single method is unique and the choice of method depends on the teaching and learning situation. That was the

reason why Kumaravadivelu (2003) started to speak of “the post-method era”, where approaches and techniques can be integrated in a single classroom if their application can bring the desired results.

Certain changes in the field of language teaching that have been introduced resulted in a shift of focus in language teaching methodology. Closer attention is now paid to the learning process. In other words, teaching has become subordinate to learning. The learner and the learning process are still under close investigation. Research into individual learning styles, strategies, and preferences has highlighted the role of the learner in the learning process (Oxford, 1990). Thus, teaching has become learner-, or even more, learning- oriented. Cohen (1990, foreword), as cited in Oxford (1990), states:

In recent years there has been a shift in focus from the teacher to the learner – from exclusive focus on the improvement of teaching to an increased concern for how learners go about their learning tasks in a second or foreign language. It has become clearer that much of the responsibility for success at language learning rests with individual learners and with their ability to take full advantage of opportunities to learn. (p.vii)

The philosophical ideas of Dewey (1916), Freire (1970) and van Lier (1988) as well as social changes, such as an increase of emigration and international business communication, have led to the need for an autonomous and a real-life-oriented learner, i.e., a person who needs to acquire sufficient knowledge and enough skills to continue studying and working independently of his/her teacher, outside the classroom, in real life. “When students take more responsibility, more learning occurs, and both teachers and learners feel more successful” (Oxford, 1990, p. 11). Thus, teaching has focused on helping learners to learn, so that they can develop further and be responsible for their own learning and progress.

One of the ways of supporting the learning process is by raising learner's consciousness (Larsen-Freeman, 2001). Reflection, an element in a cycle of learning, is a way of raising consciousness in learning and can be viewed as consciously thinking about and analyzing what one has done (or is doing) (Opalka, n.d.). Since reflection is a mental process, it takes time and effort on the part of the learner to put it into words and explain why and how a learning task has been accomplished. By articulating their thoughts, however, learners come to be aware of the learning process.

It is well known that mental processes are not visible and, thus, difficult to observe, understand and explain. Only learners can explain, or at least state, how and why they took a particular action or step to solve a learning problem. Reflecting on their own actions, learners can become more conscious of what they are doing, and, therefore, more autonomous.

In her article "Reflective learning in the autonomous classroom", Opalka (n.d) highlights the role of retrospective reflection in language learning and promoting learner autonomy. Reflection is usually done through keeping journals which have their advantage in EFL/ESL classrooms. Opalka (n.d.) encourages the use of reflective journals in order to promote learner awareness of the language learning process and his/her cognitive involvement in the learning process as well as his/her autonomy. Retrospection is a reflective technique which helps learners to deepen their awareness of the language learning process, where language learning strategies are viewed as potential techniques for developing learner autonomy and their conscious involvement in learning. Thus, another way of raising learner consciousness is through reflection on the strategies they use in various learning situations. "Learning strategies are keys to greater autonomy and more meaningful learning" (Oxford, 1990, p.ix).

Language learning strategies are flexible tools that are used by learners when they face a problem or have to accomplish a task. Oxford (1990, p.8) defines strategies as “specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations”.

Strategies have some idiosyncratic features such as “problem orientation, action basis, direct and indirect support of learning, degree of observability, level of consciousness, teachability, flexibility, factors influencing strategy choice” (Oxford, 1990, p. 11). The need to use a certain learning strategy depends on the type of problem and the learner’s personal characteristics, such as learning style and motivation. For this reason strategies are considered to be flexible as their choice may depend on various factors, such as task requirements, purpose for learning, age, and sex. The degree of observability of learning strategies is low, especially in the cases of acts of mental processing.

Some strategies contribute directly to learning (they are called direct strategies) and others contribute indirectly (indirect strategies). Both direct and indirect strategies consist of three sets of strategies each. Direct strategies are memory, cognitive and compensation strategies. Indirect strategies are made up of metacognitive, affective, and social strategies.

The word “strategy” comes from ancient Greek and it “implies consciousness and intentionality” (Oxford, 1990, p. 12). That is why it is assumed that most strategies are conscious actions. However, research shows that most learners apply strategies unconsciously, or uncritically. In such cases we deal with learner strategies which are not always observable (O'Malley & Chamot 1994). However, they are extremely

important for research and that is why different methods were designed to help make these strategies observable.

There are various methods that allow researchers to get insights into learner strategy use processes: introspection, interviews, classroom conversations, immediate-recall protocols, miscue analysis, self-assessment, retrospection (Alderson, 2000) as well as think-aloud procedures, note-taking, diaries or journals, and self-report surveys (Oxford, 1990). For the present research, the researcher chose retrospection as an elicitation technique through a learning journal. "Most diaries tend to be subjective and free-form, without constraints on style or content, but some teachers find it [sic] helpful to provide guidelines" (Oxford, 1990, p. 198) for them. All these techniques of elicitation are aimed at not only helping researchers but also learners. These methods help learners raise their awareness and, consequently, their metacognition, as well as building-up their autonomy in learning.

This kind of awareness of strategy use can be achieved either through explicit strategy instruction or reflection techniques, which is an implicit way of raising consciousness. It is well known that explicit strategy instruction is favoured as "an essential part of language education" (Oxford, 1990, p. 12). On the other hand, it is interesting to see if individual reflection on strategy use can also be effective in developing learner's reading proficiency.

The focus of this research is the application of learners' cognitive and compensation strategies while taking a test in reading comprehension. Cognitive strategies are practicing (repeating, formally practicing with sounds and writing systems, recognizing and using formulas and patterns, recombining, practicing naturalistically); receiving and sending messages (getting the idea quickly, using

resources for receiving and sending messages); analyzing and reasoning (reasoning deductively, analyzing expressions, analyzing contrastively across languages, translating, transferring); creating structure for input and output (taking notes, summarizing, highlighting); compensation strategies are for guessing intelligently (using linguistic clues, using other clues) (Oxford, 1990).

2.2 Definition of reading

Reading is an activity that is performed by almost every literate person in his/her everyday life. Readers can pursue various aims – we read for pleasure, for some educational purposes, to keep abreast with the times. It is, in fact, “a sociocultural practice” (Alderson, 2000, p.25).

Reading is viewed as a process, a product, and social practice. According to Alderson (2000), the key to perceiving the nature of reading is to understand the process of reading; thus, the process approach to reading actually focuses on the reader and the knowledge the reader applies to comprehend, analyze, and evaluate the text, rather than on the text itself. While being engaged in reading, the reader’s brain is involved in various cognitive processes which facilitate understanding of the text and strategy use in order to cope with certain difficulties encountered while reading the text.

In the theory of applied linguistics this approach is supported by the principles of top-down processing characteristic of most reading taking place. Top-down approaches, such as schema-theoretic models, focus on the world knowledge the reader refers to and the schemata which he/she activates in order to intake and process the information received from print (Alderson, 2000).

Goodman (1982), as cited in Alderson (2000, p.17), describes reading as a “psycholinguistic guessing game”, which means that readers are able to ‘guess’ the message of the text from relatively little information in print and make use of this information due to the background knowledge existing in the reader’s brain. Thus, most researchers, such as Weir and Urquhart (1998), cited in Wallace (2001), recognize the reading process as mainly a cognitive activity; others stress the importance of ‘the reader’s affective and critical engagement with the text’ (Wallace, p. 22, 2001) and ability to move beyond the framework of the text and link the received information to its application in the world outside.

Goodman (1982), as cited in Alderson (2000), characterizes reading as a process of sampling, predicting, confirming, and correcting. All these processes are typical of hypothesis generalization and resolution in various sciences and they constitute a part of the general problem-solving strategy. Reading itself is also viewed as a problem-solving practice, which includes reasoning through deduction and inference.

Many applied linguists (e.g. Alderson and Lukmani (1989), Davies (1968)) have come up with a variety of reading skills taxonomies. Grabe (1991), as cited in Alderson (2000), has made up a list of six elements that constitute fluent reading: automatic recognition skills, vocabulary and structural knowledge, formal discourse structure knowledge, content/world background knowledge, synthesis and evaluation skills/strategies, and metacognitive knowledge and skills monitoring. Development of learners’ reading strategies leads to their mastery of the six elements.

In order to discuss the nature of reading fully, one should understand the ability to understand at different levels. Kintsch and van Dijk (1978), as cited in Alderson (2000), distinguish between microprocesses and macroprocesses of understanding; thus

microprocesses are related to word and sentence level understanding, and macroprocesses to global understanding and understanding beyond the print. Alderson (2000, p. 7) writes about a traditional assumption of the "levels of understanding", which usually make up a hierarchy at the bottom of which is the understanding of the literal meaning of text; next comes inferred meaning, and at the top there is the critical evaluation of the text. This ordering of levels implies that literal level meanings are more easily understood, and that critical thinking poses more difficulties for the reader. This assumption naturally leads to the 'hierarchy of acquisition'. According to Gray (1960), as cited in Alderson (2000), the beginning reader first understands the literal meaning of the text, then learns to read 'between the lines', and only after that he/she acquires enough skills to read 'beyond the lines'. Alderson (2000) sums up by stating that these distinctions between the levels of understanding cannot be ignored and should be taken into consideration by test constructors in order to be able to assess how well the text is understood. The complex nature of reading is difficult to perceive. That is why a lot of elicitation techniques have been designed to gain insight into the process of reading, namely the strategies that the readers employ to understand printed texts.

In the paragraphs stated above we have seen that there is a strong and justified tendency to view reading as a cognitive activity. At the same time, text variables, such as text topic, content, genre, organization, literary and non-literary texts, and text readability, also play an important role in facilitating or impeding reading comprehension. All these text features and their degree of contribution to reading comprehension enter the domain of the product approach to reading.

Wallace (2001, p. 22) considers the product approach as "basically text-focused", which "emphasizes text-based features at word and sentence-level". It,

certainly, has some variations in itself, for example, the genre approach. The genre approach takes into account the peculiarities of a given text genre and their influence on reading comprehension. There is empirical evidence that type and genre of the text only matter when 'the material is conceptually difficult or unfamiliar and when readers are relatively less able' (Alderson, 2000, p. 65). According to Alderson (2000), the research into text topic and content has proved that tests of reading should assess readers' ability to comprehend texts in a variety of topics. Alderson (2000, p. 66) recommends that tests of reading comprehension should contain "non-literary texts", for the main reason that literary texts are "often culturally specific".

According to Alderson (2000), reading comprehension tests should be chosen carefully and the choice should be based on, for example, readability of texts that account for the text complexity and difficulty; or, test questions should be designed so that they address various 'levels of understanding' to check how readers perform on these questions. Post-reading questions are more desirable in reading tests as they refer to "both factual and high-order information over time unlike low-level pre-reading questions" (Alderson, 2000, p.51).

The product approach to reading provided the researcher with a theoretical basis to choose a test type in order to conduct the present research. Summing up the above mentioned, we can state that research in reading and reading strategies has shown that reading is a sociocultural activity as well as a complex cognitive ability.

2.3 Illustrative research

There has been some research on the strategies that test takers apply when answering test items. Allan (1992), as cited in Alderson (2000), conducted research

based on TOEFL readings. He gathered his data through introspection in a language lab. The research showed that multiple-choice questions are more suitable for testing specific strategies. However, Allan (1992, 1995), as cited in Alderson (2000, p.334), found out that many students "found it difficult to report their thought processes" and he, therefore, decided to assist the students by designing a 15 point checklist of strategies. The results showed that the checklist was not valid – "the categories were unclear to students and using the checklist risked skewing responses", and he recommends that checklists be designed with great care and consideration (Alderson, 2000, p. 334).

Another study into the process of reading through think-aloud protocols was conducted by Brock (1986). This article describes a study the purpose of which was to get a detailed description of the comprehension strategies used by non-proficient ESL readers. The method used in this study was introspection, which was gathered by means of think-aloud protocols. The participants were freshmen with different native languages enrolled in a remedial reading course at Baruch College, The City University of New York. They were given two passages from their university textbook on psychology, which had approximately ninth-grade readability according to the Fry readability formula. The participants were asked to stop reading after each sentence in the passage and to say as much as they could about what they were thinking when they read and about what they did to understand the text when they did not understand it. After reading the passage the participants were asked to retell the passage and answer multiple-choice questions. These methods were used to measure memory and comprehension. The results showed that the participants who had reported thesis statements and main ideas tended to achieve high scores on this measure. However,

some participants who had performed poorly on the retelling did much better on the multiple-choice tests.

Elana Shohamy's article (1984) discusses the effects of the testing method on the learners' performance on a test of reading comprehension. The test methods were multiple choice and open-ended questions, each presented in L1 and L2, on the same L2 texts. According to the results of the research, one can conclude that each of the testing methods produced different degrees of difficulty for the test takers and that each of the variables – method, text and language – had a significant effect on the students' scores in the reading comprehension test. Multiple-choice questions were easier to answer than open-ended questions. The author suggests conducting introspective methods to be able to describe how readers read, and what strategies they use in order to cope with comprehension problems.

In her article, Joy Janzen (1996) discusses the importance of and principles of strategy instruction in on-going reading courses and its effects in one ESL classroom. The author speaks of the principles of the transactional approach to teaching reading. These principles state that strategies should be taught, they should always be recycled over new texts, as strategy use develops over a long period of time. The author advocates strategy training through certain processes such as general strategy discussion in class, teacher modeling, student reading, and analysis of strategies used by the teacher or the student while thinking aloud, and giving explanation and discussion of individual strategies. The first step in the transactional approach is introducing the notion of strategies and their discussion in class with the teacher's guidance. Strategy training is obviously a means to building up a learner's autonomy; however, at the initial stage learners should be taught strategies. One of the advantages of this method

is that learners are not only instructed in strategy use, but also have tried to reflect on their individual strategies on their own. They use think-aloud protocols and also keep learning logs on reading assignments. Though the approach was originally designed for elementary school children, Janzen (1996) finds that it is applicable for any classroom level.

Literature on strategy use supports explicit strategy instruction. Various techniques were designed to elicit information about the strategies learners come up with on their own, initially relying on their schemata and intuition. As there is considerable evidence of the usefulness of explicit strategy instruction, it would be interesting to find out if the reflection technique by itself can be an effective tool in helping learners to increase their reading proficiency.

The above has provided a basis for formulating the following research question:
Is there a relationship between learners' retrospective reflection on individual use of reading comprehension strategies (without explicit strategy instruction) and their proficiency in reading measured by TOEFL reading comprehension tests?

CHAPTER 3

METHODOLOGY

In the methodology part of the paper, the research design is introduced. This chapter gives an overview of the participants of the study, the materials used and the procedure employed.

3.1 Subjects

The researcher implemented a one-group pretest posttest study as described in Farhady (1998). The schematic representation of the study is as follows:

T1 X T2

where T1 is the pretest, X is the treatment, and T2 is the posttest.

English is an obligatory course at the European Regional Institute of Information and Communication Technologies in Armenia. Students are placed in their English classes on the basis of the scores of a placement test, which is administered to them at the very beginning of each academic year. This group is the only intermediate level class in the first year of instruction at the institute. For this reason it was impossible to have two groups for the experiment, and the researcher found it reasonable, in this situation, to choose and conduct a one-group pretest posttest study.

There were eleven students in the group: eight females and three males ranging in age from 16 to 17 years. The study took place from February to May, 2005.

3.2 Materials

The materials used in the study were all taken from a TOEFL preparation course manual (Sharpe, 1999).

Some of the reading materials were used for testing purposes (see Appendix 1), others were used during the experiment to encourage students' retrospective reflection on the strategies they employ in coping with texts and answering questions (see Appendix 2). The two reading passages with the corresponding questions for the pre- and posttests and the texts for 'instructional' purposes were extracted from the above mentioned manual. The texts were chosen randomly; however, the researcher made sure that a variety of question types representing the underlying reading skills they measure were included.

Davies (1968), as cited in Alderson (2000, p. 9), introduces eight reading skills:

1. recalling word meanings
2. drawing inferences about the meaning of a word in context
3. finding answers to questions answered explicitly or in paraphrase
4. weaving together ideas in the content
5. drawing inferences from the content
6. recognizing a writer's purpose, attitude, tone and mood
7. identifying a writer's technique
8. following the structure of a passage

In the TOEFL preparation manual (Sharpe, 1999) ten problem areas of reading comprehension of TOEFL texts are identified and described: previewing, reading for main ideas, using contexts for vocabulary, scanning for details, making inferences, identifying exceptions, locating references, referring to the passage, recognizing a writer's purpose, attitude, tone and mood, and identifying a writer's technique. All of them refer to strategies and skills which learners usually apply when dealing with

TOEFL reading passages. The eight reading skills by Davies (1968) and ten problem areas identified by Sharpe (1999) mostly overlap.

The questions encountered in the tests (see Table 1) and instructional texts (see Table 2) covered a wide range of reading comprehension question types, i.e. factual, inferential, and referential level questions, which implicitly addressed most of the above-mentioned eight reading skills and problem areas in TOEFL reading passages. A close look at the tables shows that all the questions in the tests on reading comprehension cover the whole range of reading skills essential for reading proficiency. This implies that the results of the participants' performance on the TOEFL reading comprehension tests can be considered reliable and can account for their reading proficiency.

The readability statistics for the four TOEFL texts (Texts 1,2,3,4) used during the experiment is 12.0 and the readability of TOEFL reading comprehension tests administered both at the beginning and the end of the experiment is 11.1 and 12.0. The readability of the TOEFL texts was calculated by Flesch-Kincaid¹ (Microsoft Office Word Help) readability formula. In this research, readability is presented only to demonstrate relatively equal difficulty between reading comprehension texts used in the experiment.

The maximum score the students could gain on the pretest and posttest was 18 (one point for each question).

¹ The formula for the Flesch-Kincaid Grade Level score is: $(.39 \times \text{ASL}) + (11.8 \times \text{ASW}) - 15.59$ where:

ASL = average sentence length (the number of words divided by the number of sentences)

ASW = average number of syllables per word (the number of syllables divided by the number of words)

During the study the participants read four TOEFL reading texts and answered forty questions.

Along with the tests and reading materials a reading strategies guideline was prepared in both Armenian and English (see Appendix 3); the participants were also given the choice to take notes either in English or in Armenian. The researcher's decision to include guidelines in Armenian was to facilitate the participants' reflection processes and minimize the affective filter in case they felt more comfortable with describing their reflections in Armenian. All eight points in the guidelines refer to a number of cognitive and compensation strategies learners usually use in learning all four language skills (Oxford, 1990). These are presented in Table 3.

Table 1 Question-types employed in Test Texts 1 and 2

Text #	Text 1										Text 2							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Question #																		
Reading skills																		
1 recalling word meaning 1				x										x				
2 word meaning inferences				x										x				
3 finding explicit info										x			x					
4 synthesis	x	x	x			x	x	x			x							
5 inferences	x	x	x			x	x	x			x	x			x	x		
6 writer's bias																		
7 writer's technique									x								x	x
8 passage structure																		
9 reference					x													

The numbers in the horizontal line indicate the reading comprehension questions in the pre- and post-tests. The numbers in the vertical line refer to the eight reading skills identified by Davies (1968). The crosses in the boxes show which reading skill or skills each reading comprehension question covers. Number 9 in the vertical line in both tables refers to referential questions.

Table 3

Strategy Types covered by Reading Strategies Guideline

Reading Strategies Guideline	Strategies	
	Cognitive	Compensation
1. I read the text several times to understand it.	Repeating	-
2. I first read preview questions and then read the text.	Getting the idea quickly	-
3. I break down the unknown word or expression into its component parts to understand it.	Analyzing expressions	-
4. I translate the sentences to understand them better.	Translating	-
5. I compare new words to my native language.	Analyzing contrastively	-
6. I transfer my linguistic knowledge from my own language to understand a word, expression or a sentence..	Transferring	-
7. I use my linguistic knowledge to guess meaning.	-	Using linguistic clues
8. My background knowledge helps me to make guesses about what I read.	-	Using other clues

3.3 Procedure

The study was launched at the beginning of the second semester in February, 2005. The participants were informed about the study, its goal, procedure and length. At the beginning of the study, they were given the pre-test.

The next step after the pre-test was the experimental phase. The participants were asked to keep learning logs to register their comments on the way they oriented themselves through the texts to find the answers to each question. A learning log is a variation of a diary or a journal - tools to obtain observations on practically unobservable phenomena, for example, strategy use. As Oxford states (1990, p.198)

‘... diaries tend to be subjective and free-form, without constraints on style or content, but some teachers find it [sic] helpful to provide guidelines’, the reading comprehension strategies guideline (see Appendix 3) was distributed to the participants. The

participants listened to a mini-lecture on the notion of strategies and the use they could make of the offered guidelines while reading sample texts.

At the next lesson the participants were given a reading passage with multiple choice questions and asked to answer the questions, i.e. to tick the right answer. They were instructed to keep a separate note-book to record their reflections and comment on the strategies they used for obtaining their answers. The participants were asked to keep the reading strategies guidelines throughout the study. The participants were also given a choice to write their reflections either in their native language or in English. Only one student chose to write in Russian, which was her mother tongue. The other ten used English. Altogether the participants read four reading passages taken from TOEFL preparation course manuals and were asked to reflect on their reading strategies within four months with an interval of three weeks between each reading. It should be noted here that the study was carried out during regular class hours and in settings familiar to the participants.

At the end of the semester, the post-test was administered to the participants.

3.4 Data analysis

This research involves qualitative and quantitative data analysis. The qualitative data were obtained from the learning logs of the participants; the quantitative data were obtained from the pre- and post-test results.

As mentioned above, the participants were asked to keep a learning log in order to monitor the strategies they used to answer the questions to various TOEFL sample texts. These learning logs were collected and analyzed according to the following two principles:

1. types and frequency of strategies employed by participants as a group
/overall strategy use/
2. range of strategies employed by participants individually /strategy use by
participant/

The first principle is further broken down into three subpoints:

- a) overall frequency of occurrence of types of strategies
- b) overall frequency of occurrence of types of strategies according to the
question type
- c) the number of correct and incorrect answers per type of strategy

As far as the quantitative data are concerned, before starting to analyze them statistically, it is necessary to define the variables of the research. The dependent variable of this study is the reading proficiency of the participants measured by pre- and post- TOEFL sample test scores on reading comprehension, obtained from the difference between the pretest and posttest scores, and the independent variable is the retrospective reflection of the participants on the reading strategies they used to answer the questions to the reading passages. Retrospective reflection is written analysis of how answers to the questions were searched for through the text after answering each question.

The independent variable is nominal; the dependent variable is numeric and is placed on the interval scale. Since the sample population for the research contains only eleven participants, all in one group, to which two tests - a pre-test and a post-test- were administered, the scores of pre-test and post-test have to be assumed dependent on each other, which means that the researcher has to apply a paired t-test to analyze the data. Theoretically, the assumptions underlying a paired t-test are as follows (SPSS Manual):

- 1 Difference scores are normally distributed in the population.
- 2 The difference scores are independent of each other.

In our case the second assumption is applicable because all the participants were taking the pre-test and post-test independently of each other. Therefore, there is only a need to check the first assumption. The first assumption about normality of the distribution of the difference scores can be checked by means of the so called P-P Plot graph (see Appendix 5). As the square dots, representing the difference scores, are located close to the diagonal line, it means that the data is normally distributed. Since the criteria for applying the paired t-test are met, the researcher could proceed to the statistical analysis of the data.

In this study we have, therefore, the results of the pre-test and the post-test and a set of learning logs, which the participants kept while reading the four reading passages over four months.

CHAPTER 4

RESULTS

In this chapter, the results of the qualitative and quantitative data analysis will be discussed.

4.1 Results of qualitative data analysis

4.1.1 Overall Strategy Use

The analysis of the logs shows that the participants' reflections took up a variety of forms and directions. This process was not monitored by the researcher; the participants themselves came up with different versions of retrospection and employed a variety of strategies. The participants applied a number of strategies which varied both from one question type to another and from one participant to another. Table 5 displays the range of strategies applied by the participants and their overall frequency of use.

Table 5

Overall frequency of occurrence of types of strategies

	Types of strategies	Overall frequency of occurrence
1	using the context	109
2	looking for similar words/synonyms	89
3	rereading	57
4	guessing	52
5	translating	27
6	using background knowledge	23
7	using linguistic knowledge	15
8	recalling the word meaning	2
9	finding similarities between the word in TL & L1	2
10	looking for the main idea	2
11	breaking the unknown words into parts	2
12	doing calculations	1

As can be seen from Table 5, the most frequently used strategy types are using the context, looking for similar words, rereading and guessing. Translating and using background/ linguistic knowledge are less frequently used strategies. The remaining

strategies (recalling the word meaning, finding similarities between the word in TL and L1, looking for the main idea, breaking the unknown words into parts, doing calculations), occurred infrequently – only once or twice in the data collected.

Now let us refer to Table 6.

Table 6

Overall frequency of occurrence of types of strategies according to the question type

Question type \ Strategy type	1/2	3	4/5	6	7
using the context	31	30	15	3	30
looking for similar words/synonyms	5	60	24	0	0
rereading	4	15	24	6	8
guessing	34	8	5	3	2
translating	14	4	5	0	4
using background knowledge	8	5	6	0	4
using linguistic knowledge	4	3	2	0	6
recalling the word meaning	2	0	0	0	0
finding similarities between the word in TL & L1	2	0	0	0	0
looking for the main idea	0	0	2	0	0
breaking the unknown words into parts	0	1	1	0	0
doing calculations	0	1	0	0	0

1/2 - recalling word meaning & drawing inferences about the meaning of a word in context

3 - finding answers to questions answered explicitly or in a paraphrase

4/5 - weaving ideas in the context & drawing inferences from the context

6 - recognizing a writer's purpose, attitude, tone & mood

7 - referential questions

According to Table 6 the most frequently used strategies for those questions which require recalling the meaning of a word or drawing inferences about the meaning of a word in context (Qs 2, 5, 7, 13, 15, 16, 21, 22, 26, 27, 35, 36) are guessing and using the context. This suggests that the words tested were often unfamiliar to the participants; therefore, they relied heavily on the contextual cues or just used a guessing technique. In order to answer questions which rely on an explicit answer or paraphrase of the reading passage (Qs 1, 3, 4, 6, 9, 11, 14, 17, 18, 24, 33, 34, 38, 40) the

participants, in most cases, looked for similar expressions/ numbers or synonyms in the text or referred to contextual cues. Questions which require weaving ideas together (Qs 19, 25, 28, 29, 31) and drawing inferences (Qs 1, 6, 10, 14, 19, 25, 28, 29, 31, 38) were answered by participants in most cases by rereading the passage and looking for synonyms. In order to answer the questions that refer to the writer's attitude, tone or mood (Qs 30, 39) most of the participants had to reread the passage. Referential questions (Qs 8, 12, 20, 23, 32, 37) were mostly answered by using the context.

Now let us refer to Table 7.

Table 7

The Number of Correct and Incorrect Answers per Strategy Type

	Types of strategies	Overall frequency of occurrence	Number of correct answers	Number of incorrect answers
1	using the context	109	53 (49%)	56 (51%)
2	looking for similar words/synonyms	89	65 (73%)	24 (27%)
3	rereading	57	27 (47%)	30 (53%)
4	guessing	52	22 (42%)	30 (58%)
5	translating	27	17 (63%)	10 (37%)
6	using background knowledge	23	9 (39%)	14 (61%)
7	using linguistic knowledge	15	11 (73%)	4 (27%)
8	recalling the word meaning	2	2 (100%)	0
9	finding similarities between the word in TL & L1	2	2 (100%)	0
10	looking for the main idea	2	2 (100%)	0
11	segmenting the unknown words	2	2 (100%)	0
12	doing calculations	1	0	1 (100%)

From Table 7 we can infer that the most successful strategies, i.e. strategies that produced far more correct than incorrect answers are: looking for similar words/synonyms, translating, using linguistic knowledge, recalling the word meaning, finding similarities between the words in TL and L1, looking for the main idea, and

breaking the unknown words into parts. At the same time, in spite of the fact that using the context and rereading produced more wrong answers than correct ones, we can see that they are also quite productive strategies as the difference between the wrong and correct answers is small. Guessing and using background knowledge can be considered less successful in this situation; and, doing calculations is the least successful strategy, which was used only once and produced no correct answers.

4.1.2 Strategy Use by Participant

In addition to the analysis of the overall strategy use, it is of certain interest to find out the range and frequency of occurrence of types of strategies employed by each participant, the average number of strategies used by each participant, as well as to reveal the consistency of each participant using a strategy correctly or incorrectly.

As it can be seen from Table 8, the average number of strategies used by the participants is six.

Table 8 Average number, minimum number, and maximum number of strategies used per participant

Average	6
Minimum	5
Maximum	8

This means that each participant used six different strategies on average. However, the range and the frequency of using strategies vary from participant to participant. The number of strategies ranges from five to eight. The number of correct answers ranges from sixteen to thirty-one. Nevertheless, it is difficult to say that the number of correct

answers depends on the number of strategies used. In this respect, we might claim that probably scores depend on the successful application of the strategies rather than their number. This assertion may be also justified by the data presented in Table 9.

Table 9: Total number of strategies used per participant, number of times of strategy use, and number of correct answers

ID	Total number of strategies used per participant	Number of times of strategy use	Number of correct answers
1	8	48	31
2	8	41	23
3	6	37	28
4	6	21	16
5	8	38	22
6	7	33	23
7	7	43	16
8	5	33	21
9	5	22	18
10	6	35	18
11	6	24	17

Thus, the most productive strategy user is participant 9 who used strategies twenty-two times and got eighteen correct answers, and the least productive one is participant 7 who applied strategies forty-three times but got only sixteen correct answers. In the case of these two participants we can see that participant 9 used only five strategy types; whereas, participant 7 used seven strategy types. Based on an analysis of the data in Table 9 we could infer that the application of a wide variety of strategies did not consistently lead to a better performance.

Bearing in mind the fact that the participants were not explicitly taught how to cope with unknown TOEFL texts and what strategies to use, it is clear that though the participants used a number of strategies, they were not effective in their use of strategies. Relatively higher scores may be accounted for by relatively better reading skills and vocabulary knowledge of some participants as compared to the others.

4.2 Results of quantitative data analysis

In this section, the results obtained from the quantitative data analysis will be discussed and interpreted.

The scores of the pre-test and the post-test were all recorded in Table 10.

Table 10: Pre-test and post-test scores

ID	Pre-test scores	Post-test scores
1	2	4
2	4	3
3	7	6
4	7	10
5	10	12
6	3	4
7	9	5
8	6	6
9	6	7
10	7	6
11	9	6

The statistical analysis of the data requires the data description at the initial stage.

Table 11: Descriptive Statistics of Pre-test and Post-test Scores

	Pre-test	Post-test
Mean	6.363636	6.272727
Median	7	6
Mode	7	6
Standard Deviation	2.54058	2.649185
Range	8	9
Minimum	2	3
Maximum	10	12

The mode and the median score of the pre-test is 7; the mode and the median score of the post-test 6. This means that the most frequently obtained score on the pre- and post-test is 7 and 6, respectively, out of 18 points. The range of the scores is 8 and 9 on the pre- and post-test respectively, which means that the minimum score on the pre-test differs from the maximum score by eight points, and on the post-test by nine points. The average score obtained on the pre-test is 6.36 and 6.27 on the post-test. The average variability of all the scores around the mean is 2.54 on the pre-test and 2.64 on the post-test. In order to find out if the study had an effect on the participants' progress in reading proficiency we need to compare the mean scores on the pre- and post-tests. As we have the same population of participants taking the same pre- and post-tests and receiving the same treatment, the paired t-test statistics was applied to analyze the data.

The Pearson's coefficient of correlation (see Appendix 4) indicated a correlation of 0.652 between pre-test and post-test scores which is significant at the 0.05 level (two-tailed) because $p=0.03$.

In order to run the paired t-test SPSS 11.0 for Windows was used.

The null hypothesis ($H_0: \mu_1=\mu_2$) states that there is no statistically significant difference between the means for the scores of the pre-test and post-test. In other words,

the researcher presumes that the participants performed equally well or badly on both the pre-test and the post-test on reading comprehension.

The researcher decided on the alpha decision level to be at $\alpha=.05$ and a non-directional (two-tailed) statistical test. Because $p=0.892$ at the 0.05 level (two-tailed) (Table 12), the paired t-test demonstrates that H_0 can not be rejected, i.e. there is no statistically significant difference between the pre-test and post-test mean scores. The mean scores are 6.36 and 6.27 on the pre- and post-test, respectively.

Table 12
Paired t-test statistics

	Mean	Standard deviation	t	Sig. (2-tailed)
Pre-test n =11	6.36	2.54	.139	.892
Post-test n =11	6.27	2.64		

Acceptance of the null hypothesis implies that, if the means for two sets of scores obtained from the same population are not significantly different, the participants' retrospective reflection on the strategies they used to answer the questions for the reading passage (without teacher's explicit strategy instruction) did not have any effect on their reading proficiency. This suggests that the treatment the researcher employed during the study did not work or there might be other factors affecting the results of the experiment, such as difficulty of the texts. The mean score for the post-test (6.27) is lower than that of the pre-test (6.36). Such a result can be explained by the fact that the texts were too difficult for the learners to deal with even after the treatment.

CHAPTER 5

CONCLUSION

The paired t-test statistical analysis has shown that the method the researcher applied in her study did not have a significant effect on the participants' reading proficiency. In other words, implementing a retrospective reflection of learner's strategy use while reading a TOEFL text (without teacher's explicit instructions) was not effective and failed to improve the participants' reading proficiency.

The previous research conducted by Janzen (1996) and Oxford (1990) is obviously in favour of strategies to be taught in order to raise learners' awareness and help learners master a language skill. Janzen (1996), Shohamy (1984), Brock (1986) also recommended using reflection as a consciousness raising technique. The present research was designed to find out if reflection would be enough to promote reading proficiency without explicit strategy training. The present study produced negative results, i.e. the scores did not change significantly in the course of the experiment; moreover, the mean score on the pre-test is higher than that of the post-test. The possible reason for such a result is discussed below.

The research has a number of limitations. The non-random nature of the sample might have affected the results. Because of the small size of the sample, the results are not generalizable and the power of statistical analysis might have been weakened. As far as the research design format is concerned, one group pre-test and post-test study has its own limitations in terms of interpretation of results of the study. In this type of experimental research it is always difficult to attribute the results to this or that method of teaching, as there is no control group to compare results with. The higher mean score on the pre-test as compared to the post-test mean score may testify to the difficulty of

the TOEFL reading passages, so that both the duration and the treatment of the study did not have an effect on the participants' reading comprehension.

The researcher finds that the fact that both the notion of strategies and the journal writing were unfamiliar to the participants might have affected the results of the research. In order for the qualitative data to be complete and workable, the researcher suggests that other experiments conducted in the future make sure that the participants stick to a certain specific format of journal writing, offered by the instructor, for example, and be guided initially in how to make entries.

The experiment itself and the results can provide the basis for further sound research. Therefore, for further research it is recommended that the researcher consider the limitations of the research - selection basis, sample size in order to take up a different research design format that could provide more valid and reliable results.

It is also suggested that the participants should get a basic training in strategies and practice writing learning logs before the experiment. Another option for similar research is to organize discussions on strategy use among the participants and encourage them to keep learning logs and compare the results.

Finally, it would be informative to administer pre study and post study questionnaires in order to find out the learners' attitude towards strategy elicitation techniques and their usefulness.

On the whole, the researcher finds the results of the study, especially that of the qualitative data analysis, quite promising, and hopes that this experience will serve as a basis for further research endeavors.

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APPENDICES

APPENDIX 1: Pre- and Post-Test Texts

Name _____

Read the passages and tick (V) the correct answer.

Text 1

By the mid-nineteenth century, in addition to the natural resources, the United States had accumulated enough capital in the form of factories to productively employ a large amount of labor, or human resources. A nation that still
5 consisted largely of independent farmers could not provide an adequate labor supply for heavy industrialization. But millions of new workers came to the United States from abroad. As we are all aware, not all these workers arrived voluntarily. Slaves were brought from Africa to the south; they were put to work on plantations to extract maximum harvests from the cotton fields. But in the
10 North, the machines that turned that cotton into textiles were worked by massive waves of immigrants who came willingly from one part of Europe after another. This vastly expanded pool of labor allowed for large leaps in our national output.

A nation cannot grow forever by finding more natural resources and attracting more workers; thus, a country's extensive growth will eventually slow. But
15 intensive growth gradually appears as better use is made of the labor force. In the United States in the mid-nineteenth century many of the newly arrived immigrants were unskilled and illiterate, but the education policy of their new land meant that their children all received an education, and many were trained in a skill. If a society gives workers more knowledge, they will be able to use
20 machines in a more complex way and to follow more complex instructions, yielding manufactured goods of greater value; this process is often known as investing in human capital. In the late twentieth century, our physical capital is so abundant and our natural resources so limited that we are beginning to appreciate the importance of improving our human resources if we are to continue to grow (**readability: 11.1**)

1. This passage mainly discusses the national capital in terms of
 - a) the labor force
 - b) natural resources
 - c) factories
 - d) immigrants
2. According to the passage, where did the necessary labor force for the nation's new industries come from?
 - a) unemployed farmers
 - b) other countries
 - c) the North

- d) the South
3. We can infer from the passage that the South's contribution to the growth of industry in the mid-nineteenth century was mainly
- a) raw materials
 - b) skilled labor
 - c) manufactured goods
 - d) industrial sites
4. The phrase "massive ways of immigrants" in line 10 of the passage means that
- a) many immigrants came by ship
 - b) immigrant families stayed together
 - c) groups of immigrants came at different times
 - d) groups of immigrants were greeted enthusiastically
5. The phrase "this vastly expanded pool of labor" in line 11 refers to
- a) immigrant workers
 - b) plantation owners
 - c) independent farmers
 - d) European investors
6. From the passage, which of the following can be inferred about the United States in the first half of the nineteenth century?
- a) It was producing large amounts of manufactured goods.
 - b) It was largely agricultural.
 - c) It was fully industrialized.
 - d) It was low in natural resources.
7. According to the passage, what is the end goal of an investment in human capital?
- a) providing more valuable manufactured goods
 - b) educating immigrant families
 - c) training in use of complex machines
 - d) developing literacy for all
8. We can infer from the passage, that in the mid-nineteenth century the United States placed a high value on
- a) European trade
 - b) education
 - c) agriculture
 - d) development of natural resources

9. What device is the author using to present the information in lines 19-22?

- a) anecdote
- b) cause and effect
- c) comparison
- d) restatement

Text 2

- The log cabin, along with coonskin cap and Kentucky rifle, conjures up images of rugged pioneer days. Simple one-room dwellings of logs, notched together at the corners, were introduced to America around 1638 by Swedish settlers in Delaware. Subsequently, German and Scotch Irish immigrants, as well as
- 5 Russian explorers along the western coast and in Alaska, introduced their own forms of log construction. During the great westward expansion that began in the late 1700s, the log cabin was practically ubiquitous in timber-rich frontier areas; it could be built with only the aid of an axe, and required no costly nails. Intended to serve merely as way stations in the wilderness, cabins rarely became
- 10 permanent homes. When families desired better housing with more amenities, they abandoned their cabins, or incorporated them into larger dwellings, converted them into storage facilities, or in the South, used them as slave quarters.
- The myth of the log cabin as the sacrosanct birthplace of leaders, renowned for
- 15 their honesty, humility, and other virtues, was inaugurated during the presidential campaign of 1840, when William Henry Harrison was touted throughout the country as a hard-cider-swigging bumpkin who lived in a log cabin. His landslide victory over Martin van Buren set a precedent for future presidential aspirants, but only a few such as "Honest Abe" Lincoln had bona
- 20 fide claims to humble origins. In the present day, the log cabin appears on such memorabilia as coins and postage stamps, and it is also the brand name of a popular syrup. The cabin perpetuated architecturally in resorts, camps, inns and restaurants along byways and highways (**readability: 12.0**)

10. According to the passage, who first introduced the log cabin structure in America?

- a) Russians in Alaska
- b) pioneers in Kentucky
- c) Swedes in Delaware
- d) Germans in the West

11. We can infer from the passage that the log cabin originally

- a) was intended as a temporary home
- b) was comfortable and spacious
- c) was sold for large sums of money
- d) demonstrated the art of fine woodworking

12. The author implies that during the westward expansion the log cabin house

- a) diminished in popularity
- b) flourished
- c) became too costly
- d) required specialized tools

13. According to the passage, which of the following did NOT happen when people moved into more luxurious housing?
- a) The cabin was abandoned.
 - b) The cabin was sold for a high price.
 - c) The cabin became part of a new home.
 - d) The cabin was used for storage.
14. The word "amenities" in line 10 is closest in meaning to
- a) conveniences
 - b) space
 - c) children
 - d) storage
15. The "myth of the log cabin" in line 14 capitalizes on which of the following features of the house?
- a) its simplicity
 - b) its size
 - c) its design
 - d) its landscaping
16. We can infer from the passage that after the presidential election of 1840,
- a) wealth and social position became a positive campaign issue
 - b) other presidential candidates professed to have lived in log cabins
 - c) election campaigns were more honest
 - d) people voted for a candidate based on his political party
17. Why does the author mention William Henry Harrison in the passage?
- a) As an example of an honest man
 - b) as an example of an underqualified candidate
 - c) to show how the log cabin myth began
 - d) to contrast his success with the defeat of Martin van Buren.
18. The author of the passage suggests that the log cabin house form has been
- a) forgotten
 - b) romanticized
 - c) disparaged
 - d) simplified

APPENDIX 2: Instructional Texts

Text 1

5 The ocean bottom – a region nearly 2.5 times greater than the total area of the Earth - is a vast frontier that even today is largely unexplored and uncharted. Until about a century ago, the deep-ocean floor was completely inaccessible, hidden beneath waters averaging over 3,600 meters deep. Totally without light and subjected to intense pressures hundreds of times greater than at the Earth's surface, the deep-ocean bottom is a hostile environment to humans, in some ways as forbidding and remote as the void of outer space.

10 Although researchers have taken samples of deep-ocean rocks and sediments for over a century, the first detailed global investigation of the ocean bottom did not actually start until 1968, with the beginning of the National Science Foundation's Deep Sea Drilling Project (DSDP). Using techniques first developed for the offshore oil and gas industry, the DSDP's drill ship, the Glomar Challenger, was able to maintain a steady position on the ocean's surface and drill in very deep waters, extracting samples of sediments and rock from the ocean floor.

15 The Glomar Challenger completed 96 voyages in a 15-year research program that ended in November 1983. During this time, the vessel logged 600,000 kilometers and took almost 20,000 core samples of seabed sediments and rocks at 624 drilling sites around the world. The Glomar Challenger's core samples have allowed geologists to reconstruct what the planet looked like hundreds of millions of years ago and to calculate what it will probably look like millions of years in the future. Today, largely on the strength of evidence gathered during the Glomar Challenger's voyages, nearly all earth scientists agree on the theories of plate tectonics and continental drift that explain many of the geological processes that shape the Earth.

25 The cores of sediment drilled by the Glomar Challenger have also yielded information critical to understanding the world's past climates. Deep ocean sediments provide a climatic record stretching back hundreds of millions of years, because they are largely isolated from mechanical erosion and the intense chemical and biological activity that rapidly destroy much land-based evidence of past climates. This record has already provided insights into the patterns and causes of past climatic change – information that may be used to predict future climates (**readability: 12.0**)

1. The author refers to the ocean bottom as a "frontier" in line 2 because it
 - A is not a popular area for scientific research
 - B contains a wide variety of life forms
 - C attracts courageous explorers
 - D is an unknown territory

2. The word "inaccessible" in line 4 is closest in meaning to
 - A unrecognizable
 - B unreachable
 - C unusable
 - D unsafe
3. The author mentions outer space in line 7 because
 - A the earth's climate millions of years ago was similar to conditions in outer space
 - B it is similar to the ocean floor in being alien to the human environment
 - C rock formations in outer space are similar to those found on the ocean floor
 - D techniques used by scientists to explore outer space were similar to those used in ocean exploration
4. Which of the following is true of the Glomar Challenger?
 - A It is a type of submarine.
 - B It is an ongoing project.
 - C It has gone on over 100 voyages.
 - D It made its first DSDP voyage in 1968.
5. The word "extracting" in line 14 is closest in meaning to
 - A breaking
 - B locating
 - C removing
 - D analyzing
6. The Deep Sea Drilling Project was significant because it was
 - A an attempt to find new sources of oil and gas
 - B the first extensive exploration of the ocean bottom
 - C composed of geologists all over the world
 - D funded entirely by the gas and oil industry
7. The word "strength" in line 24 is closest in meaning to
 - A basis
 - B purpose
 - C discovery
 - D endurance
8. The word "they" in line 31 refers to
 - A years
 - B climates
 - C sediments
 - D cores

9. Which of the following is NOT mentioned in the passage as being a result of the Deep Sea Drilling Project?
- A Geologists were able to determine the Earth's appearance hundreds of millions of years ago.
 - B Two geological theories became more widely accepted by scientists.
 - C Information was revealed about the Earth's past climatic changes.
 - D Geologists observed forms of marine life never before seen.

Text 2

Basic to any understanding of Canada in the 20 years after the Second World War is the country's impressive population growth. For every three Canadians in 1945, there were over five in 1966. In September 1966 Canada's population passed the 20 million mark. Most of this surging growth came from natural increase. The depression of the 1930's and the war had held back marriages, and the catching up process began after 1945. The baby boom continued through the decade of the 1950's, producing a population increase of nearly fifteen percent in the five years from 1951 to 1956. This rate of increase had been exceeded only once before in Canada's history, in the decade before 1911, when the prairies were being settled. Undoubtedly, the good economic conditions of the 1950's supported a growth in the population, but the expansion also derived from a trend toward earlier marriages and an increase in the average size of families. In 1957 the Canadian birth rate stood at 28 per thousand, one of the highest in the world.

After the peak year of 1957, the birth rate in Canada began to decline. It continued falling until in 1966 it stood at the lowest level in 25 years. Partly this decline reflected the low level of births during the depression and the war, but it was also caused by changes in Canadian society. Young people were staying at school longer; more women were working; young married couples were buying automobiles or houses before starting families; rising living standards were cutting down the size of families. It appeared that Canada was once more falling in step with the trend toward smaller families that had occurred all through the Western world since the time of the Industrial Revolution.

Although the growth in Canada's population had slowed down by 1966 (the increase in the first half of the 1960's was only nine percent), another large population wave was coming over the horizon. It would be composed of the children of those who were born during the period of the high birth rate prior to 1957 (**readability: 12.0**).

10. What does the passage mainly discuss?
 - A Educational changes in Canadian Society
 - B Canada during the Second World War
 - C Population trends in postwar Canada
 - D Standards of living in Canada
11. According to the passage, when did Canada's baby boom begin?
 - A In the decade after 1911
 - B After 1945
 - C During the depression of the 1930's
 - D In 1966

12. The word "five" in line 3 refers to
A Canadians
B years
C decades
D marriages
13. The word "surging" in line 4 is closest in meaning to
A new
B extra
C accelerating
D surprising
14. The author suggests that in Canada during the 1950's
A the urban population decreased rapidly
B fewer people married
C economic conditions were poor
D the birth rate was very high
15. The word "trend" in line 12 is closest in meaning to
A tendency
B aim
C growth
D directive
16. The word "peak" in line 15 is closest in meaning to
A pointed
B dismal
C mountain
D maximum
17. When was the birth rate in Canada at its lowest postwar level?
A 1966
B 1957
C 1956
D 1951
18. The author mentions all of the following as causes of declines in population growth after 1957 EXCEPT
A people being better educated
B people getting married earlier
C better standards of living
D couples buying houses

19. It can be inferred from the passage that before the Industrial Revolution
- A families were larger
 - B population statistics were unreliable
 - C the population grew steadily
 - D economic conditions were bad
20. The word "It" in line 27 refers to
- A horizon
 - B population wave
 - C nine percent
 - D first half
21. The phrase "prior to" in line 28 is closest in meaning to
- A behind
 - B since
 - C during
 - D preceding

Text 3

Are organically grown foods the best food choices? The advantages claimed for such foods over conventionally grown and marketed food products are now being debated. Advocates of organic foods - a term whose meaning varies greatly - frequently proclaim that such products are safer and more nutritious than others.

The growing interest of consumers in the safety and nutritional quality of the typical North American diet is a welcome development. However, much of this interest has been sparked by sweeping claims that the food supply is unsafe or inadequate in meeting nutritional needs. Although most of these claims are not supported by scientific evidence, the preponderance of written material advancing such claims makes it difficult for the general public to separate fact from fiction. As a result, claims that eating a diet consisting entirely of organically grown foods prevents or cures disease or provides other benefits to health have become widely publicized and form the basis for folklore.

Almost daily the public is besieged by claims for "no-aging" diets, new vitamins, and other wonder foods. There are numerous unsubstantiated reports that natural vitamins are superior to synthetic ones, that fertilized eggs are nutritionally superior to unfertilized eggs, that untreated grains are better than fumigated grains, and the like.

One thing that most organically grown food products seem to have in common is that they cost more than conventionally grown foods. But in many cases consumers are misled if they believe organic foods can maintain health and provide better nutritional quality than conventionally grown foods. So there is real cause for concern if consumers particularly those with limited incomes, distrust the regular food supply and buy only expensive organic foods instead (readability: 12.0).

22. The word "Advocates" in line 3 is closest in meaning to which of the following?
- A Proponents
 - B Merchants
 - C Inspectors
 - D Consumers
23. In line 5, the word "others" refers to
- A advantages
 - B advocates
 - C organic food
 - D products
24. The "welcome development" mentioned in line 7 is an increase in
- A interest in food safety and nutrition among North Americans
 - B the nutritional quality of the typical North American diet
 - C the amount of healthy food grown in North America
 - D the number of consumers in North America

25. According to the first paragraph, which of the following is true about the term "organic foods"?
- A It is accepted by most nutritionists.
 - B It has been used only in recent years.
 - C It has no fixed meaning.
 - D It is seldom used by consumers.
26. The word "unsubstantiated" in line 16 is closest in meaning to
- A unbelievable
 - B uncontested
 - C unpopular
 - D unverified
27. The word "maintain" in line 22 is closest in meaning to
- A improve
 - B monitor
 - C preserve
 - D restore
28. The author implies that there is cause for concern if consumers with limited incomes buy organic foods instead of conventionally grown foods because
- A organic foods can be more expensive but are often no better than conventionally grown foods
 - B many organic foods are actually less nutritious than similar conventionally grown foods
 - C conventionally grown foods are more readily available than organic foods
 - D too many farmers will stop using conventional methods to grow food crops
29. According to the last paragraph, consumers who believe that organic foods are better than conventionally grown foods are often
- A careless
 - B mistaken
 - C thrifty
 - D wealthy
30. What is the author's attitude toward the claims made by advocates of health foods?
- A Very enthusiastic
 - B Somewhat favourable
 - C Neutral
 - D Skeptical

Text 4

There are many theories about the beginning of drama in ancient Greece. The one most widely accepted today is based on the assumption that drama evolved from ritual. The argument for this view goes as follows. In the beginning, human beings viewed the natural forces of the world, even the seasonal changes, as unpredictable, and they sought through various means, to control these unknown and feared powers. Those measures which appeared to bring the desired results were then retained and repeated until they hardened into the fixed rituals. Eventually stories arose which explained or veiled the mysteries of the rites. As time passed some rituals were abandoned, but the stories, later called myths, persisted and provided material for art and drama.

Those who believed that drama evolved out of ritual also argue that those rites contained the seed of theater because music, dance, masks, and costumes are almost always used. Furthermore, a suitable site had to be provided for performances, and when the entire community did not participate, a clear division was usually made between the "acting area" and the "auditorium". In addition, there were performers, and, since considerable importance was attached to avoiding mistakes in the enactment of rites, religious leaders usually assumed that task. Wearing masks and costumes, they often impersonated other people, animals, or supernatural beings, and mimed the desired effect – success in hunt or battle, the coming rain, the revival of the Sun – as an actor might. Eventually such dramatic representations were separated from religious activities.

Another theory traces the theater's origin from human interest in storytelling. According to this view, tales (about the hunt, war, or other feats) are gradually elaborated, at first through the use of impersonation, action, and dialogue by a narrator and then through the assumption of each of the roles by a different person. A closely related theory traces theater to those dances that are primarily rhythmical and gymnastic or that are imitations of animal movements and sounds (**readability: 12.0**).

31. What does the passage mainly discuss?
- A The origins of theatre
 - B The role of ritual in modern dance
 - C The importance of story-telling
 - D The variety of early religious activities
32. The word "they" in line 5 refers to
- A seasonal changes
 - B natural forces
 - C theories
 - D human beings

33. What aspect of drama does the author discuss in the first paragraph?
- A The reason drama is often unpredictable
 - B The seasons in which dramas were performed
 - C The connection between myths and dramatic plots
 - D The importance of costumes in early drama
34. Which of the following is NOT mentioned as a common element of theatre and ritual?
- A Dance
 - B Costumes
 - C Music
 - D Magic
35. The word "considerable" in line 16 is closest in meaning to
- A thoughtful
 - B substantial
 - C relational
 - D ceremonial
36. The word "enactment" in line 17 is closest in meaning to
- A establishment
 - B performance
 - C authorization
 - D season
37. The word "they" in line 18 refers to
- A mistakes
 - B costumes
 - C animals
 - D performers
38. According to the passage, what is the main difference between ritual and drama?
- A Ritual uses music whereas drama does not.
 - B Ritual is shorter than drama.
 - C Ritual requires fewer performers than drama.
 - D Ritual has a religious purpose and drama does not.
39. The passage supports which of the following statements?
- A No one really knows how the theatre began.
 - B Myths are no longer represented dramatically.
 - C Storytelling is an important part of dance.
 - D Dramatic activities require the use of costumes.

40. Where in the passage does the author discuss the separation of the stage and the audience?

- A Lines 8-9
- B Lines 13-15
- C Lines 19-20
- D Lines 22-24

APPENDIX 3: Reading Comprehension Strategies Guidelines

1. I read the text several times to understand it./ Տեքստը կարդում եմ մի քանի անգամ, որպեսզի հասկանամ այն:
2. I first read the questions and then read the text./ Սկզբում ծանոթանում եմ տեքստին տրված հարցերին, այնուհետև կարդում եմ այն:
3. I break down the unknown word or expression into its component parts to understand it./ Տեքստում անծանոթ բառը կամ արտահայտությունը հասկանալու համար ես բաշանում եմ այն բաղկացուցիչ մասերի:
4. I translate the sentences to understand them better./ Նախադասությունը ավելի լավ հասկանալու համար ես թարգմանում եմ այն:
5. I compare new words to my native language./ Անծանոթ բառերը համեմատում եմ իմ մայրենի լեզվի նման բառերի հետ:
6. I transfer my linguistic knowledge from my own language to understand a word, expression or a sentence./ Իմ մայրենի լեզվի լեզվագիտական գիտելիքները կիրառում եմ տեքստը ընկալելու համար:
7. I use my linguistic knowledge to guess meaning./ Կիրառում եմ իմ լեզվագիտական գիտելիքները բառի, արտահայտության կամ նախադասության իմաստը կռահելու համար:
8. My background knowledge helps me to make guesses about what I read./ Կիրառում եմ իմ ընդհանուր գիտելիքները կռահելու ընթերցված տեքստի բովանդակությունը:

APPENDIX 4: Correlations

Correlations

		PRETEST	POSTTEST
PRETEST	Pearson Correlation	1	.652*
	Sig. (2-tailed)	.	.030
	N	11	11
POSTTEST	Pearson Correlation	.652*	1
	Sig. (2-tailed)	.030	.
	N	11	11

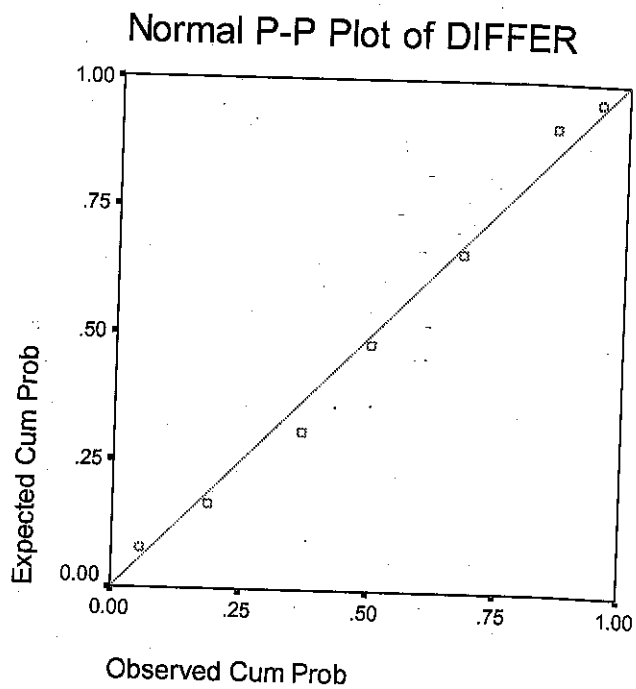
*. Correlation is significant at the 0.05 level (2-tailed).

APPENDIX 5: P-P Plot

MODEL: MOD_1.

Expected Normal quantiles calculated using Blom's proportional estimation formula and assigning the mean to ties.
For variable DIFFER...

Normal distribution parameters estimated: location=.09090909
scale=2.1658507



Detrended Normal P-P Plot of DIFFER

