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“THE EFFECTIVENESS OF LEARNING STRATEGIES SUCH AS
SUMMARY WRITING, SCHEMAS AND CONCEPTUAL MAPPING AS
AIDS FOR THE TEACHING OF READING TO FIRST YEAR STUDENTS
OF THE B.A. PROGRAM AND THE TECHNICAL CAREER IN ENGLISH
AT CENTRO REGIONAL UNIVERSITARIO DE VERAGUAS”

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TRABAJO DE GRADUACIÓN PARA OPTAR POR EL
TÍTULO DE MAGISTRA EN HUMANIDADES CON
ESPECIALIZACIÓN EN ENSEÑANZA DEL INGLÉS
COMO SEGUNDA LENGUA.

SANTIAGO, VERAGUAS

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DEDICATORY

**I dedicate this thesis to my children,
Nicanor and Miguel, for whom I decided to
make all the effort to accomplish this goal
and overcome all obstacles and hardships
that might appear in the path of life..**

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ABSTRACT

This research was undertaken in response to the difficulties that the students attending the School of English had, in both programs, the Licenciatura or Bachelor program in English and the technician with special training in English, at the time they need to read for comprehension when taking the literature courses, they also need to read for understanding when they study for the tests that they had to take in other subjects. More specifically, the students who enter the two careers offered by the School of English usually lack cognitive learning strategies even in their mother tongue, this fact makes it more difficult for them to read comprehensively in the second language. This research intends to present additional strategies to be incorporated to the reading and writing class, in order to prepare first year students of the School of English to become better readers.

CHAPTER I
INTRODUCTION

1.1. STATEMENT OF THE PROBLEM

Learning strategies are not at all something new in education. They emerged in the late sixties and early seventies, although they were almost unknown to the Panamanian educational system, especially at the university level, until a few years ago. The main reason for this situation is that the behaviorist educational model was adopted from the earliest days of the Panamanian public instruction.

The world has changed at a great speed, especially during the last two decades. It has been stated that we live in the knowledge society. This means that those people who know more and are able to obtain and apply knowledge faster will succeed professionally and therefore, economically as well.

In addition to this, there is a huge amount of knowledge to acquire, and students do not have the necessary learning strategies to face their study materials. A serious problem arises in all subjects, especially in subjects such as literature and reading, mainly in the Spanish and English programs, since most of the students have not previously developed the needed learning strategies. The University of Panama is trying to solve this problem by encouraging professors to acquire information about cognitive learning strategies, in order to enable them to teach their students learning strategies by embedding them in their courses.

There is a strong tendency among most of the students who enter the Bachelor program in English or the English Technician career of being poor readers. This is a big handicap for them, since those students who are in the Bachelor of Arts in English (Bachelor program) and the English Technical career have to face courses that demand the use of learning strategies in order to interact with the written materials that they receive from their facilitators. All the courses they have to take demand being a skillful and efficient reader in order to learn and make good grades, or at least a passing grade.

The students' deficiencies to develop and apply learning skills result in low grades, apprehension toward some subjects, and the worst of all, a low comprehension level, which means that they learn only a small portion of what they really have to know. As a consequence, the amount of knowledge they assimilate is poor, and of course if the cognitive stock is poor, the performance quality will be poor, too.

The purpose of this research is to demonstrate that training first year students in the use of learning strategies such as summarizing, schemas and concept mapping is an effective way to improve reading comprehension skills.

1.2. JUSTIFICATION

There has been no research about this problem at the Centro Regional Universitario de Veraguas, in the English Department. Moreover, the majority of the students who enter the Bachelor program in English or the

Technical career, need to study from printed materials in English, but they lack knowledge about reading strategies in both languages, Spanish and English, that applied to a learning situation turn into learning strategies. It can not be said that they can transfer their learning strategies from the mother tongue into the second language because they have not learned to develop such strategies in school or out of school. In addition to what has been stated before, very few teachers in high school take time from their class schedule to teach their students learning strategies to help them to learn, verify, and fix the knowledge that they obtain from their textbooks and other printed materials such as booklets or pamphlets. Most of the teachers who act this way ignore how to use learning strategies to teach, so this is the reason why they prefer to avoid asking their classes to write summaries, make schemas, and concept mapping to present the contents they have assimilated in class. A final argument put forth by some teachers is that teaching learning strategies takes too much time, and there is not enough time to devote even one class hour to the teaching of a learning strategy each week.

This research has been undertaken with the hope that university professors will realize that providing their students with the learning strategies they need in order to become better students/learners, such as summary writing, schemas and concept mapping, will facilitate their teaching job and the learning process for their students.

If the professors in charge of the reading and writing courses train their students in the use of learning strategies, besides teaching them the

traditional reading skills and strategies, it could be expected to have better readers and better performance in other subjects as well.

Another important reason for undertaking this research is the fact, as it was stated previously, that we are living in the information era. There is much new knowledge, and how can one cope with so much information if one has not been trained to deal with it? Moreover, the Universidad de Panamá has been changing its policies and proposes to incorporate some of the most essential learning strategies into its teaching praxis.

At present, the Facultad de Ciencias de la Educación of the Universidad de Panamá is offering seminars and lectures in order to sensitize high school teachers, elementary school teachers, and also university professors to the need to know and apply learning strategies in the classroom, so that students will be able to use them.

1.3. RESEARCH QUESTION

Reading for comprehension is a fundamental study skill or strategy, disregarding the student's level. Unfortunately, a good command of this learning strategy is almost non-existent among students at all levels

Some years ago, when the behaviorist approach dominated the educational systems around the world, comprehension was not the main aim of reading, but rather memorization was emphasized. This situation has

changed at a great speed in the last twenty years because there is so much knowledge to access, and people do not have much time to spend on acquiring it through extensive reading sessions, therefore, the ability to read with both comprehension and efficiency has become a necessity for all students and especially at the university level.

This research attempts to test the following hypothesis: If first year students of both, Bachelor program and the Technical Career in English are taught the use of learning strategies and how to apply them in their reading tasks, they will become better readers and better learners. Training in learning strategies (X) produces better readers and better learners (Y)

Within the English career program curriculum, there are reading courses for both careers, the Bachelor and the Technical Career; and most of the time, students have many problems meeting the requirements of these courses. Therefore, this research addresses the following question: Does training in the use of learning strategies such as underlining, summary writing, schemes and concept mapping help to improve reading comprehension at the university level?

1.4. DEFINITION OF KEY TERMS

The following definitions of key terms have been provided to facilitate the understanding of the material as to how they have been used within the context of this research. These definitions have been adapted from the Dictionary of Language Teaching & Applied Linguistics by

Richards et. al (1992); the modules one, two, three, six, and seven of the Diplomado Aprender a Aprender (Learning to Learn) by Batista (2001), Collins (1994), the Macmillan English Dictionary (2002), The University of Tennessee at Chattanooga Teaching Resource Center Website (2002), and The University of St Thomas Study Guides and Strategies Website (2002)

♦ **Automatic processing.** the performance of a task without conscious or deliberate processing. It takes place when the learner carries out the task without awareness or attention, making more use of information in long-term memory. Many skills are considered to be 'learned' when they can be performed with automatic processing.

♦ **Automaticity:** This is nothing else than the automatic and fluent execution of a series of steps that have been previously internalized. In applied linguistics, it is defined as the ability to use a language using automatic processing.

♦ **Bachelor of Arts:** A first degree in a subject such as languages or history from a college or university. In this case, Bachelor program stands for the four years university career in English offered by the school of English of the Universidad de Panamá, Sede de Veraguas under the name of Licenciatura en Inglés.

♦ **Behaviorism:** The belief that the scientific study of people's minds should be based only on their behavior, nor their thoughts and feelings. When applied to education, behaviorism implies that students demonstrate that they have learned through changes in their behavior.

- ♦ **Cognitive strategies:** Cognitive strategies refer to processes and behavior which learners use to help them improve their ability to learn or remember something, particularly those which learners use with specific classroom tasks and activities. They include sorting, classifying, comparing, matching, predicting, developing awareness of visual and audio clues as aids to meaning, repeating, using a class library or dictionary
- ♦ **Concept mapping.** This is nothing else than a way of representing or organizing knowledge, showing the relationships between concepts including bi-directional relationships. According to Martin (1994), concept maps are two-dimensional representations of cognitive structures showing the hierarchies and the interconnections of concepts in a discipline or a sub-discipline
- ♦ **Controlled processing:** Is involved when conscious effort and attention is required to perform a task. This places demands on short-term memory.
- ♦ **Learning Strategies.** Learning strategies are those strategies the student applies in order to assimilate or learn contents while he is studying. Learning strategies are procedures that can include several techniques, operations or a set of specific activities which purpose is to make learning take place faster and more easily
- ♦ **Meta-cognition:** According to Collins (1994), meta-cognition has been defined as “having knowledge (cognition) and having understanding, control over, and appropriate use of that knowledge”¹.

¹Tei, Ebo, and Oran Stewart “Effective Studying from Text” Forum for Reading, 16(2) (1985), 46-55

- ♦ **Metacognitive Strategies** These include planning for learning, hypothesizing, self-assessment and monitoring and involve learners in reflecting on the learning process
- ♦ **Meta-reading:** Meta-reading is the knowledge about one's reading skills and the conscious use of that knowledge in order to improve one's reading skills.
- ♦ **Reading Strategies:** Reading strategies are meta-cognitive strategies applied to the process of reading.
- ♦ **Schemas.** Schemas can be defined as the written synthesis of the ideas of a text, lesson, or any document, in a clear, logical and orderly manner, promoting the comprehension of the topic through holistic reading.
- ♦ **Summary Writing:** Summarizing is reducing the size or extension of a text in such a way that just the most important ideas of the topic appear in the final paper.
- ♦ **Technical Career:** An academic program outlined to train elementary school teachers mainly in the teaching of English to pre-school and elementary school children.
- ♦ **Top-down Reading.** Top-down reading as top-down process makes use of previous knowledge ("higher level knowledge) or advanced organizers, in analyzing and processing information which is received through reading.

1.5. SIGNIFICANCE

As it was previously stated, this is the “knowledge society” and only those who are literate in more than one language, and those who are fast and efficient in assimilating knowledge will succeed in this highly competitive world; there is much new knowledge, and how can one cope with so much information if one has not been trained to deal with it?, for this reason, this study is important for any individual and especially those who are studying or teaching English

This research could be a source of information for professors at the university level to recognize the importance of teaching cognitive learning strategies in their classes; in order to make their students more independent and responsible for their own learning. In addition, this research could be a starting point regarding research in second language reading; which is a topic barely dealt with by researchers. This study is a contribution to the tendency within the Universidad de Panamá, that proposes professors of the different colleges and schools to incorporate learning strategies into their teaching praxis

More importantly, the results of this research could contribute to improve the way reading is taught within the Technical Career in English, as well as the Bachelor program; making it more meaningful and productive for students. Relevant information from this study will be provided to the College of Education Sciences of the Universidad de Panamá, which is seriously concerned with the training of teachers, especially, at the

secondary level, in cognitive learning strategies. Currently, the School of Education of the Universidad de Panamá is offering seminars and lectures in order to sensitize high school teachers, elementary school teachers, and also university professors to the need to know and apply learning strategies in the classroom.

Nevertheless, no research or training programs in the use of learning strategies has been designed or implemented for specific programs outside the school of education, which is why this research is necessary. Based upon the results of this study, some changes could be made to the reading courses in the English program so that students could acquire strategies that they could transfer to other subjects, resulting in more efficient learning and, of course, better grades as well as more students with the ability to think critically.

The results of this research will be published in Panama TESOL Newsletter or divulged as lectures, in order to help other English teachers to incorporate the use of cognitive learning strategies to their reading classes in a productive and effective way.

Another important reason for undertaking this research is the fact that in conclusion, this research will contribute to enhance the preparation of the students who complete the English Bachelor program, as well as the students of the English technical career and as a result, English language instruction in Veraguas Province's official and private schools should be improved.

1.5.1. OBJECTIVES

The following are general objectives of the research:

1. Determine whether the 1st year students of the School of English know how to apply cognitive learning strategies for reading comprehensively.
2. Train three treatment groups in the use of learning strategies to improve their reading comprehension level.
3. Provide the professors in charge of the reading and writing course reliable data for incorporating the practice of cognitive learning strategies into the reading and writing course

CHAPTER II
REVIEW OF THE LITERATURE

In this chapter, relevant bibliography related to the topic under research will be discussed. First, issues related to learning to learn and learning strategies are presented. In second place, the concept of reading and reading comprehension are defined in agreement to the context of the study. The final section of the chapter is devoted to some important principles applied to the teaching of second language reading; their analysis is followed by a discussion of the learning strategies used for this study. An additional set of strategies is reviewed to provide the reader a more solid background regarding learning strategies applicable to the reading comprehension course, or to the reading comprehension component of the English class.

As it was previously stated, learning strategies are not at all something new in education. They emerged in the late sixties and early seventies, although they were almost unknown in the Panamanian educational system, especially at the university level, until a few years ago. Learning strategies are part of the process named 'learning to learn', that has become a basic concept in every educational activity whether the activity is aimed at children, adolescents or adults. EFL/ESL teachers refer most of the time to 'learning to learn' as learner training. The name given to this process is not the core of this discussion, but the fact that learning to learn is a covering term for a wide variety of activities designed to develop learning strategies. The training in learning strategies aims to focus students' attention on how they learn, in addition to what they learn. This kind of training takes into account other important principles of modern language teaching, such as

the multiple intelligences concept. Besides, these strategies can be applied to whatever subject a pupil is learning.

There is a huge amount of knowledge to acquire, and most students do not have the necessary learning strategies to face their study materials. Moreover, the majority of the students who enter the Bachelor program in English or the Technical career, need to study from printed materials in English. Within the English career program curriculum, there are reading courses for both careers, bachelor degree and English technicians; and most of the time, students have many problems satisfying the requirements of these courses.

Since Gutenberg invented the printing press, literacy stopped being a privilege of higher social classes; it turned into a necessity in order to obtain a job, be informed, or study to improve one's life conditions. At present, almost everyone is literate because he/she can decode letters, but not everyone understands what he/she reads. Most readers are not able to restate in their own words the information they read.

It is important to state what is reading, or what reading comprehension involves for the purposes of this study. Sheng (2000), Ur (1996) and Grellet (1981), agree when they state that reading is a process that involves recognition, interpretation and perception of written or printed material and understanding of the meaning of the written material as efficiently as possible.

Grabe (2000) states that simple definitions misrepresent complex cognitive processes such as reading. According to him, a description of reading has to account for the notions that fluent reading is rapid, purposeful, interactive, comprehending; flexible, and gradually developing. Definitely, reading is not a simple process and it involves a series of interrelated skills.

In addition, second language reading implies more complex processes, for this reason, the teaching of second language reading involves taking into account all the aspects linked to first language reading, besides to an appropriate selection of approaches and methods suitable for the students' needs and interests; and they should correspond the theory of second language acquisition the teacher bases his/ her course on.

The objectives of the English 148 a / b course (Basic Writing and Reading) for Technicians with special formation in English as well as English 170 a / b (Reading Comprehension) for English majors are:

- 1 To enable the students to distinguish different reading techniques,
- 2 To provide students with different reading techniques as the basis of the writing process,
- 3 To increase the active vocabulary through readings with situations for effective written communication;

- 4 To use the active vocabulary and the grammar structures of readings in simple writing pieces, and to develop the students interest in reading

Including these reading courses at the initial stage of the Bachelor program and the technical career has been a wise idea, because in addition to increasing vocabulary and reinforcing grammar, and serving as a springboard for writing, practicing reading skills and strategies from the beginning of the program creates little by little the habit of reading among students. Kressel (1982:40-41) states that training students to become good readers is a process that must begin in the earlier stages of their foreign language instruction. "If students are to acquire competence and confidence in tackling reading material, and to develop comprehension skills in an orderly way, training toward these goals must begin in the earliest stages of their foreign language study"² Another important fact that must be considered at the beginning of the BACHELOR program and the Technical career has been clearly stated by Tshimankinda (1972:47): "... learners of English must first learn to read (for meaning) in order to read to learn."³ This statement reflects the reality of English students who need to develop advanced reading skills in the second language in order to assimilate the study materials they receive in their other courses. All the other courses require a lot of comprehensive reading skills and strategies for the students to grasp the main ideas of the contents, prepare for tests and also write their research papers. In other words, these students have to learn to read in the

² Kressel, R. H. Using Content Questions as Motivators in Reading English Teaching Forum July 1982 pp 40- 41

³ Tshimankinda, Bisélela Learning to Read and Reading to Learn English Teaching Forum July 1982 p 47

target language in order to be able to learn from what they read. Thus, as it was previously stated, the best time to start developing reading skills to read for comprehension is the very beginning of the English career in both, the Bachelor program and the Technical career.

Panamanian students begin their English language instruction in elementary school, but most of them are not taught reading skills and learning strategies in that stage or in the following stages of their education, so the starting point for those who major in English is the first year of study at the university. Moreover, the reading and writing courses and their first opportunity to build and develop reading skills and learning strategies.

Most of the principles currently applied in teaching second language reading are based on first language reading research. According to Grabe (2000), basically, all the available information about second language reading is based on first language reading; and the teachers in EFL and ESL settings should undertake the challenge of making the needed research in order to improve the teaching of second language reading.

In spite of the fact that more research on reading in a second language is needed, it should be recognized that research about this topic grew remarkably during the last quarter of the XX Century; particularly in the last ten years. The main causes of the expansion were:

- The efforts to address the needs of many different learner groups;

- The recognition that reading is probably the most important skill for second language learners in academic contexts, and
- The challenge to explore and understand basic comprehension processes that have contributed significantly to implications for second language reading instruction.

This research was undertaken in recognition to the importance of reading in the academic context of English majors, whose second language is English in an EFL context, which is the reality of the students enrolled in both careers offered by the School of English at the Centro Regional Universitario de Veraguas.

Grabe proposes five areas of current research that should remain prominent for this decade:

1. Schema theory,
2. language skills and automaticity,
3. reading and vocabulary acquisition,
4. comprehension strategy instruction, and
5. reading-writing relations.

1. *Schema Theory*: According to some researchers, it is not a well-defined framework for the mental representation of knowledge; nevertheless, it has been an extremely useful notion for describing the way in which prior knowledge is integrated in memory and used in higher-level comprehension processes.

Further implications of this theory have proven to be of great importance and usefulness in improving reading comprehension. Carrell (1984, 1987) and Carrell and Eisterhold, 1983, have investigated the value of the notion of schema theory for second language reading. Their studies have revealed that the activation of content information plays a highly important role in students' comprehension and recall of information from a text. "Schema theory has provided a strong rationale for both pre-reading activities and comprehension strategy training (Carrell, 1985, 1988a; Floyd & Carrell, 1987). Other research on schema theory has argued that a high degree of background knowledge can overcome linguistic deficiencies (e.e., Hudson, 1982)"⁴ The most important implication of research in Schema Theory is that students need to activate their prior knowledge of a topic before they begin to read. If the teacher realizes that they lack it, he/she should provide them at least with minimal background knowledge from which to interpret the text (Barnett, 1989; Carrell 1988a, Dubin & Bycina, 1991).

2. *Language Skills and Automaticity*: This view emerged as a reaction against the overemphasis on top-down models of reading in second language contexts: it values the importance of lower-level processes in reading letter feature word and

⁴ Grabe, W (2000) Current Developments in Second Language Reading Research.

syntactic processing. According to Eskey (1988), McLaughlin (1990), and Segalowitz (1991), cited by Grabe, automatic lower-level processing in second language contexts is very important because less proficient readers seem to be word-bound very often, and this phenomenon is interpreted as evidence that students are “stuck” on words. Automaticity is of paramount importance for second language reading according to McLaughlin (1990), cited by Grabe (2000), and cognitive psychologists have considered it as a central process in fluent reading. Automaticity occurs when the reader is unaware of the process, not consciously controlling it, and using little processing capacity (Adams, 1990, Just & Carpenter, 1987; Stanovich, 1990, cited by Grabe, 2000). Researchers have also reached the conclusion that learners do not use the comprehension processes they apply in L1 reading with the same degree of efficiency in their L2 reading; as consequence, language is seen to play a critical role in second language reading abilities. Grabe states that this focus makes us perceive reading as a language process rather than a thinking process as it really is. Research in this aspect of second language reading has an instructional outcome, which is to develop automaticity skills in second language learners. Eskey and Grabe (1988); Segalowitz (1991); cf. Gatbonton & Segalowitz, 1988, cited in Grabe (2000) agree to recommend the practice of activities intended to develop automaticity skills. Reading rate and rapid recognition exercises; repeated reading of texts, and extensive reading are recommended

activities to develop automaticity in second language reading. Finally, it should be noticed that Grellet (1981) treats extensively different options for teaching structural aspects of texts which may improve automaticity. The issue of developing automaticity in word recognition needs further research, typically it is a neglected aspect in many current textbook rationales.

3. *Reading and vocabulary acquisition.* This constitutes a critical component of second language reading comprehension. “Barnett (1986) and Strother and Ulijn (1987) have demonstrated that vocabulary is an important predictor of reading ability.”⁵ There is a discrepancy between L1 and L2 estimates of vocabulary development. 40,000 words for L1 academic needs, while 5,000 to 7,000 words are considered adequate for ESL academic coursework. The issue is how to provide academically oriented second language students with a large recognition of vocabulary, because ESL students need to know many of the less frequent words in the target language. Another problem regarding this point is that each word form is counted as a single word, though in real situations, each word form may represent a number of distinct meanings, many of which depend very much on the reading context, quite different from each other in meaning. “The reader needs to know not just a single word form, but the various different meaning which the one word

⁵ Ibid, 148

form might represent (cf. Goulden, Nation, & Read, 1990) On the assumption that different word meanings should count as different words, estimates of vocabulary knowledge would need to increase considerably and fall more in the ranges suggested by first language researchers.”⁶

4. *Comprehension Strategy Instruction.* Research on comprehension strategies took precedence in the 1980s. Researchers found that younger and less proficient students use fewer strategies and use them less effectively in their reading comprehension. “In second language contexts, better readers have also been shown to be better strategy users (Carrell, 1989b; Devine, 1987). Students who monitor their reading comprehension, adjust their reading rates, consider their objectives, and so on, tend to be better readers”⁷ Research in comprehension strategy instruction is particularly important because of the possible outcomes or incidence it could produce in reading instruction. In L1 contexts, training studies have helped students to improve their comprehension abilities, when they are taught to use comprehension strategies. This type of research has strived to understand better the specific environments in which comprehension strategies improve comprehension, which are the most effective training procedures; the students variables (age, need, proficiency, and so on) that affect the strategy instruction According to Grabe, Carrell has demonstrated that

⁶ Ibid, 148

⁷ Ibid, 148

training students to recognize the organizational structure of texts improved the students' ability to recall information. Strategy training has also shown to produce good results improving reading comprehension, according to a series of researchers. "In a later study, Carrell, Pharis, & Liberto (1989) showed that strategy training with semantic mapping and with the ETR (experience, text, relationship) method both improved reading comprehension scores. Barnett (1988a) reported improvement in reading comprehension from a year-long strategy training experiment in reading."⁸ Finally, it should be remarked that second language research are just beginning to explore the issues in the area, and many research studies claiming success in L1 contexts need to be reproduced in L2 contexts in order to verify whether such claims can be generalized to second language students. Grabe concludes that due to the wide range of research studies that will be needed in this field, it should remain the major focus of second language reading research for the current decade.

5. *Reading Writing Relations:* According to Grabe, in the 1980s, many reading and writing researchers concluded that reading and writing form important relations with each other. as skills, as cognitive processes, as ways of learning. Many different L1 researchers have stated that there is a high correlation between good writers and good readers. Moreover, they perceive reading and writing as mutually reinforcing

⁸ Ibid 149

interactive processes Grabe explains that Stotsky (1983) noted that better writers were better readers, better writers read more, better readers wrote more syntactically mature prose, and reading experiences improved writing more than grammar instruction or further writing exercises. Simultaneously, many researchers have argued that reading and writing are not simply reciprocal processes. After examining different arguments and points of view, Carson Eisterhold (1990) concluded that reading and writing are likely to influence each other reciprocally, but not as inverses of the same process. Carson, Carrell, Silberstein, Kroll, & Kuehn (1990) examined whether or not reading/writing relationships are closely related in first and second language contexts. Their results suggest that the interaction between reading and writing is complex, with certain aspects of each language skill being somewhat independent of the other. This finding supports Shannahan's bidirection theory of reading/writing relationships (cf Shanahan & Lomax, 1988). Much more research is needed to understand reading/writing relationships, not only as a theory but also for its implications for instructional issues. An important implication of this line of research is that reading and writing be taught together in advanced academic preparation. Researchers explain that many cognitive skills are mutually reinforcing, and the integration of literacy skills develops strategic approaches to academic tasks (Tierney, Soter, O'Flahavan, & McGinley, 1989).

In order to incorporate the teaching of learning strategies in the reading course, the professor has to be conscious of the fact that learning strategies are linked to the Cognitive Theory of second language acquisition in aspects such as automaticity in reading and restructuring in reading a second language. Automaticity in reading deals with the process of learning to decode graphemes and words in order to understand a message. If the second language learner lacks automaticity when reading in his/her mother tongue, this fact will have a negative effect in his/her reading performance in the second language. On the other hand, a good reader in his mother tongue will transfer his skills and automaticity level to the reading task in the target language. Lightbown and Spada (1985) present interesting facts that support this assertion: "The transition from controlled to automatic processing at each stage results in reduced discrimination, more attention to higher-order features, and ignoring irrelevant information."⁹ Regarding restructuring in reading a second language, the second language reader has to apply some strategies in order to interact with the text in order to extract meaning or relevant information. McLeod and McLaughlin (1986) state that: "Successful readers interact actively with the text ~ adding, deleting, and substituting words where appropriate. They use the cues available to seek the most direct path to meaning, drawing on prior conceptual and linguistic competence to predict what might plausibly come next." A number of authors have made the point that fluent reading requires going beyond the 'mechanics' of the reading process, which involves attention to graphic and orthographic information, to extracting from words (e.g. Gibson and Levin, 1975; Goodman 1968; Smith 1971). Some poor readers apparently have mastered the mechanical aspects of reading, but continue to

⁹ Lightbown, P. and Spada, P. How Languages are Learned (1995), 143

process the text word by word, not using contextual semantic relation and syntactic information to comprehend meaning (Cromer 1970)”¹⁰

Grow (1996) presents a cognitive reading theory, which proposes the practice of two levels of strategies on the reader’s part: cognitive strategies and metacognitive strategies.

The summary of cognitive reading theory¹¹ states the following assertions:

- Readers are selective, active, and strategic. They understand what they read in terms of what they already know—though what they read may modify what they know.
- Readers activate strategies for managing their approach to a text, along with schemas for interpreting it. Readers may modify the strategy of reading and shift the context of interpretation as they go.
- New information becomes meaningful only as it is interconnected with meaningful patterns that the reader already knows.
- When new information is interconnected with the old in meaningful patterns, it becomes knowledge—and it can be

¹⁰ Ibid 147

¹¹ Grow, Gerald O (1996) “Serving the Strategic Reader Reader Response Theory and Its Implications for the Teaching of Writing,” an expanded version of a paper presented to the Qualitative Division of the Association for Educators in Journalism and Mass Communication Atlanta, August, 1994 Available on-line at <http://www.longleaf.net/ggrow/StrategicReader/StratRead.html> Original paper available as Eric Documentation Reproduction Service No ED 406 644

recalled, reasoned with, extended by inference, and used to filter new perceptions.

- Readers do not “receive” information. They approach reading in the context of the entire world of their experience, and they turn away with that world confirmed, modified, extended or challenged.

The Center for Advancement of Learning of the Muskingum College has up loaded the Learning Strategies Database to the world wide web, the following chart presents valuable information that reading teachers should take very much into account in order to help their students to develop their metacognitive skills.

METACOGNITIVE BEHAVIORS OF GOOD AND POOR READERS

Students with good versus poor reading skills demonstrate distinct cognitive behaviors before, during, and after reading an assignment. The following chart from Cook (1989) summarizes these behaviors.

	GOOD OR MATURE READERS	POOR OR IMMATURE READERS
BEFORE READING	<ul style="list-style-type: none"> • Activate prior knowledge • Understand task and set purpose • Choose appropriate strategies 	<ul style="list-style-type: none"> • Start reading without preparation • Read without knowing why • Read without considering how to approach the material
DURING READING	<ul style="list-style-type: none"> • Focus attention • Anticipate and predict • Use fix-up strategies when lack of understanding occurs • Use contextual analysis to understand new terms • Use text structure to assist 	<ul style="list-style-type: none"> • Are easily distracted • Read to get done • Do not know what to do when lack of understanding occurs • Do not recognize important vocabulary

	<p>comprehension</p> <ul style="list-style-type: none"> • Organize and integrate new information • Self-monitor comprehension by ... <ul style="list-style-type: none"> ◦ knowing comprehension is occurring ◦ knowing what is being understood 	<ul style="list-style-type: none"> • Do not see any organization • Add on, rather than integrate, new information • Do not realize they do not understand
<p>AFTER READING</p>	<ul style="list-style-type: none"> • Reflect on what was read • Feel success is a result of effort • Summarize major ideas • Seek additional information from outside sources 	<ul style="list-style-type: none"> • Stop reading and thinking • Feel success is a result of luck

Once the teacher identifies the weaknesses of his/her students, it is easier for him/her to select the strategies to be taught and plan the way to teach them to the group. Metacognition is of great value because it increases the students' awareness about their learning styles and their strengths and weaknesses as well.

Sheng (2000) presents a pedagogically fresh way for teaching reading comprehension, that he has named a cognitive model for teaching reading

comprehension Reading and comprehension, according to his point of view, are closely related, although they have different natures. "The process of reading deals with language form, while comprehension, the end product, deals with language content."¹² In other words, the process of reading has to do with the reader's syntactic knowledge and his capacity to decode graphemes, and his lexical stock. On the other hand, comprehension is related to pragmatics, cultural background, previous experiences, and context as well.

Sheng explains that distinctions between surface structures and deep structures exist in semantic analysis. At the surface level, meaning can be classified into two broad categories: denotative meaning and connotative meaning. Denotative meaning is the meaning of words given in the dictionary while connotative meaning is the communicative value of an expression by virtue of what it refers to.

The objectives of the reading and writing courses for English majors and English technicians conduct to enable them to use the knowledge they acquire through reading to communicate using written language, so comprehension is embedded within these objectives.

According to Batista (2001) comprehension is the result of thought processes that enable us to give meaning to reality. Comprehension involves the thought operations that we do when we learn. describing, defining,

¹² Sheng, H. J A Cognitive model for teaching reading comprehension English Teaching Forum October 2000 pp 12-15

classifying, comparing, inducting, deducting, analyzing, summarizing, relating, etc.¹³ “The comprehension of texts is an essential activity of great importance for the academic success and learning in high school and at the university level.”¹⁴ When a student lacks the skills and cognitive capacities for critical reading and text comprehension, he also lacks the most important and necessary tool for meaningful learning and academic achievement at the university. Since the starting point of students in the English programs is their first year of instruction at the university, this year is the time for them to gain knowledge and experience in the use of cognitive learning strategies and reading skills so that, in the advanced courses which require a lot of reading they could be able to apply the appropriate processes automatically and efficiently, in order to construct and restructure knowledge from what they read. The reading and writing class are a good vehicle to provide the tools that they will need for the rest of their academic and professional life.

Scholars, who defend constructivism, talk about building and reconstruction of knowledge. They use analogy to demonstrate how learners use their previous knowledge and new information to build or reconstruct knowledge.

University students, especially those in the English programs, must be trained to be successful readers in English, they need to be taught special skills to read in English and also additional strategies to cope with their

¹³Batista, A. La Lectura Comprensiva como Estrategia Cognitiva de Aprendizaje Vicerrectora de Extensión Universidad de Panamá. Panamá Rep De Panamá. 2001

¹⁴ Ibid

study requirements. Once beginners become accustomed to using learning strategies and reading skills to interact with the text, they start developing higher mental processes that lead them to better comprehension of texts and the application of meta-reading and meta-cognition, that is going to make them good readers.

What makes the difference between good readers and poor readers is the fact that in addition to using contextual semantic relations and syntactic information to comprehend meaning, good readers approach the reading task as a psycholinguistic guessing game, using graphic cues to make predictions about the meaning of the printed text. In addition to this, they apply new strategies directed to meaning

The aim of this literature review is to raise awareness among the readers about the most widely known and used cognitive learning strategies in the academic community in which the study was undertaken. Nevertheless, other strategies developed and successfully applied abroad are also presented to the audience in order to present a wider range of choices whenever the reader wants to apply cognitive learning strategies to teach comprehensive reading to his pupils.

First, the cognitive learning strategies mentioned in the research question and that were part of the treatment given to the sample that took part in the study will be discussed; latter, additional strategies will be presented for the consideration of the reader.

SUMMARY WRITING (SUMMARIZING)

Summary writing is an important learning strategy that should be taught to university students. Al-Issa (1998), states that producing a written summary is claimed to be a difficult mission to accomplish by many EFL learners. He adds that the challenge of summarizing is that it compels students to think in an economical way. “Summarizing is how we take larger selections of text and reduce them to their bare essentials: the gist, the key ideas, the main points that are worth noting and remembering. Webster’s calls a summary the “general idea in brief form”; it’s the distillation, condensation, or reduction of a larger work into its primary notions”¹⁵ Based upon Batista (2001) and Aula, Curso de Orientación Escolar (1990), it can be stated that summarizing is to condense or reduce a text.¹⁶ A summary must be brief; it must relate main ideas; and above all, a summary must use the author’s words. This means that the person, who writes the summary, cannot add personal opinions or comments. Jones (2001) explains that when we summarize, we focus on the heart of the matter, try to find the key words and phrases that, when uttered later, still manage to capture the gist of what we’ve read. “We are trying to capture the main ideas and the crucial details necessary for supporting them”¹⁷

¹⁵ Jones, Raymond (2001) Strategies for Reading Comprehension Summarizing Reading Quest org strived from the world wide web site <http://curry.edschool.virginia.edu/go/readquest/strat/pto.html>

¹⁶ Batista, Ángel M (2001) Los Resúmenes y Síntesis como Estrategias Cognitivas de Aprendizaje. Vicerrectoría de Extensión Universidad de Panamá. Panamá Rep De Panamá
Aula, Curso de Orientación Escolar (1990 Cultural, S.A. De Ediciones Polígono Industrial Arroyomolinos Calle C, núm 15, Móstoles Madrid- España

¹⁷ Jones, Raymond (2001) Strategies for Reading Comprehension Summarizing Reading Quest org strived from the world wide web site <http://curry.edschool.virginia.edu/go/readquest/strat/pto.html>

The ideas presented in a summary should be presented in a logical and psychological order to be appealing to the reader and easy to understand. In addition, the summary must go from general to particular ideas. From the fundamental to the detailing or supporting points or ideas.

The summary should be written as a paragraph, separated by periods. It must have coherence, which means that the remaining text should make sense. With regard to the length, a well-done summary should include 25 % of the original text.

How can a teacher teach his/her students to summarize? According to Jones (2001), this is not an easy task to undertake, but it is worth the effort. "It's one of the hardest strategies for students to grasp, and one of the hardest strategies for you to teach. You have to repeatedly model it and give your students ample time and opportunities to practice it. But it is such a valuable strategy and competency."¹⁸

In order to write a summary, Batista (2001), Aula (1990) and others recommend following these steps:

1. Exploratory reading
2. Self questioning
3. Comprehensive reading
4. Underlining

¹⁸ Ibid

5. Loud voice explanation (of underlined ideas)
6. Written summary (using the author's words)
7. Review the summary and make whatever changes or additions necessary.

Jones offers some ideas for teaching students to summarize; he claims that once teachers provide their students with this strategy, they are enabled to learn for the rest of their lives “Here are a few ideas, try one...try them all. But keep plugging away at summarizing. This strategy is truly about equipping your students to be lifelong learners.”¹⁹

The suggestions presented below can be applied to summarize any kind of text, and they are intended to facilitate learners the mastery of summarizing.

- After students have used *selective underlining*²⁰ on a selection, have them turn the sheet over or close the handout packet and attempt to create a summary paragraph of what they can remember of the key ideas in the piece. They should only look back at their underlining when they reach a point of being stumped. They can go back and forth between writing the summary and checking their underlining several times until they have captured the important ideas in the article in the single paragraph.

¹⁹ *Ibid*

²⁰ Jones, R.C (2001) <http://curry.edschool.virginia.edu/go/readquest/strat/underline.html>

- Have students write successively shorter summaries, constantly refining and reducing their written piece until only the most essential and relevant information remains. They can start off with half a page; then try to get it down to two paragraphs, then one paragraph; then two or three sentences; and ultimately a single sentence.
- Teach articles from the newspaper, and cut off their headlines. Have students practice writing headlines for (or matching the severed headlines to) the “headless” stories.
- Sum it up²¹: To apply this strategy, have students imagine they are placing a classified ad or sending a telegram, where every word used costs them money. Tell them each word costs ten cents, and then tell them they can spend “so much” For instance, if you say they have \$2.00 to spend, then that means they have to write a summary that has no more than 20 words. You can adjust the amount they have to spend, and therefore the length of the summary, according to the text they are summarizing. Consider setting this up as a learning station, with articles in a folder that they can practice on whenever they finish their work early or have time when other students are still working.

Batista (2001) presents a list of advantages of summarizing. After writing summaries, he states, it is wise to file them in order to use them to

²¹ A strategy for practicing summarizing created by Widdowson, P. (2001), cited by Jones, R. C. in <http://curry.edschool.virginia.edu/go/readquest/strat/summarize.html>

study. Among the advantages of using summaries, the following are the most important to mention.

- 1 They facilitate the comprehension of topics.
- 2 They force the reader to distinguish the essential from the secondary information.
3. Summaries make possible a holistic and synthetic view of the material studied.
- 4 They facilitate retention of knowledge.
- 5 Summaries maintain concentration and attention during study time, making it more active.
- 6 They force the learner to learn to write with preciseness and consciousness.
- 7 Summaries make the learner put more personal effort into self-elaboration.
- 8 They develop synthesizing skills, at the same time the person learns to interrelate ideas.
- 9 Summaries are a great aid to review materials and study for exams.

UNDERLINING

Even when underlining is not one of the strategies appearing as subject of study of this research, it is a previous step to summarizing, and that is why it is being discussed immediately after summarizing. “Underlining is a learning strategy which consists of drawing lines, writing

graphic signs, or highlighting or signaling the most important ideas of a text”²² The purpose of underlining is to focus the reader’s attention only on the important ideas and also to locate them in order to facilitate further analysis, as well as restructuring and internalizing processes. This strategy is very flexible because the learner can use the style that better matches his learning style and his personal taste. “This strategy is something very personal that can be improved with constant practice. The reader can use a single underlining style or can combine two or more underlining styles. It is up to the reader and his learning style.”²³

For underlining to be a real strategy for reading comprehension, it must have an added value: it should be selective. “The way to make underlining useful as a tool for comprehension is for it to be strategic, selective, and purposeful. The underlining must be undertaken toward particular ends.”²⁴ Moreover, with selective underlining, the idea is to underline only the key words, phrases, vocabulary and ideas that are central to understanding the piece. “Students should be taught this strategy explicitly, given time and means to practice, and reinforced for successful performance.”²⁵ The previous assertion by Jones (2001), leads to conclude that the reading and writing class is the perfect place and time to teach underlining, give practice time and feedback. Moreover, when it constitutes

²² Anita, Curso de Orientación Escolar (1998) Cultural S.A. de Ediciones Polígono Industrial Arroyomolinos. Calle C, núm. 15, Móstoles. Madrid-España.

Sánchez, A. *Estrategia de Trabajo Intelectual para la Atención de la Diversidad* Perspectiva Didáctica Ediciones Aljibe España 1997


²³ Batista, A. *El Subrayado Como Estrategia Cognitiva de Aprendizaje* Panamá. 2001

²⁴ Jones, R. C. <http://curry.edschool.virginia.edu/go/readquest/strat/underline.html> 2001

²⁵ *Ibid*

a previous skill for summarizing, teachers should try to invest some time to the practice of this strategy.

Types of Underlining

- Horizontal or Lineal Underlining: This is the type of underlining that most people use -- a horizontal line below the meaningful ideas, or colorful highlighting.
- Structural Underlining. This kind of underlining implies making notes in the left or right margin to complement the author's ideas. The reader records in the margin the key words that define the idea expressed in the text. This type of underlining enables the reader to make a more critical reading and, at the same time, it helps the reader to generate his/her own parallel texts.
- : The purpose of this type of underlining is to call the reader's attention to a given concept or idea. Each subject is free to create his own code because it makes the highlighting more meaningful, effective, and useful when reviewing or studying the text. The following are some of the most commonly used symbols among the participants of the study.

* ✓ ●* O.k ? ! *er*
- Lateral Underlining: This type of underlining also uses lines, but instead of being horizontal, they are vertical. It can be done to the left or the right margin. Vertical underlining is used to indicate that a whole paragraph is important. When an asterisk

is added next to the line, it means that the paragraph is “very important; if a question mark is used instead, the meaning changes to “unclear”, “doubt” or “difficult to understand”²⁶.

What's Selective Underlining Useful for?

More than being a previous step for summarizing, underlining is a very helpful tool for developing reading skills. Garza (1999) as well as other authors, agree that underlining is useful to “make readers more effective and efficient”²⁷

Among other purposes, underlining is useful for:

- 1 It makes reading an interactive process, so it leads to better comprehension and the transformation of the original text, facilitating the reader's concentration and attention.
- 2 It facilitates the comprehension of any text, since underlined ideas, phrases, and keywords are ordered.
- 3 It helps the learner to review study materials because the most important data is selected, so it saves time.
- 4 It aids critical reading, since it focuses on interesting ideas, not on secondary details
- 5 It helps to make schemas and summaries.
- 6 It facilitates memorization.

²⁶ Batista A. *El Subrayado Como Estrategia Cognitiva de Aprendizaje* Panamá 2001

²⁷ Garza, R. Ma. *Aprender Cómo Aprender* 2da ed México Trillas ITSM, Universidad Virtual 1999 75-

In relation to how to teach students selective underlining, Jones has suggestions that are very useful: “Practice selective underlining for different purposes: underline key vocabulary and its definitions or explanations, and use this as an opportunity to focus on how authors reveal the meaning of new terms within the context. Or have students underline cause and effect. Or ask them to underline the facts and concepts that support a particular view point, as might be useful with a strategy such as *opinion – proof*.²⁸ Remember you are limited only by your own imagination with teaching and applying selective underlining.”²⁹

Other considerations presented by Jones for teaching selective underlining are the following:

- 1 Realize that not every single bit of text you have students read is in a textbook and untouchable.
- 2 Consider seeking out appropriate content sources, such as newspapers, short stories, magazines and other kind of literature for them to realize that they can transfer the application of this skill to other situations.
- 3 When there are textbooks that cannot be marked in. To teach the strategy, photocopy a page or two out of the text that students use and distribute it to them. Make an overhead of that selection for yourself. Model for them

²⁸ *Opinion Proof* Is another strategy presented in ReadingQuest.org by Jones at <http://curry.edschool.virginia.edu/go/readquest/strat/opinion-proof.html>

²⁹ Jones, R. C. <http://curry.edschool.virginia.edu/go/readquest/strat/underline.html> 2001

and guide them in practicing the strategy on the photocopies.

- 4 Students might also use different colors in their underlining. The main idea could be blue, the detail idea 1 could be red, and the detail idea 2 could be green.

Batista (2001), also presents hints to use the technique of underlining effectively, some of them are similar to Jones's. They are presented to the reader's consideration in order to provide as much information as possible to facilitate his comprehension on how to apply underlining with effectiveness.

- The text should be read at least twice before underlining.
- Different colors or the symbols most attractive to the reader should be used.
- The underlining should be clear, precise, and concise.
- Do not abuse of this strategy, underline only the relevant ideas, phrases or words.

According to Batista and Aula (1998), it is important to know when to apply underlining. The most appropriate situation is when the reader needs to study a very complex and large text; and it has to be analyzed and summarized.

Underlining must be done when the subject is reading for comprehension; it means that you should not underline a text the first time

you look at it, but during a second or third reading. “The underlining technique should be used at the same time as comprehensive reading, during the second or third reading, but never during the first reading, since you do not have a holistic vision of the text yet and you ignore what is important”³⁰

Underlining allows elaborating and organizing knowledge in such a way it can be understood better, at the time it is internalized, in a meaningful way “Underlining must be done in such a way that when you review the text latter, the underlined words could be read and the main ideas, important details and definitions could be understood immediately”³¹. It allows the reader to select and organize knowledge in a meaningful and effective way and therefore, it is a great aid for self-learning.

Finally, it is important to remember that underlining is a strategy that can be combined with other strategies, such as reading comprehension and summarizing, which are within the scope of this study and others such as *questioning the author*, *power thinking* and *opinion – proof*³², which are not subject of this study because they are not used in our academic environment

SCHEMA

A schema, according to Salas (1996) one of the specialists in this subject, is “a synthesis that summarizes, in a logically structured way, the

³⁰ Salas, M *Técnicas de estudio para Secundaria y Universidad* Pedagogía, Madrid Novena Edición, 1999

³¹ Batista, A *El Subrayado Como Estrategia Cognitiva de Aprendizaje* Panamá 2001

³² Jones, R. C <http://curry.edschool.virginia.edu/go/readquest/strat.html> 2001

previously **underlined** text, and establishes the dependency knots among main ideas and secondary ideas, the details and specific points ..”³³ Dependency knots are the main information nuclei and their supporting data. The Encyclopedia Aula (1998) provides a simpler and brief definition of schema: “Schema ...is the graphic framing of the main ideas of a text and its format”.³⁴ A schema should have an organized structure; the essential structure of any schema is as follows:

- Title
- Main ideas (developing the topic)
- Secondary ideas (clarifying details about the main ideas)

In order to do a good and useful schema, it is important to follow some steps. Sánchez (1997), advises: “To do a good schema, one should start from a well underlined text, next, one should start analyzing the content of the text with the purpose of discovering its internal structure. It is convenient to distinguish among the different types of texts to use the most appropriate schema model.”³⁵ Schema drawing also has some requirements regarding presentation and content organization; the following are very important and should always be taken into account.

- Schemas must be presented on a single page because they are visualization units; moreover, some authors state that the whole

³³ Salas, J. M. *Técnicas de estudio para Secundaria y Universidad* Pedagogía, Madrid Novena Edición, 1999

³⁴ *Aula Curso de Orientación Escolar* (1998 Cultural, S.A. De Ediciones Polígono Industrial Arroyomolinos Calle C, núm 15, Móstoles Madrid- España

³⁵ Sánchez, A. *Estrategia de Trabajo Intelectual para la Atención de la Diversidad* Perspectiva Didáctica Ediciones Ajibe España 1997 p 75

lesson or reading selection should appear in the schema because it is a skeleton of what was read. In order to provide a holistic view of the topic, they should not be cut.

- Phrases and concepts must be brief and meaningful, so schemas should be brief, precise, and concise
- All the important concepts must be included within the schema in a clear way, presenting the logical structure of the text and expressing subordination of the main and secondary ideas

There are different types of schemas; Sánchez states that the best-known and used types of schemas are: bracket model, decimal model, simplified model, and synoptic chart. The best-known and more commonly used schemas in Panamanian schools and universities are the following:

- Synoptic Charts: This type of schemas can be constructed using braces, brackets; numbers, or letters, or it can be a mixture of all the elements previously mentioned
- Flow Diagrams: These are iconic representations of a structure, a system, or a process.
- Graphic and Conceptual Schemas. These are verbal and iconic structures of relationship levels, interrelationships of main and subordinate ideas. They give an excellent holistic and structural vision of a topic.

Schemas, as well as the previously discussed strategies, are important for the learner. The reader can use them to measure his/her understanding of any text. "Schemas help to structure logically the ideas of a topic, facilitating its comprehension when making its structure holistic"³⁶ Salas (1997) and Batista (2001), state that schemas are important for the following reasons:

- The mental activity developed by the student to structure the schema increases his/her interest and concentration, as well the retention of the most significant information.
- The logical structure of schemas facilitates comprehension since the sequence is an organized body easy to assimilate
- Since schemas impact sight, they make visual memory work, so the capacity to remember is reinforced because the student receives multi- sensorial stimulus.
- When we make schemas, we can perceive the content in a holistic way (at a single look); the structure of the topic and a whole view of the topic facilitates the comprehension and recall of information.
- When students are taught and practiced in doing schemas, they develop analysis and synthesis skills and capacity By analyzing, the most meaningful and relevant information from the text is inferred; synthesizing interrelationships are established.

³⁶ Sánchez, A. *Estrategia de Trabajo Intelectual para la Atención de la Diversidad Perspectiva Didáctica* Ediciones Ajtbe España 1997

- Schemas let the learner classify and organize the information
- Schemas save time at the moment when the student needs to grasp and internalize the main idea or topic of an academic text for accessing, reconstructing, and understanding in a meaningful and effective way.

With regard to why and how to use schemas as a learning strategy for the reading – writing class, it should be pointed out that Batista (2001) and Díaz (1998) consider that schemas help the reader to assimilate the information presented in a text. “Schemas help the learner understand concepts, through visual explanation or representation; they also aid retention because they provide visual memory work. They awaken interest and motivation; and finally, schemas facilitate the access and reconstruction of information”³⁷ Taking all this into account, it is argued that students, who are trained to use this learning strategy, will understand any kind of reading material more easily and faster than those who do not know how to deal with schemas. Making schemas is similar to writing outlines, so once the learners are accustomed to making schemas, it will be easier for them to write well-organized outlines. Another benefit is that writing synthesis, analysis or essays about the material read will be an easier task because the schema with the key points logically organized will be a springboard for the writing component of the course and once the students have assimilated the most important information, restating, citing and paraphrasing, and linking

³⁷ Batista, A. *Los Esquemas como Estrategia de Aprendizaje para la Captación Holística de los Conocimientos* Panamá 2001
Díaz, F y Muria, I *El Desarrollo de Habilidades Cognoscitivas para Promover el Estudio Independiente Tecnología y Comunicación Educativa* ILCE México, Año 12, N°27 1998

the facts provided by the reading with real life will be an easy task because by making schemas, we also learn to assimilate and understand the rhetorical conventions as well as the connotations of different types of reading material, and this facilitates writing.

CONCEPT MAPPING

This strategy has been left as the last one not because it is the least important, but because this is the most complex and because the other strategies constitute previous steps for doing concept maps. Novak (1977) created this technique in order to provide a practical response to Ausubel's Meaningful Verbal Learning Theory.³⁸ The fundamental idea in Ausubel's cognitive psychology is that learning takes place by the assimilation of new concepts and propositions into existing concept propositional frameworks held by the learner. Concept mapping involves a cognitive process in which the learner has to organize hierarchically the knowledge and thought in order to reason rigorously in such a way as to construct knowledge; it can be stated that this is a technique to develop thinking. "Concept maps have their origin in the learning movement called constructivism. In particular, constructivists hold that prior knowledge is used as a framework to learn new knowledge. In essence, how we think influences how and what we learn. Concept maps identify the way we think, the way we see relationships between knowledge."³⁹

³⁸ Ausubel, D P (1963) *The psychology of meaningful verbal learning* New York, NY Grune & Stratton

³⁹ Walker, G [Concept Mapping and Curriculum Design](http://www.utc.edu/Teaching-Resource-Center/concepts.html)
<http://www.utc.edu/Teaching-Resource-Center/concepts.html> 1997

Concept mapping is a relatively recently discovered learning strategy in the Panamanian educational system, mainly at the university level, though, concept maps have been used since the 1960's. Concept maps were first used by Joseph D. Novak of Cornell University in the 1960s (Lansing, 1997).

Defining what is a concept map is not an easy task because it depends on the pedagogical focus the reader places it, though, the following definitions will provide enough basis to the reader to understand what is a concept map and the multiple exploitation possibilities this strategy has in the classroom, especially for the reading and writing class.

Novak and Gowin (1988 19), Ontoria (1996) and Batista (2001) present three definitions of concept mapping:

1. Concept mapping as a strategy. This is an example of a simple but powerful strategy to help students learn and to help teachers organize the materials that are to be learned.
2. Concept mapping as a method. It is a method to help students and teachers to grasp the meaning of the materials that are going to be learned.
3. Concept mapping as a resource. It is a schematic resource to represent a group of conceptual meanings included in a structure of propositions.

The main concern of this paper is to analyze the usefulness of concept mapping as a strategy to help students learn, especially to sharpen their

reading comprehension and writing skills. Within this context, the teacher can use concept mapping to obtain different aims as Lanzing (1997) proposes: “Concept mapping can be done for several purposes”⁴⁰

- To generate ideas (brain storming, etc.);
- To design a complex structure (long texts, hypermedia, large web sites, etc);
- To communicate complex ideas;
- To aid learning by explicitly integrating new and old knowledge;
- To assess understanding or diagnose misunderstanding.

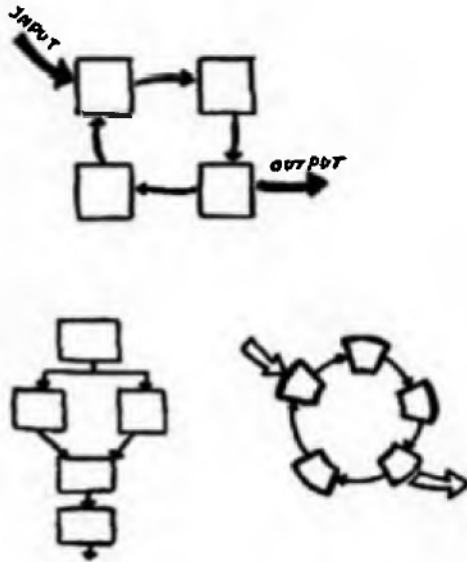
The first of the objectives listed before can work as a pre reading activity, as well as a pre writing activity; the second one can be another pre-writing activity to substitute outlining; the third point can be the writing task itself, while the fourth point is equal to feedback, and the last one corresponds to evaluation. As it can be appreciated, concept mapping is a strategy that can be adapted to any moment of the teaching process; of course, the professor must avoid abusing of its application.

Concept maps are tools for organizing and representing knowledge. They have a particular format. “Knowledge graphs are networks of concepts. Networks consist of nodes (points/vertices) and links (arcs/edges). Nodes represent concepts and links represent the relations between concepts.

⁴⁰ Lanzin, J The Concept Mapping Homepage Available online at http://users.edte.utwente.nl/lanzing/cm_home.htm

relationships among the main ideas in a simple or attractive way, taking advantage of the noticeable human capacity for universal representation."⁴³

SYSTEMS Concept Maps



Novak and Gowin stated briefly the main characteristics of concept maps, conciseness and inclusiveness; but there are other elements that are characteristic of concept maps, and they are listed in the following lines:

1. *Proposition*: this is made up of two or more concepts joined by words to form a semantic unit. This semantic unit confirms or denies something about a concept; it goes beyond its denomination.

⁴³ Novak, J and Gowin, B *Learning to Learn*. New York, Cambridge University Press 1984

2. *Concept* the concepts are defined by Novak (1998 22) as references to events or happenings, anything that occurs or is provoked, and also as objects.
3. *Joining words*: these are the words used to join concepts and point out the kind of relationship that exists between them

Batista (2001), Ontoria (1996) and other authors suggest the learner to follow a series of steps in order to do concept mapping. The following steps should be followed carefully in order to construct a concept map, they can be followed individually, in small groups, or with the participation of the whole class.

1. Identify the key concepts within the text, and make a list of them; limiting the number of concepts to ten, especially during the first attempts to do this.
2. Order the concepts on the list, beginning with the most general or inclusive (on top of the map), to the most specific (at the bottom of the map).
3. Join the concepts with lines. Label them with joining words. These should define the relationship between the two concepts to be read as a real phrase or “proposition.”

Novak (1984), presents a set of basic steps for making a concept map, under the title “Constructing Good Concept Maps”⁴⁴ In addition to this, other authors have also presented brief and systematic ways of making concept map. “Steps in Making a Concept Map”⁴⁵

Constructing Good Concept Maps

In learning to construct a concept map, it is important to begin with a domain of knowledge that is very familiar to the person constructing the map. Since concept maps structures are dependent on the context in which they will be used, it is best to identify the segment of a text, laboratory activity, or particular problem or question that one is trying to understand. This creates a context that will help to determine the hierarchical structure of the concept map. It is also helpful to select a limited domain of knowledge for the first concept maps.

Once a domain has been selected, the next step is to identify the key concepts that apply to this domain. These could be listed; and then, from this list a rank order should be established from the most general, most inclusive concept for this particular problems or situation, to the most specific, least general concepts. Although this rank order may be only approximate, it helps to begin the process of map construction

⁴⁴ Novak, J. Clarify with Concept Maps: A tool for students and teachers alike. *The Science Teacher*, 58(7), 45-49

⁴⁵ Walker, G. H. TRC Concept Mapping and Curriculo Design. Available online at <http://www.utc.edu/Teachingresource-Center/concepts.html> 2002

The next step is to construct a preliminary concept map. This can be done by writing all of the concepts on “post-its,” or preferably by using this computer software program. Post-its allow a group to work on a white board or butcher paper and to move concepts around easily. This is necessary as one begins to struggle with the process of building a good hierarchical organization. Computer software programs⁴⁶ are even better in that they allow the concepts to be moved together with linking statements, as well as the movement of groups of concepts and links to restructure the map. They can also result in a computer printout, producing a nice product that can be e-mailed or in other ways easily shared with collaborators or other interested parties.

It is important to recognize that a concept map is never finished.⁴⁷ After a preliminary map is constructed, it is always necessary to revise this map. Good maps usually undergo from three to many revisions. This is one reason why computer software is helpful.

After a preliminary map is constructed, cross-links should be sought. These are links between different domains of knowledge on the map that help to illustrate how these domains are related to one another. Finally, the map should be revised, concepts positioned in ways that lend clarity, and a “final” map prepared.

⁴⁶ Lanzin, J. The Concept Mapping Homepage. Available online at http://users.edte.utwente.nl/lanzing/cm_home.htm p 3 of 4

⁴⁷ Landsberger, J. Concept- or mind-mapping. Last revised September 04, 2002. Strived from the web site of the University of St. Thomas, St. Paul, Minnesota p 3 out of 3

When computer software is used, one can go back and change the size and font style to “dress up” the concept map.

It is important to help students recognize that all concepts are in some way related to one another. Therefore, it is necessary to be selective in identifying cross-links, and to be as precise as possible in identifying linking words that connect concepts. In addition, one should avoid “sentences in the boxes” since this usually indicates that a whole subsection of the map could be constructed from the statement in the box. “String maps” illustrate either poor understanding of the material or an inadequate restructuring of the map.

Students often observe that it is hard to add linking words onto their concept map. This is because they only poorly understand the relationship between the concepts, and it is the linking words that specify this relationship. Once students begin to focus on good linking words, and also on the identification of good cross-links, they can see that every concept could be related to every other concept. This also produces some frustration, and they must choose to identify the most prominent and most useful cross-links. This process involves what Bloom⁴⁸ (1956) identified as high levels of cognitive performance, namely evaluation and synthesis of knowledge

⁴⁸ *Aim High! Bloom's Taxonomy Breakdown: Roles, Process Verbs & Products from Bloom's Taxonomy of the Cognitive Domain*. Available online at bigchalk.com/curriculum-design/Curriculum-Design-Aids/The Learning-Spiral & *Versión=28tg=Resource*

There are different types of concept maps⁴⁹, according to the type of material read and the objective of the course. Among the most commonly used types of concept maps in our media, the following can be mentioned: spider web and lineal concept map.

Using concept mapping, as well as the other strategies discussed in this study, has advantages. “The construction of concept maps is one of the most effective procedures in order to achieve meaningful learning and develop cognitive strategies in the students.”⁵⁰

Sánchez and Batista, as well as other authors, agree that concept mapping is a strategy that really produces meaningful learning and helps students to develop other learning strategies. “To date, concept mapping has been used in a variety of educational settings. It is a valuable learning tool...”⁵¹ When properly taught and applied in class, concept mapping will facilitate the construction of knowledge individually or in groups by the students. In the long run, the application of this strategy should produce more analytical students, who should be able to process any kind of information they read.

⁴⁹ Aula Curso de Orientación Escolar (1998) Cultural S. A. de Ediciones Polígono Industrial Arroyomolinos Calle C, núm. 15, Móstoles Madrid-España

⁵⁰ Sánchez, A. Estrategia de Trabajo Intelectual para la Atención a la Diversidad Perspectiva Didáctica Ediciones Aljibe España. 1997

⁵¹ Devlin, T. M. Concept Mapping: A Strategy for Meaningful Learning Innovations in Basic Science Teaching and Learning Available online at <http://www.google.com/search?q=cache:GRgXuoQQZ3sC:iamse.org/pub/bse-1995/5-11-13>

Sánchez (1998) cited in Batista (2001) presents the following advantages of using concept mapping as a learning strategy in class:

1. It is useful to discriminate meaningful information from superficial information.
2. This is an activity that generates logical personal reflection.
3. They facilitate comprehensive memory.
4. They also facilitate metacognition (thinking about what was thought).
5. It is a good way to evaluate the student's work
6. It is a good strategy to foster divergent thought, since inclusion and belonging relationships can be established. It develops imagination, creativeness and critical thinking.

As it was already stated, concept mapping has a variety of application within a broad range of domains; this is why it can be perfectly applied within the reading and writing class from the warm – up stage until the evaluation stages.

The following strategies were not part of the study, but they are also important to develop reading comprehension; since one of the purposes of this study is to provide helpful information to in-service teachers, researchers and students, relevant information about semantic mapping and text book note-taking has been included in this chapter.

SEMANTIC MAPPING

Researchers have defined semantic mapping technique as being used to motivate and involve students in the thinking, reading, and understanding of a text.

The following are Mori & Mori (1993) suggestions for using semantic mapping successfully:

- 1 Select a word central to the topic.
- 2 Display the target word.
- 3 Invite the student to generate as many words as possible that relate to the target word.
- 4 Have the student write the generated words in categories.
- 5 Have the student label categories.
- 6 From this list, construct a map.
7. Lead the class in a discussion that focuses on identifying meanings and uses of words, clarifying ideas, highlighting major conclusions, identifying key elements, expanding ideas, and summarizing information.

TEXT BOOK NOTETAKING

“There are at least four reasons for taking notes on text book material.

- 1) It reinforces learning of the information.
- 2) It encourages selection of the main ideas and details in order to visualize the overall organization of the text.
- 3) It creates a shortened version of the text with all the essential information recorded for future exam review.
- 4) It helps to improve concentration.

Five of the most important tips for textbook notetaking are listed below.

- Finish reading before taking notes.
 - Students should not read the entire chapter, but should read through long paragraphs or headed sections of the text before recording notes. If one waits until the end to write notes, he/she may forget some of the important ideas and supporting details. But by reading small sections at a time, one has enough information from which to choose the most important ideas, without losing track of the flow of ideas. The most important concepts are reinforced before the reader moves on to the next section, making learning a cumulative process.
- Be very selective about what is recorded.
 - It takes practice to learn how to select the most important ideas in a reading, but remember that the goal of note taking is to

produce a shortened version of the text. Be selective so that only the basic concepts are recorded. In order to decide what information should be noted, skim or preview the text first or see what the instructor has emphasized in the lecture.

- Use your own words.
 - Because the chances of comprehending and remembering information are greatly improved when the work is one's own, take the extra time to paraphrase important material. The time spent trying to understand a passage and record the main ideas in one's own words is the single most important investment of time a reader can make.
- Work quickly and efficiently.
 - Note taking does not have to be painful or time consuming. Read, think, write, and move on. The rewards will come at test time.
- Use organizational strategies.
 - Notes should be organized according to one of the strategies discussed in the Note taking page or in the Organization page. The Cornell method is a good choice because it allows one to organize and to recall actively and quickly the main points of the text.”⁵²

⁵²Learning Strategies Database downloaded from the web site
<http://muskingum.edu/ucal/database/notetaking.html#Organization>

Finally, it is important to remark that the bibliography presented here serves as a reference for those who are interested in adapting the strategies discussed to their class needs and conditions. It is believed that it would be very productive for the students who enter the Bachelor program or the technical career in English, if the teaching of the previously discussed strategies were incorporated into their reading and writing class.

CHAPTER III
METHODOLOGY

SAMPLE

This study was conducted in the Universidad de Panamá, Centro Regional de Veraguas, which is located on Calle Décima Final, Vía San Francisco. This center is surrounded by Barriada La Esmeralda, Barriada Las Delicias, the Instituto Urracá and the Centro de Salud de Canto del Llano, as well as a portion of the Barriada San Martín.

The Centro Regional de Veraguas had, at the time this study was undertaken, an enrollment of 5464 students distributed among thirteen faculties. This branch of the Universidad de Panamá has four buildings devoted to classrooms for the different faculties and schools, as well as computer labs with Internet service, and laboratories for chemistry, biology, home economics; geography, and photo development. There is also an auditorium, a cafeteria, a library, a bookstore, an administration building, an office/room for audiovisual resources, professors' rooms equipped with desks, tables, chairs, swivel chairs; a PC with internet connection, a message board, an electronic typewriter, a TV set and air conditioning. The center has a student's center, an office for the administrative personnel of the employee's union; there is a gymnasium, a soccer/ softball court, and also a volleyball/basketball court. Within the university, there are facilities such as copying machines, medical services (clinic), and Internet.

The Universidad de Panamá, Centro Regional de Veraguas had, at the time the research was conducted, a teaching staff of 251 professors, twenty-five of whom were English professors.

At the time this research was carried out, the School of English had an enrollment of 268 students. The total of students attending first year at that time were eighty-four, thirty men and fifty-four women. For this research, the eighty four students of first year were the target population of the study, since the research was intended to focus on first year groups of the School of English. The researcher contacted the three teachers who taught the Reading and Writing courses at that time and explained them that she needed to give training in learning strategies to a half of each group in order to conduct an experimental research for a month. With the consent of each teacher, the researcher selected the treatment group randomly, by choosing each second student from each teacher's role.

The School of English functions in an area known as the English Department with three classrooms that are air conditioned and well lighted, with white boards and small bulletin boards. The doors have a glass window, each room has two fans. All the three rooms have desk chairs, and a table and a chair for the teacher.

The researcher was in charge of the groups for five hours a week, during a month. The pre-test was administered a week before the beginning of the instruction period, while the post-test was administered immediately after the treatment group finished the training period. Once again, the researcher obtained permission to apply the post-test to the whole groups the Monday after finishing the training period with the treatment groups.

Regarding the study materials for Reading and Writing (Eng 170), the students of the Bachelor program group used the book *Interactions I*, a reading skills book; the students attending the afternoon technical group used copies from *Mosaic I* facilitated by their professor; while the students of the night shift course used copies from different bibliographic sources facilitated also by the professor.

In order to avoid the students of the treatment group to delay in comparison with their classmates of the control group, while attending the training on learning strategies, the researcher decided to teach them learning strategies, but apply them to their class material.

The students who constituted the groups under study, came from different socio-cultural backgrounds and from different academic programs in high school, moreover, they came from different areas of Veraguas Province, as well as from neighboring provinces such as Coclé and Herrera. The students, who were enrolled in the Bachelor program, constituted a more homogeneous group regarding their age range, since their ages range from 17 to 23 years old. In the technical career groups, the age range is more heterogeneous, from 17 to 45 years old. In addition to this, many of these students work, have children, or are taking English as a second career.

PROCEDURE

This study is applied research using experimental techniques. It has been conducted following the steps presented below.

The professional literature related to the topic under investigation was reviewed and the most important points are presented in summary in the second chapter of this document entitled the Review of the Literature

The cooperation of all the English professors who taught Reading and Writing to first year students in the Bachelor program, and the afternoon and evening groups of the technical career was requested and received.

In order to select the treatment group, the students were selected randomly from each of the three professors' roles, each second student out of the 84 of first year became part of the treatment group, and the remaining students were part of the control group

The groups were organized in such a way that the students of the treatment groups attended a different room with the researcher, while the control groups stayed in the usual place with the teacher in charge of the course. Prior to the training period, a pretest was administered to the control and the treatment groups. After the pre-test, the treatment groups were trained in summary writing, schema making, and concept mapping for a period of four consecutive weeks; and then a post-test was administered to the control and the treatment groups in order to determine whether the students of the treatment groups had improved their reading comprehension level. During the first contact with each group, the students were explained the nature, the requirements and the reasons for undertaking this study; indeed, they were requested to keep everything they did in class for

themselves, they could exchange ideas among the members of the treatment group, but they were not allowed to do so with the students that remained in the control group.

On the researcher's side, all the information related to the experiment and the way the experience developed was maintained as a secret. External variables such as previous experiences of the students could not be controlled. The researcher provided all the advanced organizers that the treatment group could require to work with the different reading materials, nevertheless differences in educational and cultural background are external variables that could not be controlled completely.

A questionnaire was applied to all the students of the three groups to obtain information about their experience dealing with the learning strategies discussed in this document before entering university, in their mother tongue or in the second language. The professors, who instructed these students of the first year, were interviewed about their attitude toward reading and the teaching and practice of cognitive learning strategies in their reading and writing class; they were also asked about the methodology that they were using to teach this course.

The procedure to train the groups in the use of the different strategies always involved a demonstration, questioning and noticing, explanation; more questions and practice in individual form, in pairs, and also in groups,

and a plenary at the end of each class based on the practices they had done each day.

The data resulting from the pre-test, the post-test, and the interview made to the students; as well as from observations made during the development of the training period were analyzed and interpreted, and the resulting conclusions are presented in the fourth chapter of this research, entitled Findings and Conclusions. Finally, based upon the conclusions, recommendations were formulated and are also presented in the final chapter of this document.

IV CHAPTER
FINDINGS AND CONCLUSIONS

OBSERVATIONS

During the data gathering process, many bibliographic sources were available at the library of the Centro Regional Universitario de Veraguas, some others were facilitated by university professors of the School of English, others belonged to the researcher and much more up-dated material was strived from the world wide web, from many different web sites which are listed at the end of this paper in the bibliography. Fortunately, there was enough bibliography available to document the research

Regarding the experimental phase of this research, it was received a lot of support and guidance from all the professors whose cooperation was requested, within the Bachelor program in English, and the technical career in English, where the study was conducted at the Centro Regional Universitario de Veraguas.

The students of all the three groups of first year were cooperative and patient; moreover, they showed real interest on all the tasks they were assigned during the training process. It was very positive for the researcher to receive the requests of some students who, were not selected to be part of the treatment groups to be included; unfortunately, it was not possible to avoid bias in the research. The only difficulties related to the behavior of the participants were found in the afternoon shift group, and it was understandable because the students received their training session at the end of the reading and writing class, so the students who had to leave Santiago early to avoid missing the 5:30 or 6:00 p.m. bus were anxious and eager to

finish quickly. With the night shift group, the situation was similar to the morning shift group, they received the training on learning strategies at the time the rest of their classmates were receiving their classes, of course the professor's consent was obtained first. Unfortunately, this group presented discipline problems. The researcher had to sort this barrier in order to complete the experimental stage of this research.

FINDINGS

A pre-test intended to test comprehension and to determine which strategies first year students used while they read, was administered. After applying the pre-test to the eighty four students, of the three groups of first year, a group of the Bachelor program in English and two groups of the technician with special formation in English program, the following results emerged:

- ✦ The only learning strategy that twenty one percent (eighteen students) of the members of the sample group applied while reading was underlining.
- ✦ The only type of underlining that they applied was simple horizontal underlining or lineal underlining
- ✦ The students who applied underlining, began underlining since they began to read

- ✦ The students who used any underlining technique, just used lineal underlining to signal the words or phrases that they did not understand or were new to them; otherwise, they did not apply any other type of underlining or strategy to interact with the text.
- ✦ The highest scores (20 and 22 [C⁺ an B⁻] points out of 25) in the pre test were not made precisely by the students who applied underlining to their reading.
- ✦ The students who applied some underlining scored from deficient to barely approved (15 to 17 points [D⁺] or 18 [C] points out of 25).
- ✦ Not all the students who used underlining (23%) to interact with the text finished the pre-test faster than the students who did not apply any strategy at all (77%), the task was time consuming

Regarding the questions made to the sample group, during the first week of the training, the results were as follows:

To question one addressed as whether the participants were told about learning strategies and how to use them while they were in high school, the results were: just six percent of the participants stated that they were told about learning strategies by any of their teachers while they were in high school; the remaining ninety four percent of the participants stated that they did not hear anything about learning strategies while they attended high school.

The second question was addressed to those respondents who answered yes to the first question. It was addressed as which learning strategies the participant knew, the answers were as follows:

- ↓ The five respondents who answered affirmatively to the first question, mentioned underlining
- ↓ Synoptic charts were mentioned by three of the five respondents.
- ↓ All the five respondents mentioned concept mapping.

The third and last question made to the participants was whether they thought that they could apply learning strategies while they studied other subjects; they gave the following answers:

- ↓ Three of them answered yes.
- ↓ The remaining two answered maybe.

Regarding the interview made to the professors in charge of the Reading and Writing courses, the results were as follows:

The first question was addressed as whether they considered that it was appropriate to incorporate the teaching of learning strategies to the teaching of reading and writing to first year students of the school of English, they gave the following answer:

- ✚ All of the three interviewees stated that it would be interesting and it would be beneficial for the students because they lacked reading skills and learning strategies as well in their mother tongue, Spanish, so they could not transfer any skill or strategy to their reading in the target language, English. All the three professors agreed that this fact was a serious handicap for their students.

In relation to the second and last question made to the professors in charge of the Reading and Writing courses, as how was the course being developed; the three respondents stated that they were working in building vocabulary; identification of text structure, recognition of main ideas, information transfer; understanding the text through context association and grammatical structures. Of course, they were also struggling very hard to teach them writing, but writing is not the topic of this study.

During the instruction or training period, the researcher took the following notes based on the observations made while the trainees worked in the tasks they were assigned, as well as on personal information about the participants:

- ✚ At the beginning, the participants thought that the only type of mark called underlining was a horizontal line below a piece of text.

- ✚ The students used to underline the text at first sight, consequently, they thought that everything was important, so they underlined almost everything.
- ✚ They did not use to underline selectively before summarizing
- ✚ Before being explained the difference, they wrote synthesis, not summaries.
- ✚ The schema they were more familiar with was the brace schema because they had used it a lot while being in high school.
- ✚ They knew what was a concept map, but they did not know the difference between the two types of concept maps
- ✚ The trainees lack the information about the steps to follow in order to do concept maps.
- ✚ Prior to the post-test, the treatment group was given an assignment in which they were required to apply all the strategies that they had been explained; it was noticed that the younger participants worked more smoothly than their older classmates.
- ✚ In the pre-test and the post-test, more students of the Bachelor program and the afternoon shift group of the technical career in English scored higher than students of the night shift group of the technical career in English; nevertheless, the students of the night shift group improved a little bit more in the post test.

- ↓ In the night shift group, four of the students (13 % of the group) who made the best scores have some English background, moreover three of them have lived in an English speaking country, and another lived and attended elementary school in a country in which English was the medium of instruction. Besides this fact, he had attended the Bachelor program formerly
- ↓ In the post-test, thirty three students, seventy seven percent (77%), of the treatment group scored from eighty to ninety eight percent; while the remaining thirty three percent of the group scored among sixty to seventy nine percent. On the other hand, the students who were part of the control group performed as follows: seventeen students, forty one percent (41%) of the control group made scores ranging from seventy one percent to eighty five percent. The remaining twenty-four students of the control group, fifty nine percent of the control group made scores under seventy percent. See Appendix A, to see statistic information regarding enrollment; and Appendix B, to see the instruments (the pre-test and the post-test).
- ↓ From the analysis of the results obtained in the pre-test and the post-test, it could be stated that training students in the use of learning strategies helps them to interact more effectively with any kind of reading material, so they can understand it better and make better scores.

CONCLUSIONS

After collecting and analyzing the specialized bibliography related to the topic, developing the experimental stage; and also after applying the pre-test and the post-test and analyzing the notes taken, the following conclusions were reached:

- ✚ Definitely, first year students of both, the Bachelor program and the technical career in English lack basic reading skills and learning strategies to face their reading materials at the university.
- ✚ Age is a variable that seems to influence a lot the acceptance, internalization and application of new processes by learners.
- ✚ It is possible to incorporate the teaching of learning strategies to the reading and writing class. It takes time, but it is worth the effort.
- ✚ Even when not all the students applied underlining during the post-test, they were more agile and careful, and gave more precise and concise answers than in the pre-test.
- ✚ Training in learning strategies helps students to improve their comprehensive reading, but in order to determine which strategies are the most effective for this purpose, it is needed another research for a longer period of time, with a more homogeneous group.

RECOMMENDATIONS

Based upon the findings and conclusions, the following recommendations are made:

- ✚ It is recommended that once students have mastered the fundamental reading skills, they should be taught summarizing, schema making and concept mapping within the reading and writing class.
- ✚ It would be appropriate to teach them summarizing and schema making at least during the first semester; then during the second semester they could be taught concept mapping.
- ✚ It is recommended that whenever different professors teach the same course to different groups, they unify criteria regarding the text book to use and the approach to develop the course because it helps to ensure that all the students are obtaining the same knowledge and the same quality of education since they are attending the same university and the same school; it is healthier if any of the groups is assigned to a novice professor.
- ✚ It is also recommended to the coordination of the English Department to create and preserve an electronic material bank to help the professors in charge of reading and writing course to assume the commitment of incorporating the teaching of learning strategies to their classes.

- ✦ Finally, it is recommended that professors or students of the English Department, particularly, of the School of English undertake a further study related to this topic, in order to explore other possibilities and variables that were not considered in this study.

APPENDIX A
STATISTIC INFORMATION OF THE CENTRO REGIONAL UNIVERSITARIO
DE VERAGUAS ACADEMIC YEAR 2001

UNIVERSIDAD DE PANAMÁ
CENTRO REGIONAL UNIVERSITARIO DE VERAGUAS
COORDINACIÓN DE PLANIFICACIÓN
CANTIDAD DE PROFESORES, POR TIEMPO DE DEDICACIÓN
SEGÚN CATEGORÍA, 2001

CATEGORÍA	TOTAL	TIEMPO DE DEDICACIÓN		
		COMPLETO	PARCIAL	MEDIO
ADJ I	1	0	1	0
ADJ II	4	2	2	0
ADJ III	2	0	2	0
ADJ IV	18	4	14	0
AGREGADO	11	6	5	0
ASIST	34	4	1	29
AUXILIAR	11	4	7	0
EVENT.	234	22	212	0
TITULAR	38	33	3	0
SUMA TOTAL	351	75	247	29

UNIVERSIDAD DE PANAMÁ
CENTRO REGIONAL UNIVERSITARIO DE VERAGUAS
COORDINACIÓN DE PLANIFICACIÓN
CANTIDAD DE PROFESORES
TIEMPO PARCIAL, COMPLETO Y MEDIO POR FACULTAD
I SEMESTRE DE 2001

FACULTAD	PROFESORES	T. COMPLETO	T. PARCIAL	T. MEDIO
Adm. de Emp y Cont.	33	7	22	4
Adm. Pública	14	4	10	0
Arquitectura	5	0	5	0
Bellas Artes	7	0	7	0
Ciencias Agropecuarias	7	1	6	0
Ciencias de la Educ.	65	7	57	1
Ciencias Nat., Ext. y Tec.	59	21	22	16
Comunicación Social	9	1	8	0
Derecho	16	1	15	0
Economía	32	9	22	1
Inform. Elect. y Com.	10	2	7	1
Humanidades	89	21	62	6
Odontología	5	1	4	0
SUMA TOTAL	351	75	247	29

UNIVERSIDAD DE PANAMÁ
CENTRO REGIONAL UNIVERSITARIO DE VERAGUAS
COORDINACIÓN DE PLANIFICACIÓN
CANTIDAD DE PROFESORES, POR TIEMPO DE DEDICACIÓN
SEGÚN CATEGORÍA, 200

CATEGORÍA	TOTAL	TIEMPO DE DEDICACIÓN		
		COMPLETO	PARCIAL	MEDIO
ADJI	1	0	1	0
ADJII	4	2	2	0
ADJIII	2	0	2	0
ADJIV	18	4	14	0
AGREGADO	11	6	5	0
ASIST	34	4	1	29
AUXILIAR	11	4	7	0
EVENT.	234	22	212	0
TITULAR	38	33	3	0
SUMA TOTAL	381	78	247	29

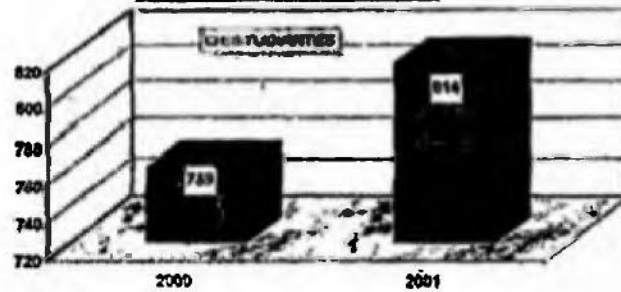
UNIVERSIDAD DE PANAMÁ
CENTRO REGIONAL UNIVERSITARIO DE VERAGUAS
COORDINACIÓN DE PLANIFICACIÓN

CANTIDAD DE PROFESORES
TIEMPO PARCIAL, COMPLETO Y MEDIO POR FACULTAD
(SEMESTRE DE 2001)

FACULTAD	PROFESORES	T. COMPLETO	T. PARCIAL	T. MEDIO
Adm. de Emp y Cont.	33	7	22	4
Adm. Pública	14	4	10	0
Arquitectura	5	0	5	0
Bellas Artes	7	0	7	0
Ciencias Agropecuarias	7	1	6	0
Ciencias de la Educ.	65	7	57	1
Ciencias Nat., Exd. y Tec.	59	21	22	18
Comunicación Social	9	1	8	0
Derecho	18	1	15	0
Economía	32	9	22	1
Inform. Electr. y Com.	10	2	7	1
Humanidades	89	21	62	8
Odontología	5	1	4	0
SUMA TOTAL	351	75	247	29

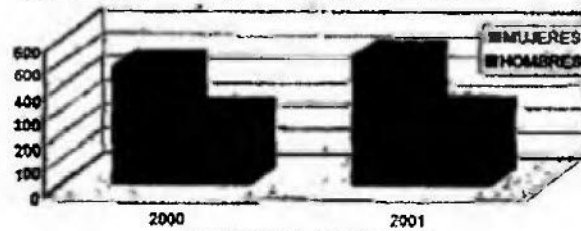
UNIVERSIDAD DE PANAMA
CENTRO REGIONAL UNIVERSITARIO DE VERAGUAS
FACULTAD DE HUMANIDADES

I SEMESTRE	TOTAL
2000	769
2001	814



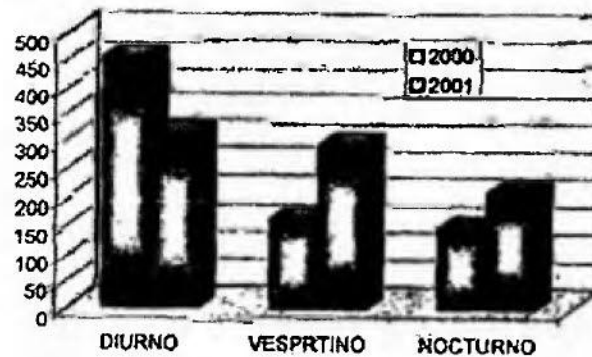
MATRICULA POR SEXO

SEMESTRE	MUJERES	HOMBRES
2000	480	279
2001	627	287



MATRICULA POR TURNO

SEMESTRE	DIURNO	VESPERTINO	NOCTURNO
2000	482	161	146
2001	313	292	209



APPENDIX B
INSTRUMENTS

PRE-TEST

UNIVERSIDAD DE PANAMA
SEDE REGIONAL DE VERAGUAS
DIRECCIÓN DE INVESTIGACIÓN Y POSTGRADO
PROGRAMA DE MAESTRIA EN ENSEÑANZA DEL INGLES

EVALUATION TEST
COMPREHENSIVE READING TEST

SCORE _____ GRADE _____

NAME _____

Available Points 25.

DATE _____

Read the following text for comprehension Use all the learning strategies and reading skills that you know, then answer the questions

- 1 // During the last decade computers have developed at such an enormous speed in terms of capacity, efficiency and versatility that they have practically 'invaded' almost each and every human domain. They have undoubtedly gone far beyond the expectations of a generation that had already lived under the spell of the TV set.
- 5 Throughout history there have been inventions that have been particularly remarkable and influential within the scope of transport, education, health or communication. They have brought out comfort, health, knowledge or power. Some of them have produced minor effects, others have brought about radical changes. Think of the invention of the wheel, the automobile or the printing press, and what about the computer?
- 10 At the beginning the computer was thought mainly as an instrument to be used in the mathematical field, but soon people from other sciences began to get interested in this little brute, that was capable of performing thousands of operations in a few seconds without getting tired or confused. They realized it could not only store millions of pages of information but also organize it in every possible way enabling man to carry out tasks inconceivable by other means.
- 15 Computers are now everywhere. They can make vehicles at supersonic speed and precision, they can control world banking transactions, predict weather conditions, conduct an air-raid or a space craft, play instruments, manage nuclear weapons. They can operate on human patients, they can transfer information from one continent to another in seconds. They can do anything. They can... Yet, thank God, they still need human beings to draw the instructions, to design the programs or to push the buttons!
- 20

- I. Give a Title to the reading and give each paragraph a title. (5 points)

Reading Title: _____

Paragraph 1: _____

Paragraph 2: _____

Paragraph 3: _____

Paragraph 4: _____

- II. Answer the following questions in your own words, be clear, precise and concise. (20 points).

1. Tell how the development of computers has occurred during the last ten years
2. Has the computer become a remarkable and influential invention? Why?
3. What was the initial use given to computers? Mention three uses given to computers today.
4. Can computers do everything by themselves? Why?

POST-TEST

UNIVERSIDAD DE PANAMÁ
SEDE DE VERAGUAS
DIRECCIÓN DE INVESTIGACIÓN Y POSTGRADO
PROGRAMA DE MAESTRÍA EN ENSEÑANZA
DEL INGLÉS COMO LENGUA EXTRANJERA

DEAR STUDENT: This test is not intended to grade you. It is only for research purposes, though it is necessary that you answer the test as if you were going to be graded. Otherwise, the results will not provide reliable information for the researcher.

Thank you for your cooperation!

Instructions: Read the text carefully and apply all the learning strategies that you know and can be applied here, then answer the questions appearing at the end of the selection.

I Even though the threat of cholera is hitting closer to home, panic is not the key word. precaution is

There are several precautions available to avoid contracting cholera –most of which people should take anyway.

II Cholera is a bacterial disease that can occur within a few hours to 5 days after exposure. It produces profuse, painless watery diarrhea and occasional vomiting. These symptoms produce dehydration, electrolyte imbalance and circulatory collapse.

If you get profuse diarrhea and are unable to resolve it, report to your medical facility. Untreated, the fatality rate may exceed 50%, with proper treatment it's below 1%. It is important to know that infection without clinical signs is even more common.

III The primary method of contracting cholera is by drinking water or eating food contaminated with feces or vomitus from infected individuals. To a lesser extent, cholera can be transmitted by ingestion of unrefrigerated food that has been contaminated. The primary problem areas are in poor countries or areas with questionable water supply and malnutrition. Vaccination is not recommended. The vaccine provides only partial protection for a short duration of time. In epidemic situations, it not only fails to prevent transmission of the infection, but also gives a false sense of security.

IV Exercise utmost care to assure a safe water supply. If going outside the city take bottled water or chemically treated or boiled water (20 minutes) used for drinking, ice, brushing teeth, cooking, uses that may involve ingestion.

Avoid raw or undercooked foods like ceviche, prawns and shellfish, which are found in shallow coastal waters. Sea food could have been contaminated during processing.

Realize that any foods with possible exposure to non-potable water like those wonderful fruits and vegetables (plantains, oranges, limes, etc.) sold by the local vendors can transmit cholera. On fruits and vegetables, contamination occurs on the surfaces and can remain for 10 days, so wash them well.

- ** Keep hands clean, and wash frequently using potable water. This is very important for food handlers and those in patient and child care.
- ** If you are out in the field, use toilet paper and dispose of feces by burial at a site distant and downstream from the source of drinking water.
- ** Control flies with screening and spraying. Dispose of garbage as soon as possible to reduce sites for breeding.
- ** Refrigerate foods immediately and cook foods well. Peel fruits and vegetables if you are uncertain of their cleanliness.
- ** Buy foods, especially fish products, from approved sources. Cholera can be transmitted by ingestion of unrefrigerated food that has been contaminated.

(Tropic Times, Sept. 27, 1991)

Taken from Phonetics for Beginners, Second Edition, 1993

A Give a title to the reading _____

Give a subtitle to each section

I _____

II _____

III _____

IV _____

B Answer the following questions, use your own words

1 What is cholera?

2 Which are symptoms of cholera and which are their consequences?

3 Tell in which ways is cholera contracted?

- 4 Is cholera a problem related to education and poor hygiene conditions, why?

NAME _____

DATE _____

APPENDIX C
LESSON PLANS

UNIVERSIDAD DE PANAMÁ
SEDE DE VERAGUAS
DIRECCIÓN DE INVESTIGACIÓN Y POSTGRADO
PROGRAMA DE MAESTRÍA EN ENSEÑANZA
DEL INGLÉS COMO LENGUA EXTRANJERA

LESSON PLAN #1

SUBJECT. READING AND WRITING	LEVEL I YEAR
TOPIC READING USING LEARNING STRATEGIES	MS GARCÍA.
TYPE OF CLASS PRESENTATION	ALLOTTED TIME 1 PERIOD OF 45 MINUTES

SPECIFIC AIM

- 1 To sensitize the students about learning strategies and how they help to understand reading material better

CLASS AIM

- 1 Students will state what are learning strategies
2. Students will explain how they use the learning strategies that they know
- 3 Students will infer how learning strategies help them to understand texts better

WARM UP

- Students will answer the following exploratory questions
- 1) What do you think are learning strategies?
 - 2) Which learning strategies can you mention?
 - 3) When can you apply learning strategies?
 - 4) Were you taught learning strategies at school?

PRESENTATION

Students will listen and participate in a 10 minutes exposition about learning strategies, their importance and their use. Students will take notes to verify their answers to the warm up questions and also to ask for clarification after the presentation.

POST-PRESENTATION ACTIVITIES

- 1 Individually, students will compare their notes versus their answers to the warm up questions, to make corrections if necessary
- 2 In pairs, students will compare and discuss their answers and their notes to make a single document
- 3 They will read aloud their conclusions to the class
4. The professor will jot down on the board all the fundamental ideas stated by each pair

FEED-BACK

- 1 The professor will highlight the key points expressed by the groups, based on the notes posted on the board

FOLLOW UP

- 1 They will write and read aloud a reaction paper about how practicing and internalizing the use of learning strategies could help them in their academic and professional life

EVALUATION

Diagnostic Exploratory questions at the beginning of the class

Formative Students' participation in class discussion

Grading A learning log about Learning strategies, their purpose and their uses in academic life

MATERIALS AND RESOURCES

Board, markers, handouts

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Aula Curso de Orientación Escolar (1998) Cultural S.A. de Ediciones
Polígono Industrial Arroyomolinos Calle C, núm. 15, Móstoles
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Learning Strategies Database strived from the web site
<http://muskingum.edu/ucal/database/notetaking.html#Organization>
in 2002

LESSON PLAN #2

SUBJECT READING AND WRITING	LEVEL I YEAR
TOPIC. READING USING UNDERLINING STRATEGIES	MS. GARCÍA
TYPE OF CLASS: PRESENTATION	ALLOTTED TIME: 1 PERIOD OF 45 MINUTES

SPECIFIC AIM

To write a good summary applying the appropriate strategies.

CLASS AIMS

- 1 To distinguish different types of underlining
- 2 To apply underlining as a reading strategy
- 3 To write a summary using the steps and strategies required

WARM UP

- Students will answer the following exploratory questions.
 - 1 What is a summary?
 - 2 How do you write a summary? Which are the previous steps that you follow to write a summary?
 - 3 What are the benefits of writing summaries of the materials that you read?

PRESENTATION

After discussing the answers given to the warm up questions, the students will listen to the teacher's explanation as follows

Summarizing is making a reading passage shorter than the original text. A good summary should be $\frac{1}{4}$ of its original length. To write a good summary, we have to follow some steps

- First, we have to read to become familiar with the text,
- Second, we have to read to look for key ideas, phrases and words,

- Third, we have to read and underline the most important or relevant information
- Finally, using the underline text, the summary is written. Even when the text in a summary is shorter than the original, it should keep coherence

Underlining literally means passing a line under, so when we signal a word, an icon, a figure or a phrase or sentence by passing a line under it, we are underlining. We also underline when we put a vertical line to any side of a large portion of text. When we put a check mark next to a text portion, when we mark a word or part of a text using an asterisk or any other graphic symbol, or when we use a highlighter, we are underlining.

We underline a text, when we find relevant information that we want to review later, when we have doubts about something and we want to question it and check it again.

POST-PRESENTATION ACTIVITIES

The group will take the reading selection "How do I Reach the Post Office" and they will apply silent reading and underlining to write a summary of the reading.

FEED-BACK

Keep in mind the following:

To underline the most important items, we should read first to become familiar with the content, later to identify main ideas and supporting ideas, the third reading should be for underlining. The underlined text should be used as the base to write the summary.

FOLLOW UP

2. They will read the original text again at home, they will write the summary again. They will compare the second version to the original version and will explain the differences, they will explain what did they do to write the second version that they did not use to write the first version.

EVALUATION

Diagnostic: Exploratory questions at the beginning of the class

Formative: Students' participation in class discussion

Grading: A learning log about writing summaries, with the following entries: how my concept of summary has changed and how I think it can help me in my academic life

MATERIALS AND RESOURCES

Board, markers, handouts, text books

BIBLIOGRAPHY

Aula Curso de Orientación Escolar (1998) Cultural S. A. de Ediciones
Polígono Industrial Arroyomolinos Calle C, núm 15, Móstoles
Madrid-España Pp 404

Interactions 1 A reading skills book. 1999 McGraw-Hill

Learning Strategies Database strved from the web site
<http://muskingum.edu/ucal/database/notetaking.html#Organization>
in 2002

LESSON PLAN #3

SUBJECT: READING AND WRITING	LEVEL: I YEAR
TOPIC: READING USING SCHEMAS	MS. GARCÍA
TYPE OF CLASS PRESENTATION	ALLOTTED TIME: 1 PERIOD OF 45 MINUTES

SPECIFIC AIM

To use schemas to present the most important information found in a reading selection.

CLASS AIMS

1. To define what is a schema
2. To distinguish different kinds of schemas.
3. To represent important information found in a reading using a schema

WARM UP

- Students will answer the following exploratory questions:

Students will be shown a synoptic chart, a concept map, an outline and a chart, then, they will be asked to point out the ones that they consider as schemas

PRESENTATION

The class will be explained that a schema is a graphic way of presenting information in an organized, logical, clear and precise way

- The following are types of schemas.
 - synoptic charts (using braces, brackets, numbers, or letters, or a mixture of all the elements previously mentioned).
 - Flow Diagrams (iconic representations structures, systems, or processes).
- Graphic and Conceptual Schemas

POST-PRESENTATION ACTIVITIES

The group will use the summary that they made of the previous reading material to make a schema. They will use the kind of schema they like best.

They will compare the schemas with their peers.

The whole class will develop a single schema on the board.

FEED-BACK

The facilitator will answer the students' questions.

FOLLOW UP

The students will bring for next session a schema of the reading "The Secrets of a Very Long Life".

EVALUATION

Diagnostic: Exploratory questions at the beginning of the class.

Formative: Students' participation in class discussion.

Grading: A schema applying the steps discussed in class.

MATERIALS AND RESOURCES

Board, markers, handouts, text books

BIBLIOGRAPHY

Aula Curso de Orientación Escolar (1998) Cultural S.A. de Ediciones
Polígono Industrial Arroyomolinos. Calle C, núm. 15, Móstoles
Madrid-España. Pp. 404

Interactions 1. A reading skills book. 1999. McGraw-Hill

Learning Strategies Database derived from the web site
<http://muskingum.edu/ucal/database/notetaking.html#Organization>
in 2002

LESSON PLAN #4

SUBJECT	READING AND WRITING	LEVEL	I YEAR
TOPIC	READING USING CONCEPT MAPPING	MS	GARCÍA
TYPE OF CLASS	PRESENTATION	ALLOTTED TIME	1 PERIOD OF 45 MINUTES

SPECIFIC AIM

To make accurate concept maps

CLASS AIMS

- 1 To define what is a concept map
- 2 To identify the steps to do a concept map
- 3 To do a concept map representing accurate and important information

WARM UP

- Students will answer the following exploratory questions
- 1 What is a concept map?
 - 2 How do we do concept maps?
 - 3 Have you ever been taught to do a concept map?
 - 4 What do you think a concept map is useful for?

PRESENTATION

The facilitator will explain to the group that a concept map is a type of schema that gives a holistic view of a topic in hierarchical order. In concept maps, the important concepts are enclosed in circles or bubbles joined by lines called connectors.

Before making a concept map, it is important to read the text twice or three times, and underline the most important ideas or concepts.

POST-PRESENTATION ACTIVITIES

The group will read silently the *Secrets of a Very Long Life*

After reading they will highlight the most important ideas

They will make a list of the most important concepts. At the side of the important concepts, they will write a list of connectors found in the reading.

In pairs, they will do a concept map explaining the reading *The Secrets of a Very Long Life*

FEED-BACK

The facilitator will solve the students doubts. She will also answer questions

Using a chart, the facilitator and the students will review the steps to make a concept map

Finally they will observe and will identify the main features of a concept map

FOLLOW UP

Students will review and refine their concept maps at home to turn them in the next session.

EVALUATION

Diagnostic. Exploratory questions at the beginning of the class.

Formative. Students' participation in class discussion

Grading Post test

MATERIALS AND RESOURCES

Board, markers, handouts, text books

BIBLIOGRAPHY

Aula Curso de Orientación Escolar (1998) Cultural S.A. de Ediciones
Polígono Industrial Arroyomolinos Calle C, núm. 15, Móstoles
Madrid-España Pp 404

Interactions 1 A reading skills book. 1999 McGraw-Hill

Learning Strategies Database strived from the web site
<http://muskingum.edu/uca1/database/notetaking.html#Organization>
in 2002

APPENDIX D
SAMPLES OF THE STUDENTS' WORK

How can I get to the post office

name: Sabana Sdenz A.

cell - 2-712-1606

Date - June, 12th of 2001

I have a special rule for travel: (1) I prefer to ask for directions. I never carry a map.

Foreign tourists are often confused in Japan because most streets there don't have names. In Japan, people use landmarks in their directions instead of street names.

In the countryside of the American Midwest, there are not usually many landmarks. Instead of landmarks, people will tell you directions and distances.

People in Los Angeles, California, have no idea of distance on the map. They measure distance in Los Angeles in time, not miles.

People in Greece sometimes do not even try to give directions because the tourist seldom understands the Greek language.

Sometimes a person doesn't know the answer to your questions, you might not understand (the person's body language) a person's words, but you can probably understand the person's body language.

Good Job!

Summary Growing Young

Many people are middle-aged, forty to sixty years old. They worry about their health. Some middle-aged people are afraid of old age. They don't want to be old, sick and alone. More and more athletes are still playing sports when they are middle aged, and they're playing well. Their focus aren't young. They have gray in their hair, but they are healthy and strong. Geriatricians are learning how people might be healthy at any age. First, it's important to exercise. Second, people need to exercise the mind. Third, people need to eat a lot of vegetables and fruits. Fourth, everyone needs to relax. If you think you're over the hill, you should look around your neighborhood.

Marlene Carnejo

9-715-2392

Session 3

June 12th, 2001.

Well Done!

LOW WEST
WAS CONQUERED

1860-1870 } - FARMER AND FARMER
WORKERS FROM ENGLAND,
IRELAND, AND THE SCANDINAVIANS

(CONCEPT OF MAP.)
SCHEMATA SYNOPSIS CHART

1880 } - IMMIGRATION FROM NORTHERN
AND WESTERN EUROPE
(ALTHOUGH THE 1880 MOST OF
THE IMMIGRANTS STILL
CAME FROM NORTHERN EUROPE)

HERE THE INDUSTRIALIZATION THERE
WAS PROVIDING MORE JOBS EVEN AS
THE BRIT THERE WAS FALLING.

1900 } - IT WAS SOUTHERN AND EASTERN
EUROPEANS WHO PREDOMINATED
- PRICE FOR EXPORT FARMING GOODS
WAS DROPPING AS AMERICAN
AND AUSTRALIAN COPS FLOODED THE
MARKET.

- ITALY WAS PLAGUED BY POOR
SOIL, FAMINE AND DROUGHT.

THERE WAS LITTLE OPPORTUNITY FOR
EDUCATION AND FEW FARMERS OWNED
THE LAND THEY WORKED

- FINALLY EUROPEANS MORE READILY
WENT TO AMERICA BECAUSE TRAVEL WAS
LESS DANGEROUS, AND DROUGHT LESS
COSTLY THAN IT HAS BEEN BEFORE
IN THE NINETEENTH CENTURY.

RODOLFO TRONTO

9-713-540

118-2524

The basis for America's cultural variety in the nineteenth Century.

immigrant population changed dramatically

beliefs and backgrounds

Education, Jobs
religious beliefs

Economic Problems

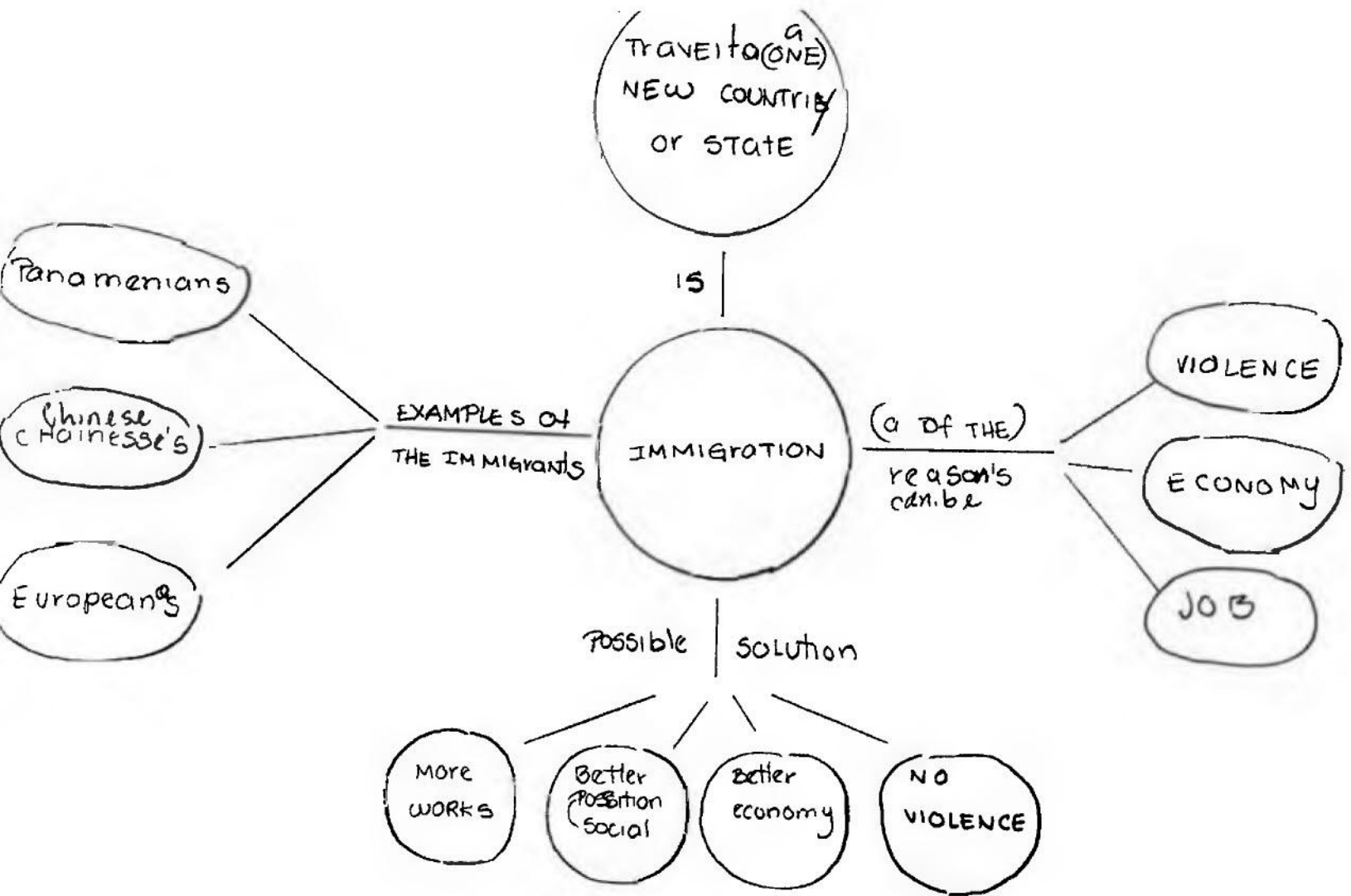
Drought, Crop Failures, famine

(which was plagued by) poor soil

In addition to economic reasons (are)

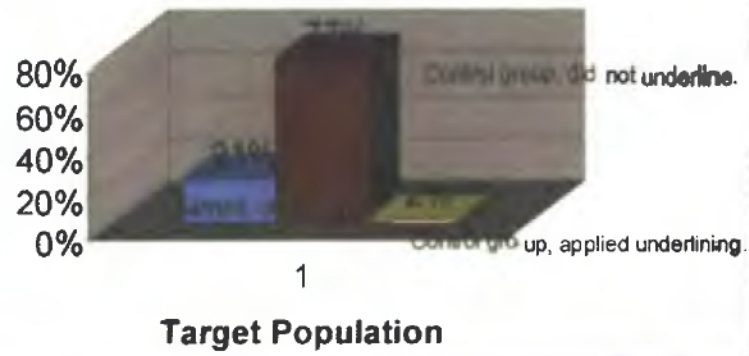
escape, persecution for their religious and political beliefs.

undertook the voyage in the steamship with the peoples..



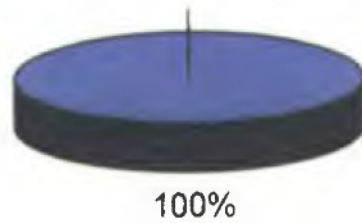
APPENDIX E
CHARTS

Results of the Pre Test



Answer to the second question.



Answer to the third question.

■ Yes

Answer to the third question.■ Yes
■ Maybe

Results of the Treatment Group in the Post Test



Results of the Control Group in the Post Test



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[http //curry.edschool.virginia.edu/go/readquest/strat/summarize.html](http://curry.edschool.virginia.edu/go/readquest/strat/summarize.html)