THE APPLICATION OF READING STRATEGY INSTRUCTION AND ITS EFFECTS ON THE PRE-PROFESSIONAL TRAINING

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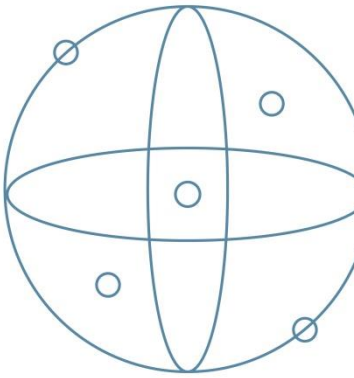
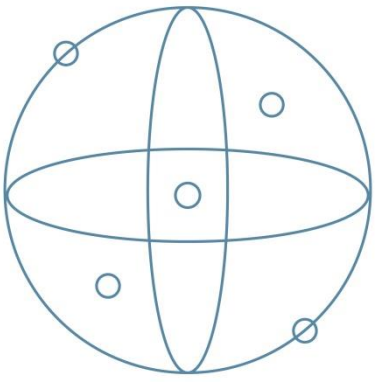
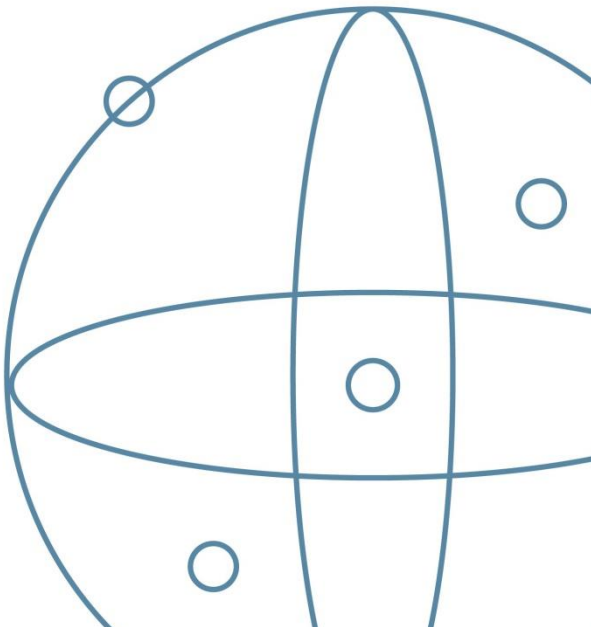






FOREWORD

The purpose of this research was to establish the students' use of Reading Strategies at the School of Medical Sciences to acquire competence in medical English. This work used Oxford's (2011) taxonomy as the foundation for its theoretical frame. This field research was done by means of the Survey of Reading Strategies, an English Reading Motivation Questionnaire, as well as the Background information Questionnaire to collect the students' information. The research focused on these aspects: a) The use of Metacognitive Strategies, b) the use of Cognitive Strategies, c) The regulation of the affective dimension d) the use of Socio-intercultural strategies. The interpretation of the data revealed that the students did not use enough Metacognitive and Cognitive Reading Strategies, such as analyzing and evaluating the information presented in texts, underlining, highlighting, paraphrasing, and inferring. The students did not regulate their negative affective states, such as anxiety or wrong beliefs, and lacked intrinsic motivation. According to the Social Cognitive Theory (Bandura, 1989), if learning strategies are not practiced often enough, they cannot be retained. Following the application of Reading Strategies, the 25 students from the Experimental Group turned into active readers. Such change was measured quantitatively and qualitatively. The positive findings on reading comprehension improvement, strongly suggest that Reading Strategy Instruction should be included in EFL English lessons to help the learners become independent readers.

INTRODUCTION

It is important to point out that part of the Cognitive Strategies is the metacognitive knowledge or awareness, which is the knowledge the learner' should have about themselves, the activity they are doing, and the strategies they use (Baker & Brown, 1984). To apply metacognition in the language learning field it is necessary that the students understand its key points: planning, organizing, monitoring and evaluating (O'Malley and Chamot, 1990). In fact, several researchers: Carell (1988), Sheorey and Mokhtari (2001), sustain that to make reading strategies effective in the reading process, metacognition needs to be used, which involves not only knowledge, but also control of this knowledge. As a result of this positive outcome between metacognitive strategies and reading comprehension, researchers such as Carell, Pharis and Liberto (1989) found that metacognitive strategy teaching was effective based on statistical noteworthy evidence from increasing achievement scores in post-tests.

Effective reading usually resorts to metacognition, as Baker and Brown (1984) point out, learners who take advantage of metacognition adjust their reading rate, skim to identify the main ideas of a text, monitor their reading process and evaluate the effectiveness of cognitive strategies for a specific purpose. The difference between skilled readers and less skilled readers lies in how much they are self-regulated and the use of metacognitive strategies to monitor comprehension. It can be assumed that less skilled readers are less strategic mainly because they fail to monitor elements that positively affect comprehension during the reading process.

The findings determined that metacognitive training not only improved learners' metacognitive awareness, but also made reading English more gratifying because the learners gained control over their reading process, and the results were long-lasting (Carrell et al., 1989). On the other hand, if only cognitive training is instructed, the improvements tend to be short-term in EFL learners' performance. It can be concluded that the most favorable scenario for metacognitive reading strategy instruction is to hope that it can turn EFL students into regulators of reading strategies so that they can use reading strategies selectively and flexibly according to the different tasks they are faced with.

Despite these convincing discoveries of metacognitive reading strategy instruction in the USA, sadly research shows that most of the English teachers still rely on the Grammar Translation method through which grammar structures and vocabulary are emphasized, only reaching the linguistic aspects of learning by drilling grammatical rules and the memorization of vocabulary which prevents the students from developing critical thinking skills as well as

positive attitudes towards English reading, (Chern, 2003; Cheng, 1998). From the affective point of view, this teaching method makes the students feel frustrated when it comes to reading in English as they spend most of their time checking meanings from dictionaries and analyzing sentence structure, activities that do not foster meaning from reading. As a negative result, the learners lose interest in reading after so much time and effort has been spent, and turn into unskilled readers who depend on bilingual dictionaries. From the psychological point of view, these negative feelings make the learners avoid reading in English as it gives them a sense of helplessness.

It is a well-known fact that the lingua franca of medicine is English, which is employed by doctors, nurses and other medical groups in writing medical papers, reading medical journals which are published in English, and to communicate with each other (Yang, 2006). Therefore, medical students, clinicians and researchers whose native language is not English need to learn it to benefit from the large body of medical knowledge that is published in English, and to be able to use English for their own professional development. From observations done by the researcher, a large percentage of medical students at the University of Guayaquil have poor English language proficiency, especially in ESP (see Appendices Q and R). The lack of a curriculum, which was only completed when the semester was over. English professors, who, by early 2017, had not proved to have the B2 level or a master's degree in TEFL, and the absence of relevant training in strategy instruction. Thus, most of the professors were unfamiliar with the use of English reading strategies that have the potential to improve their reading fluency.

Motivational factors of English reading is an important feature of this project because research findings suggest the learners' affective factors, such as intrinsic motivation, self-esteem and self-efficacy have the potential to contribute with positive English reading achievement (Dornyei, 2001; Griffiths, 2004). Lately, in Ecuador English has turned into a subject matter for tests. As a result, English is being taught emphasizing testing EFL students' knowledge of vocabulary and grammatical structures, which is another source of frustration for the students exerted by the pressure of constant tests. This has made English learning neither meaningful nor enjoyable, but a constant sequence of futile experiences mainly due to ineffective strategy use, which makes reading in English a demoralizing activity. If EFL learners are given the opportunity to learn reading strategies and are made aware of the reading process, they will become more effective readers who derive positive feelings of confidence in their English reading ability, which in turn will motivate them to read extensively.

In an EFL context the opportunities that EFL learners read English materials is a constraint that is not usually found in ESL learners in English speaking countries. It is for this reason that English reading abilities and skills should be developed:

- The students need to rely on written texts as a major source for language input for English learning due to the limited number of classroom contact hours per week they have
- Most information is stored in computerized worldwide database in English, which makes it one of the major languages in the world.

According to Griffiths (2004), reading is actually a useful strategy for language learning because it develops vocabulary and grammar usage, thereby supporting the development of both receptive skills (reading and listening) and productive skills (speaking and writing). On the other hand, reading skills learned in EFL students' first language will not necessarily be transferred to EFL students' foreign language (Hassan et al., 2005; Farrell, 2009). Hence the necessity for reading strategy instruction in the EFL program of the Schools of Medical Sciences.

The structure of this project is made up of the following chapters:

- The first chapter is made up of the problem statement, the objectives, and the justification. The delimitation of the research and its scope; as well as the research variables.
- The second chapter describes the theoretical framework and concepts which are the basis of this study.
- The third chapter presents the methodological aspects that were used in this type of research, the variables, the population, the instruments for the data collection, and the procedures that were carried out for the development of this investigation. The research instruments are described (class observations, surveys and interviews).
- The fourth chapter includes the data analysis of the results obtained in the data collection process.
- The fifth chapter establishes the conclusions and recommendations that were generated throughout the research.

Rationale of the Study

Due to the fact that experimental studies regarding the application of reading strategies to the students of medical sciences in Ecuador in EFL contexts are limited, the literature review of this project provides the background knowledge necessary to find out the

impact of reading strategy instruction on reading strategy awareness, reading comprehension, and reading motivation. The theoretical framework that guided this project was: (1) reading, (2) reading processing models (3) reading strategies, (4) contextual frame.

It is necessary to point out that the vast majority of the research in English as a Foreign Language reading mainly comes from English as a First Language. As a result, the study done in this area has a relevant place in the sense that this research strongly suggests that explicit instruction in meta-cognition has improved comprehension (Baker, 2002; Cohen, 2003; Duffy, 2005, Grabe, 2004). Although the interactive perspective of reading theory suggests that in order to read effectively, learners either use top-down or bottom-up strategies; besides, reading also depends on the reading situation, task and the text (Bernhardt, 1991). The interactive perspectives inform us that fluent readers simultaneously apply higher and lower order skills to comprehend and apprehend text. Pressley and Afflerbach's (1995) theory of responsive reading emphasizes the interaction between the reader and the text, which means that in order to comprehend, readers need to control their use of strategies through monitoring, and the reader must apply top-down and bottom-up strategies to construct meaning. Thus, due to the fact that more able readers take advantage of metacognition more often and more effectively than the less able readers, it can be concluded that if the strategy is instructed by the teacher and learned by the student, a simultaneous increase in reading comprehension would be the natural outcome.

Therefore, reading strategy instruction should make learners aware of a number of reading strategies, and metacognition should in turn guide them to when and how to use these strategies as effectively as possible, and most of all, help the readers to regulate their reading behavior and processes in terms of affective strategies. According to Devine (1993) if learners are not aware of their own limitations as readers or of the complexity of the task, then they cannot be expected to take actions to anticipate or recover from difficulties.

CHAPTER 1
THE PROBLEM

1.1 Problem Statement

The vast majority of the students of the School of Medical Sciences have learned English at high school for many years; however, their previous knowledge of the language is not enough to study medical English as evidenced in diagnostic test results (see Appendix Q). For this reason, it is necessary to do research to find out which strategies are being misused, or not used. It is noticeable that a great number of the students of the School of Medical Sciences do not use enough reading strategies before, during, and after reading medical articles.

It is important to take into account that according to the Registrar's Office of the School of Medical Sciences at the University of Guayaquil, the vast majority of the students come from the farming rural areas or government run schools where English is a subject that is given very little importance. According to the survey done by the researcher for the school year 2016-2017, the percentage of students whose grades are on the border passing limit reaches 40% as evidenced in the students' grades (see Appendix R). This is of great concern because learning is superficial, and it does not fulfill the expectations of knowledge and abilities that a health professional should have. Taking into consideration that these professionals not only take care of the health of the general population, but they also save human lives (Reid, W. A., Duvall, E. & Evans, P., 2007).

1.2 Causes and Consequences

From observations and interviews done by the researcher, the following causes and consequences have been found:

Table 1.1

Causes and Effects of the Problem

Causes	Consequences
The English professors lack of knowledge of reading strategies directed to develop language competences in EFL medical students	The students do not have awareness of reading strategies
Lack of students' awareness of the need of English as a basic professional tool	Lack of students' interest in learning how to comprehend Medical English
Lack of students' awareness of the role of Medical English in their future career	The students have no clear objectives to learn English
Inconsistent intervention and related praxis regarding the reading instruction in the students and professors	The students have little capabilities for analysis, reasoning, comprehension and problem solving skills
Lack of enough knowledge of the socio-cultural dimension regarding the proper identification of specific contexts when reading medical articles.	The students do not take full advantage of the opportunities to interact with their classmates, and the reading texts to identify the context in which texts are written.

Note: Prepared by the author, 2017

1.3 Purpose of the Study

The first purpose of this study is to examine the effects of integrating reading strategy instruction on EFL students of medical sciences and their achievement on the Reading Comprehension tests.

The second purpose of this this project is to explore the views of EFL students of medical sciences about the application of reading strategies in their professional training.

1.5 Justification

The main practical justification of this research project is related to the lack of reading comprehension skills observed in the students of medical sciences due to the lack of reading strategies. Another justification is the life-long learning process that every health professional in the area of medicine should have. Gaining good reading skills in English have become beneficial for university students even in non-English-speaking countries since many professionals and academic materials are published in English and not in their native

languages (Alderson, 1984). Carrell (1988) also informs us that non-native language learners rank reading at the top of their necessary skills list, even ranking it above writing, listening and speaking. Reading comprehension ability is directly correlated to the learning process, and it can be assumed that the quality of learning depends on how well an individual understands written material. Because learning is a cumulative process, every time the students read, they are constructing and integrating knowledge that is contextualized in their lives.

Besides, postgraduate students in all fields of study need to be proficient in English because without this knowledge the professional development that is urgently needed in Ecuador will turn into an impossible task. What is more, the Ecuadorian government believes that by implementing EFL language policies, university students will reach the desired B2 level that in turn will bring economic prosperity. With this communicational resource, Ecuador will be able to compete in a globalized society especially now that economic treaties with the European Union are taking effect.

Research concerning Reading Comprehension Strategies has been done worldwide in the last forty years, and it is aligned with the Constructivist authors, which implies a change to the Behaviorist Approach, that has proven to be resistant to change. The Constructivist paradigm is directed to the students' self-regulation, so that they can manage their learning, and for this reason it is necessary to instruct the students in learning strategies that allow them to have the necessary implementation in various dimensions: affective, cognitive and socio-intercultural. In this way, learning English for Specific Purposes will become a supporting tool for their continuous professional development.

Reading Strategies research has accumulated a vast critical mass of

knowledge in relation to the use of the most appropriate strategies; it is important to reflect and put into practice all this knowledge by means of the application and evaluation of such strategies as useful alternatives for the students of medical sciences. Reading Strategies have an important role in human beings, especially in young adults, as they promote, facilitate, and bring forward comprehension of reading. At the same time, they provide a feeling of achievement, self-realization and self-esteem that helps the learners to regulate their emotions, the students are able to work with a sense of purpose to achieve their own self-imposed objectives and be successful in life.

Reading Strategies involve a great variety of techniques that the students at university level will be able to acquire with the professor's help. As learners are the main

agents of their learning, they choose which are the most suitable according to their immediate needs. It is expected that in little time the students will understand that the direct effect of their effort is academic success. These strategies need to be internalized as important tools for problem solving that effectively deal with the complex process of reading, which in turn will generate great benefits, as the students will be able to learn and transfer their knowledge to activities outside the protected environment of the classroom. As a result of this, the role of the English professors will be even more relevant than that of knowledge providers; they will begin to be perceived as facilitators, guides, mediators, and counselors, and thus, the students will feel motivated to learn more.

It is clear that although Reading Strategies facilitate the learning process in many dimensions; their purpose is even more meaningful as they will help the students beyond the regular contact hours with the professors to achieve personal goals that may be even more significant. This project is also justified when it establishes the basis for the students of medical sciences to improve their knowledge of English for a Specific Purposes (ESP) so that they can read and comprehend, be updated in medical knowledge, and excel in their professional performance. An experimental study was started and later was followed up with group interviews to identify the effect of metacognitive reading strategy instruction first quantitatively in order to look for general causes and changes and later qualitatively for the purpose of finding out the potential benefits of reading strategy instruction on EFL students' of medical Sciences.

1.6 Research Questions

In order to answer the research questions, this project has been designed in such a manner that it follows a sequential mixed-method research design. Using a mixed-methods research design, allowed the collection of comprehensive results in terms of the impact of reading strategies on EFL medical students' English reading comprehension. To fulfill this challenging model, the researcher resorted to three quantitative research questions and finally to two qualitative research questions.

1. Does reading strategy intervention affect EFL medical students meta-cognitively, cognitively and affectively in their perception about reading?
2. Does metacognitive and cognitive reading strategy intervention develop medical students' reading comprehension?
3. Does the effective metacognitive and cognitive strategy training depend solely on the perceived level of L2 linguistic ability?

4. What factors have contributed to EFL medical students' positive or negative attitudes, beliefs and values towards reading?

5. In what way does metacognitive and cognitive strategy intervention help current and future EFL English reading instruction at university level?

1.7 Objectives

1.7.1 General.

- To analyze the application of reading strategies instruction, and determine their incidence on academic achievement regarding reading comprehension in Medical School students at the University of Guayaquil, year 2017 - 2018.

1.7.2 Specific.

- To seek out medical students having reading comprehension trouble, and their flaws when they do research through English medical texts.
- To analyze the training process on the students who are less successful in reading by means of reading strategies directed to Medical English to improve their comprehension level.
- To identify the scope and the effects of reading strategy instruction on the medical sciences students' reading comprehension, reading strategy awareness, and reading motivation.

1.8 Hypothesis

For this project, the researcher has outlined the following hypothesis:

The students who have been trained on reading strategies will have higher scores on the post-tests compared to the students who have not been trained.

1.9 Research Variables

Independent Variable

Reading strategies on EFL students of the School of Medical Sciences.

Dependent Variable

The effects of the reading strategies on students, evidenced on the post-test scores.

1.10 Operationalization of the variables

Table 1.2
Operationalization of the Independent Variable:

Independent Variable	Definitions of Concepts	Indicators
Application of Cognitive and Metacognitive Reading Strategies	The way in which the readers consciously and purposefully use strategies to evaluate and regulate their understanding in the text, which contributes to text comprehension, and help them in their academic achievement.	Identification of strategies that are necessary for a specific purpose. Application of reading strategies. Reading Comprehension abilities. Use of self-evaluation. Higher levels of cognition and metacognition.

Note: Prepared by the author, 2017

Table 1.3
Operationalization of the Dependent Variable:

Dependent Variable	Definitions of Concepts	Indicators
The effects of the reading strategies on reading comprehension evidenced on the post-score tests.	Ability to understand effectively written text by using cognitive and metacognitive reading strategies that allow the learners to comprehend	Percentage increase of reading comprehension. Improvement in the scores of reading comprehension. The higher use of reading strategies motivates students.

Note: Prepared by the author, 2017

CHAPTER 2
LITERATURE REVIEW

The theoretical framework that guided this project was: (1) reading, (2) reading processing models (3) reading strategies, (4) contextual framework.

2.1 Reading

Reading is probably one of the most demanding cognitive processes that human beings need to deal with on a daily basis.

In the 1970's the psycholinguistic model of L2 reading, was first viewed as a procedure in which the reader retrieved background knowledge a uses suitable strategies, such as contextual clues, inferencing, and text previewing (Coady 1979). However in the 1980's and 1990´s cultural background was added as an important component, and all these elements needed to interact with the written text, at the level of remembering, recalling and understanding, which in turn can lead to meaningful learning. On the other hand, reading metacognition in the form of planning, setting reachable goals, monitoring and evaluating, was another breakthrough that was recognized as an important element of reading. Further research incorporated the contextual elements that influenced the reading act (Flavell 1979). The difference between skillful readers and beginner readers is that the first group used more metacognitive strategies than the second group. These metacognitive strategies included: planning, using a variety of strategies according to the need, monitoring and evaluating (Paris and Jacobs 1984 as cited by Magogwe, J. M., 2013)

2.2 Reading Processing Models

The researcher's academic stance is based on the interactive model of reading, which prioritizes the interaction of both the reader and the text to the reading processes, and the interaction between bottom-up and top-down. Therefore, it is necessary to identify that there are three major reading models proposed from L1 reading research that have been transferred to L2 reading theory. Alderson (1984) and Eskey (2005) assert that readers seem to go through a similar cognitive processes, and the most important aspect is to identify how meaning is attained from printed or electronic materials.

2.2.1 The bottom-up model.

According to Gough (1972), learners start reading by recognizing letters, words, and then they gradually progress toward larger essentially word-based phrases, in this way readers convey meaning of a reading passage by means of decoding each word. Because this model is mostly centered on individual isolated words, rapid word recognition is

essential to the bottom-up model approach, as van Duzer (1999) points out. This model defends the posture that the students who can master this process become proficient readers. Nevertheless, learners who are not successful at decoding words become struggling readers, and their proficiency is constantly interrupted by their inability to decode. In contrast to the previous authors, Pressley (2000) alleged that skilled decoders are able to recognize frequent letter chunks, prefixes, suffixes, and foreign root words rapidly and such ability could free more memory capacity in the brain for reading comprehension; whereas, less skilled readers put more effort into decoding words which leaves less processing capacity in the brain for reading comprehension. Breznitz (1997) cited in Pressley (2000) also believed that decoding improved reading comprehension.

According to Grabe and Stoller (2004, p. 32), the bottom-up model suggests that all readers follow a mechanical and predictable model in which the student creates translations piece by piece from the information in the text, with almost no interference from the reader's own background knowledge or schemata. Besides this, word by word process has the flaw of becoming a laborious task not only because short-term memory is overloaded, but also because long-term memory and working memory are downplayed, and according to Adams (1990) readers often forget what they have read when the reading task has finished, with very little comprehension as a final product. Thus, readers may only remember isolated facts without integrating them into interrelated understanding, which hindered critical thinking, consequently, working against intrinsic motivation to read extensively on a regular basis.

Therefore, the critics of this model point out that there are more elements involved in this process, such as the reader's active role and the background knowledge. The linear nature of this model: letters-words-sentences of this model reduces the scope of the reading process, which discourages the top-down perspective that takes place during reading. However, it is fair to mention that this was the reading approach that was mostly emphasized during the Behaviorist model in which the use of dictionaries was a common and mandatory practice.

Nassaji (2003) in a sixty-adult ESL learners' study in Canada concluded that lexical knowledge was strongly correlated with L2 reading comprehension. It is also fair to mention that reading in a foreign language needs socio-cultural knowledge of the context, which suggests that although vocabulary knowledge is necessary, there are other sources of knowledge that are necessary, such as the development of appropriate reading strategies.

2.2.2 The top-down model.

The top-down model is a “notion” that takes advantage of the readers’ background knowledge and expectations, which guide them to convey meaning from a reading text. Eskey (2005) states that the top-down model is a process that goes from the brain of the reader to the text. Readers begin with a set of expectations about the reading text derived from their prior knowledge and use the vocabulary knowledge they have to decode words to confirm and modify their starting expectations (Aebersold & Field, 1997). In the top-down model decoding word by word does not have any meaning, it is the reader who constructs the meaning of the text by fitting the new information to his/her background knowledge or schemata.

Smith (2004) who also favors the top-down model informs that readers play an active role in the process of translating print into meaning by using knowledge of a language, knowledge of the subject matter, and knowledge of how to read to confirm or reject their hypotheses. Cohen (1991) calls this process “sampling of the text”, he maintains that a reader does not necessarily read all of the words and sentences in the text, but rather chooses certain

words and phrases to comprehend the meaning of a text. Thus, the top-down model focuses mainly on skills such as predictions and inferences, as well as guessing from context, and getting the gist of a text, in which higher order thinking is involved.

For critics of this model, such as Eskey (1973) and Pearson (1979) there is an over-reliance on a reader’s background linguistic and conceptual knowledge, and neglect the importance of the text itself. The top-down model also overlooks the possible difficulties of guessing and predicting the topic of a text if the topic is unfamiliar to the reader (Samuels & Kamil, 1988). Thus, socio-cultural aspects may also be involved in the reading process that need to be addressed so as avoid misunderstandings.

Due to the fact that the top-down model takes into consideration that L2 readers may fail to understand a text if they do not possess the appropriate cultural knowledge embedded in it, over-reliance of top down strategies at the expense of word identification skills may not fully lead to comprehension. Limitations regarding cultural knowledge may cause serious distortions of the text meaning if the reader relies excessively on guessing from context and prediction (Eskey, 1988). It is a well-known fact that during the reading process the readers’ linguistic knowledge, personal experiences, and knowledge of the textual structure connect interactively to achieve comprehension. Alderson (2000) also emphasizes the fact that “the whole reading process is not a selection between bottom-up and top-down models, but

involves a close relationship of both approaches" (p. 38).

2.2.3 The interactive model.

The interactive model shares features of both bottom-up and top-down models, and emphasizes the interrelationship between a reader and the text. Rummelhart (1977) introduced the interactive model in which he emphasizes the fact that there is an interaction between bottom-up and top-down processes, and this model advocates that neither bottom-up nor top-down models can solely explain the whole reading process. He also informs that both sensory and non-sensory aspects come together at one place and the

reading process is the by-product of simultaneous joint application of all the knowledge sources (Rummelhart 1977, p. 735). Grabe (1991) goes beyond by affirming that the interactive theory of reading takes into account critical contributions of both lower-level processing skills such as word identification and higher-level comprehension and reasoning skills, such as text interpretation. Thus, reading comprehension is a result of meaning construction between the reader and the text, rather than a simple translation of the graphic information in the reader's mind (Eskey, 2005).

Skillful readers simultaneously are able to process the information available to them from several knowledge sources of either bottom-up or top-down reading, but not just that. According to Stanovich (1980), readers also take advantage of compensation strategies that aid the interactive model. He proposes that when readers lack the appropriate content schemata for certain texts, they rely on the bottom-up processes to compensate for the necessary background knowledge, and the opposite occurs when the readers lack the necessary bottom-up skills necessary for the comprehension of a text, resorting to high level processes. This compensation explains why poor readers tend to resort to high level processes more often than skilled readers, mainly because the top-down processes seem to compensate for the lack of ability of poor readers (p. 5).

Due to the fact that foreign language learners find challenging to understand the context because of limitation regarding knowledge of language and cultural unfamiliarity, most L2 reading specialists support the interactive reading model (Eskey, 2005). Bernhardt (1991), who also agrees with this view, declares that L2 reading is both text-driven and knowledge driven processes that operate simultaneously with varying degrees of subjective success. The text-driven factors consist of word/recognition, phonetic decoding, and syntactic feature recognition; whereas, knowledge-driven operation involves inter-textual driven operations, meta-cognition and prior knowledge. The combination of these factors contributes to successful L2 reading.

Supporting this model, Cook (2001) and Nassaji (2003) point out that even though readers may know all the linguistic aspects of vocabulary and grammar, there are occasions in which foreign language learners still cannot comprehend a text meaning even though compensation is applied. The reason seems to be the lack of social-cultural knowledge, thus background knowledge in addition to lower-level processing are perceived as other critical factors that need to be developed as part of the reading process. Background knowledge influenced by cultural schemata, strongly facilitated the reading comprehension process. Besides, familiarity with the text structure (formal schemata) aided in this reading development (Razi, 2004 & Pritchard, 1990). Carrell (1985) also points out that formal schemata is related to the readers' expectations about how information in a text is organized, which has been recognized as another important factor for comprehension.

2.3 Reading Strategies

Singhal (2001) defines reading strategies as behaviors taken by the learners to plan, arrange, and evaluate their own learning. Such strategies include: directed attention and self-evaluation, organization, setting goals and objectives, seeking practice opportunities, self-monitoring, and correction of errors. The definition and classification of reading strategies is also conceptualized in terms of the classification of language learning strategies by Oxford's Strategy Learning Inventory as cognitive, metacognitive, memory, affective, compensation and social strategies (Cano, 2009). However, according to Anderson (1991), it is not sufficient to know about strategies; a reader must also be able to apply them strategically.

2.3.1 Cognitive reading strategies.

According to Oxford (2011), cognitive strategies take advantage of the use of the senses to manipulate the language in order to convey meaning. Such strategies include visualizing, note-taking, summarizing, paraphrasing, predicting, analyzing, using context clues, and going beyond immediate data. She points out that these strategies could be considered as the construction workers who build mental frameworks or schemata that construct automatic

structures. Cognitive strategies can help in the construction of L2 language and culture; however, cognitive strategies need the direction of metacognitive strategies for guidance and supervision.

Cognitive reading strategies aid the learner in putting together, expanding, transforming and combining knowledge of the language and culture. Cognition can be

broadly defined as knowing, and can include aspects such as awareness, perception, and reasoning.

The self-regulated model of Oxford (2011) for cognitive reading strategies include:

- Using the senses to understand and remember.
- Activating knowledge.
- Reasoning.
- Conceptualizing in detail.
- Conceptualizing broadly.
- Going beyond immediate data.

The reading models incorporate various major findings from research on schema theory, which essentially described as a sort of prior knowledge that readers use to put the information from the text in perspective, so as to better comprehend it. Anderson and Pearson (1984) defend that schema is an abstract knowledge structure. In this respect, schema contains the learner's knowledge on a certain topic. Cohen (1991) described three types of schemata: a) content: subject and culture, b) language: vocabulary, syntaxes, spelling, and punctuation; and c) textual: genres of texts. Schemata knowledge enables the readers to use the text efficiently during the comprehension process because it helps them to move information from the short-term memory into the long-term memory.

Stanovich (1980) defended that bottom-up and top-down processes compensated for each other. In line with the previous authors, Eskey (1988) believed that the interactive approach assumes that good readers are proficient at both decoding and interpreting the text. The previous authors'

point of view strongly suggests that when the readers lack an appropriate amount of content schemata, they rely on the interactive reading model to compensate for the lack of knowledge. This approach also defends that having automatic recognition abilities will free the reader's mind to make associations among the parts of the text, accurately interpret the text, and comprehend what is being read. Comprehension seems to take place when accumulated evidence strongly supports a particular hypothesis, and is hindered when a critical skill or piece of information is missing.

Some of the tactics associated with cognition include:

- Using the senses to understand and remember, for example, visualizing what is being read, distinguishing what is relevant and what is not. Using the tactile/kinesthetic sense to take notes in order to understand and remember what is

being read. Reading aloud, which is in reality a form of self-talking and involves various senses.

- Activating previous knowledge by means of brainstorming.
- Reasoning inductively by figuring out the meaning of unknown words. Reasoning deductively by memorizing the meaning of words from a glossary.
- Conceptualizing in detail by making distinction of more important and less important information. Distinguishing important details: who, what, when, where, why, and how. Translating from L2 to L1 when necessary.

  Sequencing in chronological or alphabetical order. Writing down storylines in order to understand the order of events. Decoding letter by letter, word by word to convey meaning. Breaking down the sentences into subjects, verbs, adverbs, etc. to understand.

  Classifying words in parts of speech, writing labels so that everything is clear. Comparing and contrasting across languages. Making hierarchies of ideas by using a T line to outline the main points and the details of a text.
- Conceptualizing broadly: Summarizing or getting the gist by looking at the topic sentences of the various paragraphs of a text, reading the beginning and the end of a text. Reading the headings, the subheadings, pictures, and tables that help convey meaning. Creating semantic maps to link ideas.
- Going beyond immediate data: predicting and inferring by using background clues to convey meaning (Oxford 2011).

2.3.2 Metacognitive reading strategies.

Although reading strategies have been widely recognized as mental plans which helped the students improve comprehension skills, identifying reading strategies that fostered comprehension was not enough. There was a growing need to monitor comprehension in a second language. Mokhtari and Sheorey (2002) developed the Survey of Reading Strategies (SORS) with the objective to provide a more effective measurement of strategic awareness on reading in adolescent and adult ESL learners. The SORS is in reality a modified version of the Metacognitive-Awareness-of-Reading-Strategies-Inventory (MARSI), which was created to assess adolescents and young adults' metacognitive awareness of strategy use in L1 academic reading (Mokhtari & Reichard, 2002). Both inventories consist of 30 items, however, two items in MARSI were replaced by other two different items in the SORS's Supportive Strategies section. This was done to adjust the survey to EFL and ESL situations in view of Jimenez, Garcia and Pearson's research on bilingual students (1996). Finally, the wording was also adapted to make the SORS more comprehensible to ESL and EFL learners. The three categories of reading strategies

examined in both MARSI and SORS include global, problem solving, and support strategies.

Global strategies. These strategies are oriented towards global analysis of texts; that is to say, they are generalized, intentional reading strategies directed towards setting the conditions in preparation for reading before actually reading. These strategies can be considered metacognitive strategies in Oxford's self-regulation model. Examples of these strategies include:

- Setting purpose for reading.
- Activating prior knowledge.
- Checking whether the text content fits the purpose for reading.
- Predicting what the text might be about.
- Confirming such predictions.
- Previewing the text for its general context.
- Skimming to notice the text characteristics.
- Deciding what to read closely and what to ignore.
- Using textual clues such as tables, typographical hints.

Problem-solving strategies. These localized problem-solving or repair strategies are used when problem arise during the comprehension process of reading. These strategies are directed to help students in solving problems when texts are difficult to understand, or when there is a communication breakdown. These strategies give the readers action plans that allow students to navigate through texts skillfully. These strategies can be considered either cognitive or metacognitive strategies in Oxford's self-regulation model. Examples of these strategies include:

- Reading slowly and carefully.
- Adjusting reading speed.
- Paying attention to reading.
- Pausing to reflect on reading.
- Re-reading.
- Visualizing the information that is being read.
- Reading texts out loud.
- Guessing the meaning of unknown words, rather than using a dictionary.

Support reading strategies. These strategies are functional and supportive mechanisms that help students at a very basic level to decode words and facilitate reading. They can be considered cognitive strategies in Oxford's (2011) self-regulation model. Examples of these strategies include:

- Taking notes while reading.
- Paraphrasing or re-stating the text information.
- Revising previously read information.
- Asking self-questions.
- Using reference materials as aids.
- Translating from L2 into L1.
- Thinking about information in both English and L1.

These three types of strategies interact with each other to foster comprehension. The information obtained from SORS serves as a catalogue of strategies that students have reported using when reading textbooks, library materials, and other school related materials.

According to Sheorey and Mokhtari (2001), ESL learners' overall use of reading strategies and use of global, problem-solving and support strategies were positively correlated with their self-rated reading ability. In a study of Indian ESL learners, Madhumathi and Ghosh (2012) discovered that high performing readers used all three types of reading strategies, especially global strategies, significantly more frequently than their lower level counterparts. Comparable results were observed with L2 Arabic learners in a study conducted by Alhaqbani and Riazi (2012). Along with the results of correlation analyses in Karbalai Kamran's study (2013), support strategies were positively associated with their self-rated reading ability. Similar results were observed with L2 Arabic learners in a study conducted by Alhaqbani and Riazi (2012). Particularly, the outcomes of correlation analyses in Karbalai Kamran's study (2013) shows that the overall use of reading strategies and the use of global strategies could be predictors of reading performance.

It should be mentioned that the majority of studies have only examined reading strategy use in view of broader categories by calculating total mean frequencies; whereas, very few studies have looked at how frequently each individual strategy is used. For example, two studies with Hungarian (Sheorey & Baboczky, 2008) and Japanese (Sheorey, Kamimura and Freiermuth, 2008) learners of English have found a relationship between the use of several strategies and self-rated reading ability. Nevertheless, there is little information about which particular strategies were correlated with reading performance.

However, it is not sufficient to only examine superficial links between strategies use and reading performance, but it is also important to consider Anderson's (1991) observation that what matters is not only how frequent reading strategies are used, but how effectively the reader employs them in comprehending a text. Good readers usually know how to use strategies properly, with a sense of purpose, and are better at using different reading strategies. Anderson also emphasized the fact that strategic reading involves more than just utilization of a number of strategies, he pointed out that the ability to effectively evaluate the use of a given strategy and apply corrective feedback to its use was also critical to the successful employment of strategies.

Poole (2012) maintained the necessity to consider aspects that influenced the use of reading strategies by successful readers. He also supported the need to conduct qualitative studies in which the learners, besides filling out the SORS, justified their responses by giving reasons for their use. Poole's findings also revealed that factors such as time constraints, text features, memory, and comprehension levels affected the students' use of reading strategies. Efficient readers tended to use strategies to save time, and they knew that certain types of strategies should be used with certain types of texts, successful readers used strategies depending on whether or not they perceived them to help comprehend texts.

Levels of language proficiency have also been found to play an important role in the use of reading strategies. Malcolm (2009) found striking differences in students who were majoring in medical studies at a university in Bahrain. Senior students used more frequently global strategies such as noting text characteristics, using text features, and critically analyzing and evaluating the information. This group of learners employed support strategies at a lesser degree and often avoided translating. On the other hand, freshmen and low-proficiency students primarily used support strategies and showed the heaviest dependence on translation.

According to the aforementioned studies, high proficiency learners are more likely to use a variety of reading strategies properly and with a sense of

purpose; whereas, low proficiency learners seem to struggle in the attempt to attain an effective use of strategies. As Razi and Grenfell (2012) proposed, a lack of linguistic knowledge can hinder readers' deployment of reading strategies when reading in a language other than their first language. Thus, in order for learners to employ reading strategies in L2 reading, a minimum level of language proficiency is needed.

Reflecting, reading comprehension is a complex cognitive process that involves

affective, metacognitive and socio-intercultural aspects, and it seems more complex in an L2 context. This process involves a wide-range of knowledge sources that include relevant language familiarity and appropriate background knowledge, as well as socio-cultural knowledge and knowledge of text structure. When there is comprehension break down, the readers should be able to resort to effective reading strategies to allow them to compensate for insufficient knowledge in either language or content knowledge.

To sum up, research shows world-wide trends in the use of reading strategies:

- Second language learners were more aware of problem-solving strategies than global and support strategies (Alhaqbani & Riazi, 2012).
- Problem-solving strategies were used more than other types of reading strategies (p. 240). This finding implies that learners pay more attention while reading in order to comprehend the text than translating (Madhumathi and Ghosh, 2012).
- There was a significant relationship between reading strategy use and the level of reading proficiency (p. 135). Self-rated reading ability was correlated with students' awareness of global and problem-solving strategies. However, no correlation was found between awareness of support strategies and self-rated reading ability (Alhaqbani & Riazi, 2012, p. 231).
- Reading strategies were used more by high proficiency students than by low proficiency students (Madhumathi & Ghosh, 2012). It was possible for learners to transfer reading strategies from L1 to L2 (p. 137), but only when they have reached a certain level of proficiency.
- Sheorey and Mokhtari (2001) found that high-reading ability students used metacognitive and cognitive reading strategies more than lower-reading-ability students.
- While males and females showed similar high use of problem-solving strategies, due to cultural differences, females were found to be more willing to use reading strategies (Madhumathi & Ghosh, 2012).

2.3.3 Affective strategies.

No one can read without motivation and positive attitudes; therefore, readers need affective motivation to deal with feelings of anxiety, frustration, low motivation, and lack of self-efficacy. MacIntyre (1995) informs us that anxiety freezes the cognitive effort of L2 learners in all aspects of learning. According to Oxford (2011), emotions, beliefs and attitudes can influence L2 learning, and they can be modified by strategies. Language anxiety is a form of anxiety in which the learner is afraid of performing in L2. Language

anxiety is associated with deficits in vocabulary learning, and comprehension levels. When the students take advantage of affective strategies such as self-encouragement to take risks and use positive self-talk, they can overcome many of these affective obstacles.

Self-esteem is the emotional self-perception of competence or self-worth. Most people want to feel good about themselves, but according to Cole (2003), high self-esteem is not always linked with positive performance. Some people may feel positive about themselves even when performing badly, and others may feel bad about themselves even when performing well. Low self-esteem can be overcome by using the affective strategy of activating supportive emotions, beliefs and attitudes by means of positive self-talk.

Self-efficacy is defined by Zimmerman (1990) as the person's level of confidence that he or she can successfully complete a task or a series of tasks. Self-efficacy is related to self-agency, which is the belief in one's control over outcomes. Bandura (1997) identified four influences on self-efficacy: a) past

experiences of success or failure; b) modelling, in which observing a peer's success increases the observer's self-efficacy; c) social persuasion: encouragement or discouragement from others; and d) symptoms of anxiety as a sign of low ability. Activating supportive emotions such as thinking about past successes rather than failure can directly help make perceptions of self-efficacy more positive.

Self-concept is the self-perception of competence in a given area or field, such as L2 reading. Self-concept depends on the comparison with other people. According to Oxford (2011) any strategy that facilitates good L2 learning can result in positive social comparisons and an improved self-concept.

Motivation is the spark that triggers stimuli. Motivation is extrinsic when the wish to do something is sustained in external rewards such as money, qualifications, prestige or pride.

Ushioda (2008) points out, "Motivation is intrinsic when the wish to do a task comes from the satisfaction that produces its execution. This process is self-sustained. The learner who does a task finds it valuable, useful, interesting, besides it represents a challenge to the performance of one's own abilities. Intrinsic motivation comes along with high levels of participation and creativity". (p. 21)

Ushioda (2008) states, "Motivation and meta-cognition are closely related due to the fact that these processes occur only when the ability of controlling strategic mental

processes are accompanied by the willingness to achieve something, in other words motivation plays an important role in meta-cognition or self-sufficiency". (p. 223)

Motivation is the intrinsic wish to achieve a goal. Sustaining motivation to learn is directly related to the self-confidence that the student has in his potential to learn. These feelings of competence and belief in one's own potential come from previous positive experiences in problem solving, which are more powerful than any external recognition or extrinsic motivation. By means of experimenting success when accomplishing relevant tasks, the students gain self-confidence and intrinsic motivation predisposes them to more complex learning challenges.

Gardner (2010) differentiates two types of motivation when learning a language: instrumental and integrative. Instrumental motivation is used to complete a requirement of language, and integrative motivation is used to integrate with other people who are native speakers. (p.32)

It is important to point out that most students of medical sciences have instrumental motivation, which occurs for the sole desire to complete the requirement to pass the English modules, and unfortunately, it does not fulfill the expectations of a pre-professional preparation of quality. Nobody can learn a language without motivation, positive attitudes and beliefs, which are sustained by emotions that are equally positive. Motivation influences learning behavior, learning tactics, academic performance, even the medical field that the students chose, and the intention of continuing with their post-graduate studies.

Villalobos (2008) asserts that in an EFL context (English as a Foreign Language), intrinsic motivation may be very low because English may be perceived as something not so important for the students because it is not needed for survival purposes. On many occasions, the students may have the need to pass a proficiency exam, or English as a subject matter in the students' curriculum. Besides, this context implies cumulative courses, and few contact hours with the instructor, situations that make learning a language even more difficult.

Soria (2009) points out, "Integrative motivation, part of the affective learning strategies, is related to the positive vision of English and its culture. It is related to the identification with other cultures, which will ease motivation to learn, and the adoption of words, sounds, and word order, behavior and cognitive elements that are part of another culture" (p.55). Gargallo (2009) coincides by saying: "Learning strategies are affective-emotional elements of support ("wanting", which implies a disposition and appropriate

environment to learn), metacognitive ("taking and evaluating decisions", which implies self-regulation of the learner), and cognitive (which implies "ability" to manage strategies and techniques related to the information process)". (para. 9)

The experts point out that motivation increases when it is mediated by positive experiences, which in turn produce feelings of self-efficacy, which translate into increased communicative competence. This dimension is related to the hopes, aspirations, advances, growth and achievement, closely associated to the intrinsic motivation that associated with socio-cultural values can derive into integrative motivation. Thus, the linguistic competence along with a lower affective filter increases the willingness to communicate and learn which fosters a positive feedback that increases the wish to learn.

Osorio and Pereira (2011) citing Bandura (1986) stated that

> "In regards to beliefs, thoughts and expectations, the cognitive social theory proposes three relevant social mechanisms: self-efficacy, expectations of the results, and objectives. Self-efficacy refers to the judgments or beliefs of the individuals to organize and follow courses of action to achieve different results. The perception of self-efficacy helps to determine activities and persistence, patterns of positive thought and emotional reactions when the individual experiences obstacles". (pp. 25-26)

Soria (2009) points out that instrumental motivation is a component which is directed towards an objective, it is about the pragmatic benefit related to the proficiency of a foreign language (p. 55). Even if instrumental motivation can be seen as positive, the ultimate goal for any student who has the desire to master a foreign language should be "intrinsic motivation", which is the desire to do a task that comes from the satisfaction of doing such a task. This process is self-sustaining because the learners find it valuable, useful, interesting and represents a challenge to their own abilities. Intrinsic motivation has the advantage of encouraging high levels of participation and creativity. (Oxford, 2011)

Furlan (2009) states, "High anxiety related to tests is associated with low ability to retrieve knowledge from the working knowledge, and the use of superficial mental processing strategies when learning, which shows that both variables are reciprocally influenced" (p. 117). Motivation is related to the characteristic that a person may think he or she should have, such as duties and responsibilities related to the acquisition of knowledge and dexterity, in other words, related to the extrinsic motivation. When superficial learning strategies of memorization and instrumental extrinsic motivation is used to accomplish an objective, the results may not be so good. Whereas the learners whose self-realization of

academic achievements directs their learning, find that the results are much more effective. Thus, strategies that promote reasoning in detail, generalizations and summarizations, promote intrinsic motivation directed to self-efficacy, self-realization, and meaningful learning in the long term; which seems to be the most effective.

Most students tend to have low motivation or instrumental motivation, which is always extrinsic, even when they are conscious that English is a useful tool for their professional development. This is a factor that explains why a high percentage of students of the School of Medical Sciences does not reach reading proficiency, (see Appendix Q) and for this reason it is necessary the professors' intervention to instruct strategies that include the self-regulation of the metacognitive, cognitive and affective dimensions directed to overcome reading difficulties, as well as develop integrative and intrinsic motivation on the students.

Some of the tactics associated with affection include:

- Activating supportive emotions, beliefs, and attitudes, this can be done by talking about one's own feelings with friends or relatives, or writing down in a journal about reading experiences and describing feelings about the experience.
  Relaxing with music so as to control anxiety levels, taking a short break, using deep breathing, and joking.
  Creating positive emotions through thoughts and statements. Putting oneself in a good mood by thinking about a good event, or saying words of gratitude to someone.
  Creating positive emotions with colors or happy pictures.
- Using positive self-talk, for example, "I say to myself that it is fine not to understand everything I read. Accepting this makes me able to understand better, or "I know I can do this"."
- Generating and maintaining motivation by visualizing that one will perform well in a reading test. Increasing extrinsic motivation by considering instrumental use of the L2 by thinking how much being able to read well means to one's future. Increasing extrinsic motivation by considering future reward or a feeling of satisfaction. Increasing extrinsic motivation regarding integration into the culture, for example, immersing oneself in American culture and lifestyle. Increasing intrinsic motivation by thinking about all the things one likes about English language, the sounds, the idioms, etc.

2.3.4 Socio-cultural interactive reading strategies.

This set of strategies directly facilitate communication and deep understanding of the sociocultural context and one's roles in it. These strategies involve collaborating with peers to ask questions, seek help or correction and to get feedback while reading. Three such strategies are included in Oxford's (2011) Self-Regulated model:

- Interacting to learn and communicate.
- Overcoming knowledge gaps in communication.
- Dealing with sociocultural contexts and identities.

2.4 Contextual Frame

The context is originated by issues in the pragmatic reality, which implies everything that is of practical utility. The students of the School of Medical Sciences need knowledge of English to become suitable candidates for the scholarships that the SENESCYT (National Office of Higher Education, Science and Technology in Ecuador) offers for postgraduate studies and professional development courses in English-speaking countries. Many of these scholarships are not being used mainly because the candidates do not have the English proficiency required.

The University of Guayaquil is a public higher education center that generates, promotes and applies knowledge, abilities and dexterities with moral, ethical and civic values by teaching, research and community projects. The University of Guayaquil also promotes economic and intellectual progress, as well as sustainable development to improve the quality of life of society as a whole. It is located in the Salvador Allende campus on Delta Avenue and Kennedy Avenue. It was founded in 1897, and was the first Ecuadorian university to adopt the university reform known as "Manifesto de Cordoba", which started in 1918, which gave way to academic freedom and a co-government in which the students had a voice for the first time. At the end of the XIX century the University of Guayaquil was located at the Casona Universitaria, but from 1949 to 1954 it started to move to its main campus. During its long and productive life, various Ecuadorian presidents obtained their degrees there. Nowadays, the student population is about 80,000, which makes it the university with the biggest population. The University of Guayaquil offers 57 professional training programs in 18 schools, of which the School of Medical Sciences is one of the oldest.

2.4.1 English at the School of Medical Sciences.

In the year 1997 the English Departments were created in various Schools at the University of Guayaquil, including the School of Medical Sciences. It was made mandatory

by the academic administration council to do four English modules in order to obtain a professional degree from the School of Medical Sciences. This fact is important to take into account

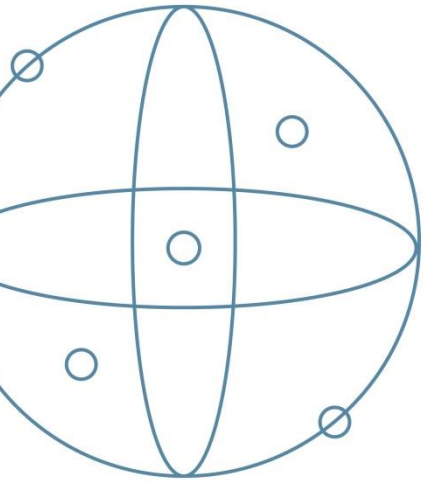
because previously English as a subject was not part of the curriculum. However, most of the students did not value the advantage of taking English courses; on the contrary, their motivation was only extrinsic, they took the English modules only to comply with this indispensable procedure to obtain their degree (see Appendix O). Fortunately, in 2015 the situation changed for the better when **English in Medicine I & II** became part of the basic subjects that the students had to pass compulsorily to continue to the next semester according to the Article No. 13 of the Evaluation Regulation Statute of the University de Guayaquil.

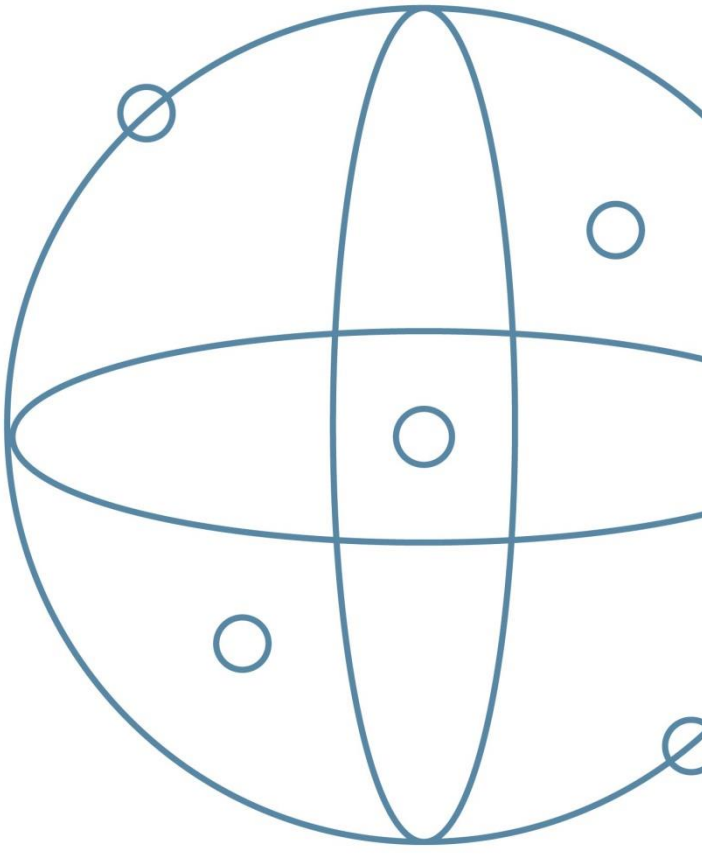
In the year 2016-2017 there were 8,000 students legally enrolled. The learners of the School of Medical Sciences are Spanish native speakers in an EFL situation, whose age range from 18 to 24 years, 65% of the students are women, whereas only 35% of them are men. Their social background ranges from lower middle class to upper middle class. Most of the students come from public schools and only a small percentage comes from the private school system. Only 1% are foreigners who come from public schools in their respective countries; however, not all of them were required to pass the entrance examination test ENES stipulated by the SENESCYT in 2014 for all state-run higher education institutions because for the students who had enrolled in the medicine major program prior to 2014, the law had not been passed. Only 3% of the students say they have a job. However, as the School of Medical Sciences study program is so demanding, most of them say that they will have to leave their part-time jobs soon. Another important aspect that is noteworthy is the fact that from 2015 all the students need to pass a professional exam from the CEAACES (Higher Education Council in charge of guaranteeing quality), which will enable the future health care providers to work legally. CEAACES in its resolution No. 121-CEAACES-SE-15-2014, article 104 informs that this exam is essential for professionals whose practice could put at risk human lives, health or the citizens safety. Unfortunately, this exam does not include medical English.

It is important to point out that the students who enrolled at the School of Medical Sciences before 2015 did not have to take English as a subject compulsorily, however, they did have to take **English Modules I, II, III and IV** as extra-curricular subjects. Passing these courses was a requisite that the students had to fulfill in order to be eligible for the SENESCYT professional exam that needs to be taken before they do their internship. The most outstanding drawback of these modules is that there is not academic continuity, as

there were students who took the Module III five years before; however, because they had passed module III, the students could not be sent back to module I, in spite of their lack of knowledge, which makes teaching and learning difficult.

To conclude, in the researcher's opinion, the way the English modules at the School of Medical Sciences are structured should be changed. First of all, a needs analysis should be implemented to find out what the students really want to learn: either English for Specific Purposes or Survival English. Secondly, the syllabus needs to be revised and implemented for at least five years, one of the biggest drawbacks is that the syllabus is changed every year according to the book series adopted because the syllabus is based on the content of these books rather than on notions and functions. Third, the syllabus should be task-based and the students need to be trained on strategies to cope with learning difficulties. Fourth, the teachers should be trained accordingly to suit the aforementioned changes, especially regarding reading strategies that have not been developed. This aspect will be beneficial for the community as a whole because the future health professionals need to comprehend what they read to save their patients' lives.





CHAPTER 3
METHODOLOGY

The purpose of this study was to examine the effects of reading strategy instruction on EFL medical students on reading comprehension, reading strategy awareness and motivation to medical English reading. The main reasons that guided this study were 1) to investigate the effects of reading strategy instruction on EFL medical students. 2) to identify the factors that have contributed to EFL medical students' reading behavior. 3) to examine the ways the incorporation of reading strategies in EFL class change the participants.

For this project a descriptive, experimental explanatory study was used, along with the mixed methods for data collection. The purpose was to examine quantitatively and qualitatively the effects of reading strategy instruction on EFL medical students' reading experience by integrating reading strategy instruction in English lessons in an urban public university of Guayaquil, Ecuador. It was the researcher's purpose to find out the pre and post survey of reading strategies by means of the Survey of Reading Strategies (SORS), as well as the English Reading Motivation (Mori 2002) in order to examine the participants' behavior in the reading program. The sequential method allows the quantitative data to be assessed first, and later, by means of qualitative interviews integrate the information so as to interpret the overall results (Creswell, 2013). The first estimation was to assume as true that Reading Strategy Intervention would help improve EFL medical students' reading comprehension, reading strategy awareness and reading motivation, thus the focus of this project was to explore the students' reading problem and why it was necessary to incorporate Reading Strategy Instruction in the regular English reading instruction. However, there is not enough literature to investigate the results of the effects of reading strategy instruction on EFL students on reading awareness, motivation to English reading, and reading comprehension in an adult population who is able to think logically and abstractly.

3.1 Rationale of the Mixed Methods

It was decided to include the qualitative findings in this research to explain and give quality to the quantitative results, that is to say, that it was necessary to explain the statistical data by gathering the participants' opinions. Creswell (2013) asserted that the mixed method is useful when qualitative research or quantitative research is insufficient to understand the problem as is the case of the complexity of L2 acquisition, which makes it almost impossible to investigative L2 learning solely from the quantitative perspective. Thus, a multi-disciplinary knowledge that includes a mixed method approach is necessary to

provide insights into the singularities of L2 learning so as to provide a comprehensive depiction of what is being explored.

The strongest advantage of the quantitative method is its ability to generalize the numerical results of a given population. However, the quantitative method has its limitations as it only has a tendency to analyze the cold numbers, and specific particularities cannot be proved or explained. To solve this difficulty, Creswell (2013) in his "sequential explanatory model" stated that the quantitative data collection would be undertaken prior to qualitative data collection, placing the quantitative prior to the qualitative data collection with the purpose of explaining and clarifying the quantitative data, thus deepening the understanding and interpretation of the results.

3.2 Participants and Subject Selection

The participants of this study were 50 students. They were chosen: firstly, based on their need to take the English Module IV in order to be eligible for the internship in assigned public hospitals in and around Guayaquil; secondly, because they shared similar previous knowledge; and thirdly, following the advice of the Director of the English Department, who informed the researcher that this student population was willing to take part on an educational study. That is to say, the researcher used a non-probability purposive sampling based on his expert judgment to choose the subjects, in this case only the students who were legally enrolled in the English Module IV, who had enough academic background to respond to the demands of an educational experimental study.

There were two groups that were assigned to the researcher, who had no need to train a teacher on the abstract aspects of reading strategies, so the procedure proved to be time and cost effective. The participants were divided into two groups: The control group was made up of 25 students who had English lessons from 7:00 to 10:00. The experimental group, also made up of 25 students, took English lessons from 11:00 to 14:00. Both groups were assigned to the researcher. These two groups of students on whom the experiment on reading strategies was applied were chosen, mostly because the participants shared similar previous knowledge. Based on the advice of the Director of the English Department, who informed the researcher that this was the only population who had decided to take these special courses during vacation time, and were willing to take part on the research while the School of Medical Sciences was closed.

3.3 Materials

All students participating in the research project used the same textbook required for all the students enrolled in the English Module IV. The textbook is a collection of short stories or articles compiled from different resources directed to the development of

structures and vocabulary unrelated to the medical field. Each lesson was supplemented by the researcher with Reading Strategy Instructions that contains short reading comprehension passages (all of them ESP) and rather extensive vocabulary directed to develop interest in medical English. As it was previously mentioned, the textbook can be described as a basal reader and is used exclusively for intensive in-class reading exercises and vocabulary as well as grammar learning (see Appendix P).

3.4 Pilot Study

A pilot study was conducted to check the reliability on the scores of the instruments, and how well the students understood the surveys' statements, so it was decided to do some slight modifications on the Background Information Questionnaire (BIQ) for the study (see Appendix C), SORS (See Appendix F), and ERMQ (see Appendix G), which are explained in the sections 3.6.1 and 3.6.2. At the same time, it was necessary to determine whether the reading comprehension tests for the current study were either too easy or too difficult to measure the application of reading strategies. Another purpose of the pilot study was to identify the problems that might arise during the study, and finally how the research design would work. The pilot study was conducted in the experimental group: (male=7, female=18) studying at the School of Medical Sciences at the University of Guayaquil. No serious difficulties arose from the application of the pilot study, and most importantly, the pilot study showed that the research design for this study worked well.

3.5 Reading Strategies

Reading strategies printed material was provided to the students in the experimental or treatment group (see Appendix J), and all the strategies listed were explained and modeled by the researcher and practiced by the subjects in the treatment group throughout the experiment. These instructions consisted of 30 minutes strategies that were repeated three times a week for the four weeks that lasted the course, which comprised a total of six hours or 10% of the contact hours the students had with the researcher. Immediately after each session the students were given a reading passage and after checking the answers the researcher applied the SORS survey, mostly to raise awareness of the weak areas in which the students had major problems, and to remind them not to use supporting reading strategies in excess, namely bilingual dictionaries or translators.

3.6 Reading Strategy Journal

All the subjects in this experiment were required to keep a reading strategy journal in order to record their reading strategy use during English reading. This idea is borrowed from Anderson's recommendation (2002) on students' journal so as to develop metacognition in their reading process and it is designed to facilitate EFL learners' reflection that is directed to

make connection between reading strategy knowledge and reading strategy use. Hopefully this reflection process, along with the researcher instruction, may lead the students to take control over their reading process and lead them to become independent learners.

3.7 Measurements

The measurements used to collect quantitative data for the dependent variables include the modified Survey of Reading Strategy (SORS) and the modified English Reading Motivation Questionnaire (ERMQ) (see Appendices F and G). Both measurements were collected before and after the treatment.

3.7.1 The Survey of Reading Strategies (SORS)

SORS is a questionnaire that has been used world-wide to test reading strategy awareness, which was adapted by Mokhtari and Sheorey (2002) from the Metacognitive Awareness of Reading Strategies Inventory (MARSI), which was first developed for native speakers in the U.S.A. SORS intention is to measure the type of frequency of reading strategies that adolescents and young adults in ESL situations have while reading academic materials in English. In 2002 Mokhtari and Sheorey tested SORS overall reliability with Crombach's alpha and it gave a result of 0.90. It is fair to mention that the researcher of this project did the same Crombach's alpha test using IBM SPSS statistics 23, and the results were even higher than 0.90, for that reason the SORS survey, with minor modifications, was chosen to conduct this study. Among the various advantages of the SORS survey, the software SPSS indicates that it has a reasonable level of consistency in measuring awareness and perceived use of reading strategies among ESL students. There are 30 items with a Likert scale to measure three broad categories of reading strategies

- Global Reading Strategies (GLOB). These 13 items are directed to measure higher order thinking carefully planned strategies directed to monitor reading by setting a clear purpose for reading, checking length, organization, tables, figures, and checking for typographical features.
- Problem solving Reading Strategies (PROB). These eight items are directed to help to measure the application of solutions of problematic situations while they develop, such as adjusting one's speed of reading when materials become either too easy or too difficult, guessing the meaning of unknown words, and re-reading a text to improve comprehension.
- Support Reading Strategies. (SUP). These eight items are basic support mechanisms directed to help the students cognitively to manipulate the language in

order to promote understanding by means of using dictionaries, taking notes, underlying, or highlighting information.

3.7.2 The English Reading Motivation Questionnaire (ERMQ)

The English Reading Motivation Questionnaire (ERMQ) was developed in Japan by Mori (2002), which measures EFL students' English reading motivation. This is an adaptation from Wigfield and Guthrie's (1997) Motivations for Reading Questionnaire (MRQ) to better fit the environment of English as a foreign language setting which consists of four reading components which may influence language learners' decision to read in a second or foreign language. There are four subscales in the ERMQ:

- Intrinsic value of reading refers to reading curiosity, reading involvement, reading avoidance, and the challenge that reading represents.
- Extrinsic value of reading refers to the motivation that comes from obtaining a reward or good grades in order to pass a course.
- Importance of reading refers to the students' perception of utility of reading
- Reading efficacy refers to the students' individual sense of efficacy and beliefs about their ability in terms of reading in English.

The ERMQ was passed on to the students twice, before the intervention and after the intervention. The purpose was to explore the probable changes in the participants regarding English reading.

3.8 Research Design

This study used an experimental group and a control group, a pre-test and a post-test design as shown in the Table 3.1.

Table 3.1

Implementation of the study

Group	**Pre-test**	**Treatment**	**Post-test**	**Post-treatment**
A Experimental	T1	RSI	T2	Interviews 25 students
B Control	T1	Normal Class	T2	

Note: RSI = Reading Strategy Instruction. Prepared by the author, 2017

The treatment included reading strategy instruction (RSI) provided to the experimental group, and the teacher's normal routine instruction was provided to the control group. The pre-test (T1) consisted of the SORS (see Appendix F) questionnaire, the ERMQ questionnaire (see Appendix G), and a reading comprehension test (see Appendix I). These assessments took place one day before the beginning of the reading strategy instruction on March 20th, 2017. The experimental group A received reading strategy instruction, whereas the control group B followed regular English lessons that included reading instruction without reading awareness training. The post-test took place at the end of the study, four weeks later. It consisted of the same tests as T1.

Before the experiment, the researcher asked due permission from the English Coordinator of the School of Medical Sciences (see Appendix A), and the participants (see Appendix B). In this study, there were 25 students in the control group and 25 students in the experimental group. All the participants in the experimental group were informed about the reading strategy instruction during the regular contact hours with the teacher from 11:00 to 14:00 from Monday to Friday for four weeks, a total of 60 contact hours. The control group had lessons from 7:00 to 10:00 from Monday to Friday for four weeks, a total of 60 contact hours. Both groups received English instruction with the same book, the same teacher and the same number of hours, the only difference was the level of awareness in terms of reading strategy use, which was purposely instructed in the experimental group.

3.9 Procedure

a. The participants were 50 students who were assigned to two groups: A: experimental group (25 students) and B: control group (25 students).
b. Before the treatment all the participants were tested on the modified BIQ, which collects demographic data, the modified SORS, the modified EMRQ and a reading comprehension test.
c. The experimental group received reading strategy awareness preparation with journal writing training. The reading strategy instruction consisted of the researcher's modeling (what strategies to apply and why to apply them) and explicit explanation of the strategies.
d. The core of the training consisted of practicing basic reading strategies such as:
    - Finding the main idea of a reading passage.
    - Finding and concentrating in key vocabulary and inferring meaning from context, explicitly discouraging translation or the constant use of dictionaries. Guessing, inferring and going beyond immediate data were encouraged.

- Summarization exercises: important people, important places, important ideas and using mind maps to help the learners visualize and have a clearer picture of what they were reading.
- Predicting: what is already known and what could happen next based on their previous knowledge or schemata.
- Questioning if what was being read made sense, had no bias, and could be incorporated in the students' existing reality as trustworthy information.

e. The control group followed the normal English lesson routine in which grammar drills, vocabulary, and constant translations with the use of dictionaries were the daily routine. However, reading reflection or awareness were not emphasized, although the researcher incorporated some medical readings to make the English lessons more interesting.
f. The experiment lasted four weeks (roughly one month). Three hours daily from Monday to Friday, with a total of 60 contact hours.
g. After the treatment all the participants took the post-test with the same questionnaire (the modified SORS, and the modified EMRQ) and a reading comprehension test (see Appendix K).
h. In order to obtain qualitative data from the participants' reaction toward reading strategy instruction, 25 students from the experimental group were asked to participate in a group interview and further written information was collected about the reading experience and how they felt about the reading class.

3.10 Quantitative Data Analysis

The analysis was performed using SPSS 23 statistic package for Window. In order to test the hypothesis H1, the results of IBQ, SORS, EMRQ and reading comprehension scores of the pre- and post-tests were compared and contrasted (see Appendix M).

Table 3.2

Overview of Research Hypothesis and Methodology

Research Hypothesis	Measurement
H1. The positive perception about English reading will be greater for EFL medical students who have been trained with metacognitive and cognitive strategies instruction than those students who have not been trained.	Pre-test and post-tests of BIQ Pre-tests and post-tests of Reading. Pre-test and post-tests of SORS. Comprehensions tests. Pre-test and Post-tests of ERMQ.

Note: Prepared by the author, 2017

3.11 Qualitative Data Collection

Nunan (1992) states that qualitative information is often important for the interpretation of quantitative data. Thus, qualitative data was collected through group interviews conducted by the researcher in the protected environment of the classroom. Open-ended questions were used to reduce the possibility of undesirable bias that may occur when different questions are applied to different participants. This method is suited for the purpose of

obtaining the same information from the participants, and the data analysis becomes easier. However, according to Ehrman, Leaver and Oxford (2003), one of the drawbacks of this data collection method is that it does not take into account the subjective individual differences or minor situational changes. To solve this problem it was the researcher, who had spent 60 contact hours with the participants, the person who acted as the interviewer so as to understand in depth the participants' experience of the reading strategy instruction intervention.

CHAPTER 4
DATA ANALYSIS

4.1 Quantitative Results

The purpose of this section is to present the data analysis of the statistics that were used to examine the application of the reading strategies on EFL medical students of the University of Guayaquil using an experimental design. Data related to the independent and independent variables were analyzed using the IBM Statistical Package for Social Sciences (SPSS) 23.

4.1.1 The participants

Due to administrative procedures this study was applied to students that were taking the English Module IV. The researcher's objective was to turn the lack of reading abilities into an advantage with the application of reading strategies by adapting the researcher's intervention to a Structural Syllabus, so as to improve reading skills in students who were about to start their internship in public hospitals. Another noteworthy aspect of these courses opened during the vacation period is that in 20 days the students had to have 60 contact hours, three hours from Monday to Friday, so the researcher's intervention was done almost on a daily basis. According to the diagnosis tests that the students took on March 20th, 2017, it was concluded that the level of English of Module IV students ranged from A1 to A2. (see Appendix I)

The classes were held in Dr. Roberto Gilbert building of the School of Medical Sciences, where the classrooms are not adequate because they do not have computers, projectors or speakers, which are technological tools that are needed for a language lesson. The time-table was from 11:00 to 14:00 from Monday to Friday, which posed another constraint because the students could have lunch only when the English lessons were over. The class consisted of 25 students who almost never arrived on time. The needs analysis, which was carried out by interviews, the collection of information from the students and the analysis of the available data (see Appendix H), showed that the students wanted to learn how to read critically to reject information that is not scientifically based, at the same time the students wanted to learn reading strategies that would help them to improve their reading skills. They wanted to learn suffixes and prefixes that would help them convey meanings without having to constantly resort to dictionaries or translation. The students also wanted to learn to activate previous knowledge in order to construct new knowledge. Their motivation was extrinsic because they mostly wanted to become part of the bilingual professionals who have more job opportunities and earn better salaries; besides they were conscious of the

fact that English was a tool that would allow them to develop professionally by means of postgraduate studies either in Ecuador or in an English-speaking country. Most of the students had informed the researcher that they preferred to work in groups rather than individually, and that task-based or experimental learning was more meaningful than just memorizing abstract concepts or grammatical rules. At the same time the students' wanted the reading material of the book to be related to the majors they were pursuing.

Of the 50 participants in the study, 26% were male, and 74% were female (see Table 4.1). The control group had a lower percentage of male students: 24%, less than the experimental group: 28%; and a higher percentage of female students than the experimental group: 76%. This study took place in two classes of the same university. They were mostly seniors, except for one junior and three sophomores, this phenomenon was given by the fact that this "fast-track" vacation course was directed to the students who were about to do their internship in public hospitals. Of the 50 students, the vast majority was studying Medicine as their academic major, with a small number of students from Obstetrics, Nursing and Medical Technology. The students were diverse in terms of gender, age, grade, major and their experiences in learning English, including perceived proficiency and reading comprehension ability. In order to collect data regarding detailed information about the participants the researcher used a Background Information Questionnaire (see Appendix C).

Based on Oxford's (1990) Background Questionnaire (p. 282), the Background Information Questionnaire modified was used to gather information about individual characteristics of the participants. The BIQ included two distinctive sub-categories: demographic information and perceived experience in learning English, which had a simple and easy language and for that reason they were not translated into English. The most relevant characteristics of the population have been summarized in the Table 4.1.

More than 70% of the students were female, which shows a tendency of males to study shorter, and probably less demanding majors (see Table 4.1).

Table 4.1.

Gender Distribution in each Group

	Control Group		**Experimental Group**		**Total**	
Gender	**n**	**%**	**n**	**%**	**n**	**%**
Male Female	6 19	24 76	7 18	28 72	13 37	26 74
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

The participants represented most grade levels from sophomore to seniors, with seniors representing the vast majority: 92% (see Table 4.2).

Table 4.2

Grade Level of Participants

	Control Group		Experimental Group		Total	
Grade year	**n**	**%**	**n**	**%**	**n**	**%**
Freshman	0	0	0	0	0	0
Sophomore	0	0	3	12	3	12
Junior	0	0	1	4	1	4
Senior	25	100	21	84	46	92
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

The age of participants ranged from 22 to 32, with the average age of 24.12 for the experimental group and 23.38 for the control group which shows that a rather young population is enrolled in allied health professions in the undergraduate majors at the University of Guayaquil (see Table 4.3).

Table 4.3

Age of Participants

	Control Group		Experimental Group		Total	
Age	**n**	**%**	**n**	**%**	**n**	**%**
22	1	4	6	24	7	14
23	14	56	5	20	19	38
24	8	32	6	24	14	28
25	2	8	3	24	5	10
26			1	4	1	2
27			2	8	2	4
30			1	4	1	2
32			1	4	1	2
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

The vast majority of the students who took the English Module IV were majoring in Medicine: 74%, although the other majors, such as Obstetrics, Nursing and Medical Technology are also represented by 26% (see Table 4.4).

Table 4.4

Major of Participants

	Control Group		Experimental Group		Total	
Major	**n**	**%**	**n**	**%**	**n**	**%**
Medicine	25	100	12	48	37	74
Obstetrics			7	28	7	14
Nursing			5	20	5	10
Medical Technology			1	4	1	2
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

Table 4.5 shows how long the participants had been studying English. In the case of the experimental group, they had been studying English for 10.36 years on average. The vast majority of the students in the experimental group had been studying English for 12 years. The control group had been studying English for seven years, and the vast majority had been studying English for six years on average, which reflects the fact that all of them had been studying English as a required course throughout primary and secondary school (see Table 4.5).

Table 4.5

Number of Years Studying English

	Control Group		Experimental Group		Total	
No. of years	**N**	**%**	**n**	**%**	**n**	**%**
4			1	4	1	2
5			1	4	1	2
6	15	60	3	12	18	36
8	8	32	2	8	10	20
9			2	8	2	4
10			4	16	4	8
12			7	28	7	14
13			1	4	1	2
14	2	8	2	8	4	8
16			2	8	2	4
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

In the past few years it has become very popular for Ecuadorian students to enroll in English institutes to improve their English level; however, the results show that the majority (58%) of the students who are enrolled at the University of Guayaquil have never taken English courses in those institutes (see Table 4.6).

Table 4.6

Amount of Time Studying in an English Institute

	Control Group		Experimental Group		Total	
Time	**n**	**%**	**n**	**%**	**n**	**%**
Never	10	4	19	76	29	58
Less than 6 months	10	4	4	16	14	28
1 year	3	12	1	4	4	8
1 – 2 years	2	8	1	4	3	6
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

Only five students had experienced staying in English speaking countries (see Table 4.7), but only for vacation purposes in Spanish-speaking communities in Miami, U.S.A.

Table 4.7

Experience Staying in an English-speaking Country

	Control Group		Experimental Group		Total	
Rate	**n**	**%**	**N**	**%**	**n**	**%**
Never	21	84	24	96	45	90
Less than 6 months	4	16	1	4	5	10
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

Table 4.8 shows that 76% of the participants on the control group rated their English proficiency as either “fair” or “poor” and only 22% rated their English proficiency as “good”.

Table 4.8

Pre-test. Self-rate in English Proficiency

	Control Group		Experimental Group		Total	
Rate	**n**	**%**	**N**	**%**	**n**	**%**
Very good	1	4	0	0	1	2
Good	8	32	3	12	11	22
Fair	4	16	9	36	13	26
Poor	12	48	13	52	25	50
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

Sixty-four percent of the participants rated their English reading proficiency as either "poor" or "fair", and 36% six rated it as "good" or "very good". On average, they rated their reading proficiency higher than their English proficiency, which is an indicator of how the students have been taught English at elementary and high school with an emphasis on grammar analysis and vocabulary decoding (see Table 4.9).

Table 4.9

Pre-test. Self-rate in English Reading Proficiency

	Control Group		**Experimental Group**		**Total**	
Rate	**N**	**%**	**N**	**%**	**n**	**%**
Very good	1	4	2	8	3	6
Good	10	40	5	20	15	30
Fair	6	24	9	36	15	30
Poor	8	32	9	36	17	34
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

When the students were asked how important it was for them to become proficient in English for their professional development, 78% of them indicated that it was either "important" or "very important" (see Table 4.10).

Table 4.10

Pre-test. Importance of Being Proficient in English Reading

	Control Group		**Experimental Group**		**Total**	
Response	**N**	**%**	**N**	**%**	**n**	**%**
Very important	15	60	2	8	17	34
Important	10	40	12	48	22	44
Not so important	0	0	11	44	11	22
Not important	0	0	0	9	0	0
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

The participants were asked whether they enjoyed reading medical English texts, and 80% of the experimental group answered "yes" (see Table 4.11). However, the patterns by gender were also analyzed (see Table 4.12). It is interesting to observe how males enjoyed English reading more than females.

Table 4.11

Pre-test. Enjoyment of Reading English Texts

	Control Group		Experimental Group		Total	
Response	**N**	**%**	**n**	**%**	**n**	**%**
Yes	23	92	20	80	43	86
No	2	8	5	20	7	14
Total	25	100	25	100	25	100

Note: Prepared by the author, 2017

4.1.2 The Pre-reading Comprehension Test

A Reading Comprehension Test was prepared to evaluate how well the students could comprehend a graded medical article, and to prove that the scores of the two groups, the control group and the experimental group, were similar in reading ability, so as to eliminate bias that could affect negatively the intervention of reading strategies in the Experimental Group (see Appendix I).

This score was rated from 1 to 10. The mean score of the reading pre-test was 7.28 with a standard deviation of 1.54.

Table 4.12

Pre-test Reading Scores Level Distribution

Pre-test scores	Control Group		Experimental Group		Total	
	N	**%**	**n**	**%**	**n**	**%**
6.9 or lower	7	28	8	32	15	30
7-8.4 (intermediate)	13	52	14	56	27	54
8.5 or higher	5	20	3	12	8	16
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

4.1.3 The Pre-Survey of Reading Strategies (SORS)

A number of researchers in the area of L1 have developed inventories to measure metacognitive awareness and use of reading strategies for L1 learners, such as the Index Reading Awareness (Paris & Jacobs, 1984) and Reading Strategy Use (Pereira-Laird & Deane, 2006). Based on the critiques made on previous inventories, Mokhtari and Reichard (2002) developed the Survey of Reading Strategies to measure non-native English speakers. After

extensive revision of SORS with ESL college students this reading test reached a high internal reliability (Cronbach's alpha=0.944), which is the reason why this questionnaire was

chosen. Besides, SORS emphasizes the importance of cognitive strategies and metacognitive awareness in L2 reading, which is closely related with the literature review of this study. SORS was not translated into Spanish because it uses a simple and easy language.

The awareness of reading strategies on the students were assessed by means of their answers on the Survey of Reading Strategies (Mokhtari and Sheorey (2002) before and after the intervention. The mean score of pre-test for the SORS for the entire sample was 3.03 with standard deviation of 1.10. Overall, the participants' reading strategy degree of awareness on the pre-test ranged from 1.92 to 3.84 with a mean score of 3.18 for the control group, overall students reading strategy awareness had a mean of 3.035 on the pre-test. For the experimental group, students' reading strategy awareness had a mean of 2.89 on the pre-test, with no significant mean difference between the experimental group and control group. This lack of significant numerical difference indicates that the two groups' reading strategy awareness were similar before the treatment. In relation to the frequency of use of reading strategies, Mokhtari and Sheorey (2002) inform us about their scale which ranges from 1-5 (see Table 4.13).

Table 4.13

Scale of Strategy Use

High strategy use	3.5 and above
Medium strategy use	2.5 to 3.4
Low strategy use	2.4 or below

Note: Reprinted from Mokhtari & Sheorey (2002)

According to the results, the participants in pre-test showed the following results (see Table 4.14).

Table 4.14

Participants' Pre-SORS Distribution

Score	**Control Group**		**Experimental Group**		**Total**	
SORS	**n**	**%**	**n**	**%**	**n**	**%**
2.5 or lower	6	24	10	40	16	32
2.5 to 3.4	14	56	9	36	23	46
3.5 or higher	5	20	6	24	11	22
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

There are three subtests in 30 reading strategies in the SORS, it is imperative for the validation of this study to identify, as accurately as possible, which were the most frequently used and the least frequently used reading strategies before the treatment, with the purpose of identifying strengths and weaknesses. The most interesting finding was that according to the bottom-up reading model, the students mostly relied on translation and the use of dictionaries, which is not surprising due to their overall low level of reading comprehension. Reading aloud is another problematic area that the researcher has observed for more than ten years. For the untrained language teacher reading comprehension means reading aloud, without taking into consideration that what is being emphasized is pronunciation, leaving aside meaning making from what is being read (see Table 4.15).

Table 4.15

The Most Frequently Used Reading Strategies from the Pre-test Data

Strategy No.	**Strategy**	**Mean**	**Strategy Category**
13 (SUP)	I use dictionaries to help me understand what I am reading	3.75	Support Reading Strategy
5 (SUP)	When the text becomes difficult, I read aloud to help me understand what I read	3.58	Support Reading Strategy
29 (SUP)	When I am reading I translate	3.36	Support Reading Strategy

Note: Prepared by the author, 2017

Table 4.16 shows the least frequently used reading strategies. It reveals that there are areas regarding the Supporting Strategies that need to be improved to foster reading comprehension in the students' population.

Table 4.16

The Least Frequently Used Reading Strategies from the Pre-test Data

Strategy No.	**Strategy**	**Mean**	**Strategy Category**
23 (SUP)	Checking my understanding when unknown information appears.	2.6	Support Reading Strategy
18 (SUP)	Paraphrasing (re-stating ideas in my own words) for better understanding.	2.22	Support Reading Strategy
26 (SUP)	Asking oneself questions.	2.08	Support Reading Strategy

Note: Prepared by the author, 2017

4.1.4 Pre- test English Reading Motivation Questionnaire (ERMQ).

The participants' reading motivation was assessed through Mori's English Reading Motivation Questionnaire (2002) first used in Japan for this purpose. The mean score for the pre-ERMQ was 67.22 over a maximum of 100, with standard deviation of 0.817. For the control group EFL students' motivation to read in English had an overall mean score of 65.63 on the pre-test. For the experimental group, students' motivation to reading English had an overall mean score of 68.82 on the pre-test, which shows that these two groups were statistically similar on ERMQ scores before the treatment. The Table 4.19 shows that in spite of the fact that 88% of the participants in both experimental and control group showed medium to high motivation levels, such motivation levels were probably derived from the fact that the students were faced with the reality that they needed this English course to improve their language skills.

Table 4.17 shows the English Reading Motivation Questionnaire distribution.

Table 4.17

Pre-test ERMQ Distribution

Score	**Control Group**		**Experimental Group**		**Total**	
ERMQ	**N**	**%**	**n**	**%**	**N**	**%**
52 or lower	2	8	4	16	6	12
53 - 69	11	44	13	52	24	48
70 or higher	12	48	8	32	20	40
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

There are four subtests in ERMQ questionnaire (Mori (2002):

- Intrinsic reading motivation,
- Extrinsic reading motivation,
- Importance of English reading
- Reading efficacy

Table 4.18 shows the four subcategories of ERMQ with the respective scores of pre-tests for the control group and the experimental group, with the respective mean score.

Table 4.18

English Reading Motivation Questionnaire Pre-tests Scores

INTRINSIC VALUE OF ENGLISH

		Control Group		Experimental Group		
	STATEMENT	**Pre-test mean**	**S.D.**	**Pre-test mean**	**S.D.**	**Mean Score**
7	I find useful to learn to read in English.	2.85	0.37	2.07	0.93	2.46
8	If it is not strictly required, I would not volunteer to read in English.	2.23	0.92	2.42	0.79	2.35
9	I like to read in English in my free time.	2.00	0.76	2.08	1.08	2.04
10	I get immersed in interesting medical articles even if they are written in English.	2.85	0.55	2.67	0.98	2.76
13	Long and difficult English medical articles discourage me.	2.77	0.832	3.00	1.04	2.88
20	I like reading in English for fun.	2.54	0.87	2.83	0.93	2.69
21	I liked reading classes in high school.	2.77	0.60	2.75	0.62	2.76
22	I like reading websites in English in my free time	2.85	0.98	3.08	0.90	2.97
23	I enjoy the challenge of difficult passages.	2.54	0.77	2.92	1.08	2.73
24	Learning to read in English is important because I will broaden my horizons.	3.69	0.630	3.92	0.28	3.80
25	Reading in English is important because it will make me a more knowledgeable person.	3.85	0.37	3.75	0.45	3.80

EXTRINSIC VALUE OF ENGLISH

		Control Group		Experimental Group		
	STATEMENT	**Pre-test mean**	**S.D.**	**Pre-test mean**	**S.D.**	**Mean Score**
3	I am learning to read in English only because I would like to pass this course.	2.54	1.12	2.17	1.19	2.36
11	By learning to read in English I hope I will be able to read medical English.	3.38	0.76	3.33	1.07	3.36
12	Even if medical reading was not required in my English lessons, I would read medical readings anyway.	2.85	0.80	3.00	0.85	2.92
14	I am learning English because I might study for a post-graduate degree abroad in the future.	3.62	0.65	3.17	1.03	3.40
15	Learning to read in English is important because it will be conductive to my professional development.	3.92	0.27	3.50	0.52	3.71
16	By being able to learn to read in English, I hope to understand more deeply about life styles and culture of English-speaking countries (such as the USA or Canada)	3.62	0.50	3.33	0.65	3.46
17	By learning English, I hope to have more job opportunities around the world.	3.67	0.48	3.68	0.65	3.68
18	I would like to get a job that requires to use the reading strategies in English I know.	3.54	0.51	3.25	0.45	3.40
24	Learning to read in English is important because I will broaden my horizons.	3.69	0.63	3.92	0.28	3.80

IMPORTANCE OF ENGLISH

		Control Group		Experimental Group		
	STATEMENT	**Pre-test mean**	**S.D.**	**Pre-test mean**	**S.D.**	**Mean Score**
5	I think that learning to speak or listen in English is more important than learning to read.	2.23	0.83	2.42	0.90	2.33
6	Learning to read in English is important because we need to prepare for the internationalization of majors.	3.46	0.96	3.50	0.79	3.48
25	Reading in English is important because it will make me a more knowledgeable person.	3.85	0.37	3.75	0.45	3.80

READING EFFICACY

		Control Group		Experimental Group		
	STATEMENT	**Pre-test mean**	**S.D.**	**Pre-test mean**	**S.D.**	**Mean Score**
1	My grades in English in high school were not very good.	1.92	0.86	1.83	0.93	1.88
2	Reading in English is my weak subject.	2.08	0.862	2.33	0.88	2.20
4	I do not have any desire to read in English even if the content is interesting	2.38	0.65	2.33	0.65	2.36
19	I am good at reading English.	2.54	0.96	2.50	0.79	2.52

Note: Prepared by the author, 2017

It is of key importance for the academic community to have a glance at the most agreed motivation variations in EFL at university level in this pre-test chart according to the survey motivation sub-categories (see Table 4.19).

As we can see in this table, in the pre-test most participants agreed that English was really important for their future job or professional development in the form of postgraduate studies. Interestingly, both groups were aware of the importance of English for the internationalization of careers in today's globalized world.

Table 4.19

The Most Agreed Types of Motivation of EFL Medical Participant Students at the University of Guayaquil. (Pre-test)

No.	Reading motivation Statement	Mean	S.D	Strategy Category
24	Learning to read in English is important because I will broaden my horizons.	3.80	0.46	Extrinsic value of reading
25	Reading in English is important because it will make me a more knowledgeable person.	3.80	0.36	Importance of English
15	Learning to read in English is important because it will be conductive to my professional development.	3.71	0.40	Extrinsic value of reading
17	By learning English, I hope to have more job opportunities around the world.	3.68	0.57	Extrinsic value of reading
6	Learning to read in English is important because we need to prepare for the internationalization of majors.	3.48	0.88	Importance of English

Note: Prepared by the author, 2017

In the Table 4.20 the numerical data shows that the students had serious problems in reading efficacy, most participants did not have confidence in their reading skills efficacy and they did not enjoy long or challenging reading texts. This phenomenon clearly indicates that they did not have enough intrinsic motivation to read in English, besides some students viewed reading skills as less important than speaking or listening.

Table 4.20

The Most Disagreed Types of Motivation of EFL Medical Participant Students at the University of Guayaquil. (Control Group Pre-test)

No.	Reading motivation Statement	Mean	S.D	Strategy Category
1	My grades in English in high school were not very good.	1.88	0.90	Reading efficacy
9	I like to read in English.	2.04	0.92	Intrinsic value of reading
2	Reading in English is my weak subject,	2.20	0.87	Reading efficacy
5	I think that learning to speak or listen in English is more important than learning to read.	2.23	0.87	Importance of English
8	If it is not strictly required, I would not volunteer to read in English.	2.35	0.86	Intrinsic value of reading

Note: Prepared by the author, 2017

4.1.5 Effect of treatment on post-reading comprehension test.

There was a significant effect of the treatment on post-reading comprehension test in the students' reading ability. There was also a significant difference between the experimental group and the control group in the post-reading comprehension test after the treatment, which indicates a large effect of the treatment of Reading Strategy Instruction from which we can conclude that after a 60-hour reading training course, the experimental group outperformed the control group.

Table 4.21 shows that 28% of the participants in the control group rated their English proficiency as "good" compared to the experimental group in which 64% of the participants informed that they rated their English as "good",
which indicates higher improvement levels compared to the control group.

Table 4.21

Post-test Self-rate in English Proficiency

	Control Group		Experimental Group		Total	
Rate	**N**	**%**	**n**	**%**	**n**	**%**
Very good	0	0	0	0	0	0
Good	7	28	16	64	23	46
Fair	14	56	9	36	23	46
Poor	4	16	0	0	4	8
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

In the Table 4.22 it can be observed how the experimental group in the post-test reached levels of 64%, outperforming themselves compared to the pre-test. Fifty-two percent is the level of self-perceived improvement.

Table 4.22

Comparison of Pre-test and Post-test in the Experimental Group Self-rate in English Proficiency

EXPERIMENTAL GROUP					
	Pre-test		**Post-test**		**Difference**
Rate	**n**	**%**	**n**	**%**	**%**
Very good	0	0	0	0	
Good	3	12	16	64	52
Fair	9	36	9	36	0
Poor	13	52	0	0	
Total	25	100	25	100	

Note: Prepared by the author, 2017

In the post-test of self-perception of reading proficiency, 28% of the control group rated their English Reading Proficiency as “good”, and 56% rated their English reading as “fair”. Compared to the experimental group 68% of the students rated themselves as “good”, and 32% rated themselves as “fair”, outperforming the control group. On average, they rated their self-perception of reading proficiency higher than their English proficiency (see Table 4.23).

Table 4.23

Post-test Self-rate in English Reading Proficiency

	Pre-test		Post-test		Difference	
Rate	**n**	**%**	**n**	**%**	**n**	**%**
Very good	0	0	0	0	0	0
Good	7	28	17	68	24	48
Fair	14	56	8	32	22	44
Poor	4	16	0	0	4	8
Total	25	100	25	100	50	100

Note: Prepared by the author, 2017

In the Table 4.24 it can be observed how the experimental group compared their pre-test and post-test in self-rate of English Reading Proficiency. The student perceived improvement increased by 48%, which outperforms any negative percentages.

Table 4.24

Comparison of Pre-test and Post-test in the Experimental Group Self-rate in English Reading Proficiency

EXPERIMENTAL GROUP					
	Pre-test		**Post-test**		**Difference**
Rate	**n**	**%**	**n**	**%**	**%**
Very good	2	8	0	0	-8
Good	5	20	17	69	48
Fair	9	36	8	32	0
Poor	9	36	0	0	-9
Total	25	100	25	100	

Note: Prepared by the author, 2017

When the students of the control group were asked how important it was for them to become proficient in English Reading for their professional development, 68% of them indicated that it was either “important” or “very important”, compared to the control group which showed rates of 100%, which can be explained by the students’ expectations to do postgraduate studies in the near future (see Table 4.25).

Table 4.25

Post-test Rates. Importance of Being Proficient in English Reading

	Control Group		Experimental Group		Total	
Response	**n**	**%**	**n**	**%**	**n**	**%**
Very important	15	60	0	0	15	30
Important	10	40	17	68	27	54
Not so important	0	0	7	28	7	14
Not important	0	0	1	4	1	2
Total	25	100	25	100	25	100

Note: Prepared by the author, 2017

Table 4.26 shows the comparison of Pre-test and Post-test in the Experimental Group regarding English Reading Proficiency, which shows that there is an improvement of 20% in the perception of the importance of being proficient in English Reading.

Table 4.26

Self-rate in English Reading Proficiency

EXPERIMENTAL GROUP					
	Pre-test		**Post-test**		**Difference**
Rate	**N**	**%**	**n**	**%**	**%**
Very important	2	8	0	0	-8
Important	12	48	17	68	20
Not so important	11	44	7	28	0
Not important	0	0	1	4	-4
Total	25	100	25	100	

Note: Prepared by the author, 2017

It is interesting to notice that after the English course was over, the perception of enjoyment of English Reading in both males and females was 100% in the experimental group, whereas the control group informed that 84% of the subjects enjoyed reading English texts, which shows a decrease from the 92% initially reported (see Table 4.27).

Table 4.27

Post-test Enjoyment of Reading English Texts

	Control Group		Experimental Group		Total	
Response	**n**	**%**	**n**	**%**	**n**	**%**
Yes No	21 4	84 16	25 0	100 0	46 4	92 8
Total	25	100	25	100	25	100

Note: Prepared by the author, 2017

The experimental group change of perception regarding the enjoyment of English Reading can be observed in the following table (see Table 4.28), in which a positive change of attitude can be measured by 20%.

Table 4.28

Post-test Enjoyment of Reading English Texts. Pre- and Post-test in the Experimental Group

EXPERIMENTAL GROUP					
	Pre-test		**Post-test**		**Difference**
Response	**n**	**%**	**n**	**%**	**%**
Yes No	20 5	80 20	25 0	100 0	20
Total	25	100	25	100	

Note: Prepared by the author, 2017

There was a 12% improvement in the scores of the Reading Comprehension test in the experimental group; whereas in the control group the improvement on the same test was a modest 0.9%, which is a numerical proof that the Reading Strategy Instruction played a role in improvement of such scores (see Table 4.29).

Table 4.29

Comparative Table of Pre-reading and Post reading Tests in the Control Group and the Experimental Group

	Control Group		Experimental Group	
	Mean	**S.D.**	**Mean**	**S.D.**
Pre-reading test	7.25	1.53	7.3	1.55
Post-reading test	7.45	1.63	8.4	1.05
Difference	0.20 (0.9%)	1.58	1.1 (12%)	1.30

Note: Prepared by the author, 2017

4.1.6 Effects of treatment on the post-Survey Reading Strategy (SORS)

The second dependable variable was post-SORS test as measured by the Survey of Reading Strategies. Descriptive statistics for these two groups in terms of post-SORS can be seen in Table 4.30.

Table 4.30

Mean and Standard Deviation for Post-Survey of Reading Strategies

Group	Mean	S.D.	N
Control	3.46	0.98	25
Experimental	3.81	0.91	25

Note: Prepared by the author, 2017

4.1.7 Analysis and comparison of the Pre- and Post-SORS

Surveys on the Experimental Group.

As there were three subtests in the Survey of Reading Strategy, each subtest in post-SORS was also examined to check the effect of treatment on each subtest, Global Reading Strategies (GLOB), Problem-solving Strategies (PROB), and Support Reading Strategies (SURP). Results are presented in the Table 4.31 in categories, from the most used to the least used.

The scale devised for SORS by Mokhtari & Sheorey (2002) provides standards against which to measure the following results.

Table 4.31

Scale of Strategy Use

High strategy use	3.5 and above
Medium strategy use	2.5 to 3.4
Low strategy use	2.4 or below

Note: Reprinted from Mokhtari & Sheorey (2002)

Table 4.32

Global Reading Strategies

Category	Strategy	Pre-test Mean	S.D.	Post-test Mean	S.D.	Mean Difference
G 4	Pre-viewing text before reading.	2.84	1.02	4.04	0.93	1.2 (42%)
G 1	Setting purpose for reading.	3.04	1.27	4.00	0.95	0.96 (31%)
G 6	Checking how text content fits reading purpose.	3.28	1.06	4.00	0.81	0.72 (22%)
G 3	Using previous knowledge.	2.88	1.36	3.96	0.73	1.08 (36%)
G 21	Analyzing and evaluating what is read.	2.52	1.53	3.96	0.79	1.44 (57%)
G 24	Predicting or guessing text meaning.	2.56	1.08	3.92	0.90	1.36 (53%)
G 15	Using text features (tables, figures)	3.08	1.18	3.88	1.01	0.80 (26%)
G 8	Noting text characteristics (length and organization).	2.64	0.95	3.80	0.86	1.16 (43%)
G 20	Using typographical features (bold/italics).	2.68	1.34	3.80	1.04	1.12 (42%)
G 23	Checking my understanding when unknown information appears.	1.92	0.95	3.80	0.95	1.88 (98%)
G 27	Confirming predictions.	2.96	1.13	3.80	0.91	0.84 (28%)
G 17	Using context clues.	2.76	0.87	3.72	0.98	1.00 (35%)
G 12	Determining what I read.	2.80	1.41	3.68	0.85	0.88 (31%)

Note: Prepared by the author, 2017

Strategy 4: Pre-viewing a text before reading.

The increase of 42% in the use of this strategy indicates the students' curiosity to find what they are about to read, which shows that they were more interested than before in reading the medical articles that the researcher brought with the purpose of making the learners feel interested in reading.

Strategy 1: Setting purpose for reading.

An increase of 31% in the use of this strategy could be observed. That the learners have a clear idea of why they are reading is an aspect that indicates that higher order thinking in the form of a metacognitive strategy has been developed in the learners.

Strategy 6: Checking how the text content fits the students' reading purpose.

This strategy use was improved by about 22%, and it indicates that the students first checked the title of the article and then skimmed the text in order to find out if the content fits their reading purpose. This improvement shows that the students have started to become strategic readers.

Strategy 3: Using previous knowledge.

This strategy, whose use increased by 36%, shows that the students began to relate ideas from the text to their own pre-existing knowledge and life experiences to understand it better, which shows that the students were transferring knowledge from L1 to L2, which should be seen as a progress in reading comprehension. On the other hand, this increase may be seen as a departure from the bottom-up reading model.

Strategy 21: Analyzing and evaluating what is read.

The improvement of 57% shows that the students began to read critically to analyze if what was being read fitted their world knowledge and schooling background knowledge, either to accept it as true or to reject it because it was against their logical thinking. The increase in the use of this strategy should be seen as great progress regarding higher order thinking, which is a skill that health professionals need to use to comprehend medical articles.

Strategy 24: Predicting or guessing text meaning.

The students show an increase of 53% in the use of this strategy, which indicates that they began to use logical thinking to go beyond immediate data. The use of this strategy has the advantage of promoting intrinsic motivation to keep reading because the text is interesting.

Strategy 15: Using text features (tables and figures).

An increase of 26% in the use of this strategy shows that the learners were paying more attention than before to visual stimuli in order to construct a mental map of what was being read. This phenomenon could be explained by the students' increasing use of technological tools such as smart phones and computers that take advantage of visual effects.

Strategy 8: Noting text characteristics (length and organization).

An increase of 43% in the use of this strategy indicates that the students began to check titles, subtitles, topic sentence, supporting ideas and the conclusion of medical articles with more attention than before.

Strategy 20: Using typographical features (bold and italic letters).

An increase of 42% in the use of this strategy is a sign that the students began to scan the most noteworthy words to trigger the meaning making process in their minds. Scanning is a strategy that the learners should have learned to use in high school; however, the pre-test experimental study showed that it was unknown to most of them.

Strategy 23: Checking my understanding when unknown information appears.

The students showed an increase of 98% in the use of this strategy. This reveals that the learners stopped reading mindlessly. On the contrary,
they began to think logically and evaluate what was being read in order to construct meaning. This is also a sign that higher order thinking and top-down reading was taking place.

Strategy 27: Confirming predictions.

The increase of 28% in the use of this strategy indicates that the learners were using an important number of strategies and logical thinking that allowed them to make predictions before even finishing reading the text. Confirming predictions indicates that the learners were engaging in the reading process, which is in reality the ultimate goal of this educational experiment.

Strategy 17: Using context clues.

The increase of 35% in the use of this strategy indicates that the learners were using contextual clues as resources that could allow them to understand when they felt the text did not make sense because they lacked knowledge. For example, suffixes and prefixes, comparisons and examples. Comprehension breakdown was solved by using root words or other words in the paragraph to figure out the approximate meaning of the idea.

Strategy 12: Determining what I read.

An increase of 31 % in the use of this strategy is an indicator that the students deliberately chose what to read with more attention and what to skip because it was perceived as not so important. This decision-making process indicates the use of higher order thinking to evaluate what to read.

Table 4.33

Problem Solving Reading Strategies

Category	Strategy	Pre-test Mean	S.D.	Post-test Mean	S.D.	Mean Difference
P 7	Reading slowly and carefully to make sure I understand.	3.40	1.29	4.16	0.80	0.76 (22%)
P 9	Trying to stay focused on reading when losing concentration.	3.08	1.07	4.04	0.84	0.96 (31%)
P 16	Pausing and thinking about reading.	2.60	1.15	4.04	0.88	1.44 (55%)
P 19	Visualizing information read.	2.84	1.24	4.04	0.84	1.2 (42%)
P 11	Adjusting reading speed.	2.92	0.99	3.84	0.85	0.92 (32%)
P 25	Re-reading for better understanding when the text becomes difficult.	3.32	1.40	3.80	0.95	0.52 (14%)
P 14	Paying close attention to reading when the text becomes difficult.	3.00	1.11	3.72	1.02	0.72 (24%)
P 28	Guessing meaning of unknown words	2.52	1.08	3.52	1.12	1.00 (40%)

Note: Prepared by the author, 2017

Strategy 7: Reading slowly and carefully to make sure I understand.

There was a 22% increase in the use of this strategy, reaching levels of 4.16, which shows that the learners used this strategy very often to increase their understanding by paying close attention to relevant information on the text, and in this way solving the problem of comprehension breakdown.

Strategy 9: Trying to stay focused on reading when losing concentration.

The use of this strategy showed an increase of 31%. This strategy was very useful especially when the students tried to comprehend a text by keeping their concentration on the main idea throughout the text in spite of distractors.

Strategy 16: Pausing and thinking about reading.

The use of this strategy increased by 55%. The researcher purposely encouraged the students to take a break from reading when the text became difficult. This strategy proved to be of great value for various reasons. First, the English lessons took place during lunchtime, and because the students were not allowed to take a long break to have lunch, it is possible that their glucose levels went down and thus, concentration became difficult. Second, there was no rush to finish first, on the contrary, the researcher encouraged breaks to promote reasoning to promote higher comprehension levels.

Strategy 19: Visualizing information read.

The use of this strategy increased by 42%. Visualizing the ideas while reading is an important problem-solving solution that the learners used to increase their interest in reading for the purpose of comprehension.

Strategy 11: Adjusting reading speed.

The use of this strategy increased by 32%. The students at the beginning of the reading process were encouraged to speed read or “skim” the text to get an initial overall understanding of what was being read. This process allowed them to pick up keywords and put them together for meaning making purposes. At the same time the students were also encouraged to read more slowly if it helped them to understand better.

Strategy 25: Re-reading for better understanding when the text becomes difficult.

The use of this strategy increased by 14%. The students used this strategy to re-read parts of the text and remember better. This back and forth reading process was encouraged as a problem-solving solution to avoid comprehension breakdowns that discouraged the students to keep reading.

Strategy 14: Paying close attention to reading when the text becomes difficult

There was an increase of 24% in the use of this strategy, which shows that the learners were concentrating on the text more than before the application of reading strategies. Very often medical texts present specialized vocabulary that is carefully explained in the same text. The researcher encouraged the learners to read carefully to find

out the explanation of new words, while discouraging the use of dictionaries or translating to solve the problem fast.

Strategy 28: Guessing meaning of unknown words.

The use of this strategy rose by 40%. The researcher encouraged guessing unknown words based on what the learners had already read. The students' English proficiency was not very high, so they lacked an ample inventory of vocabulary. To solve this problem the students were asked to use top-down reading techniques to guess unknown words with the conviction that their guessing was going to be accurate. This process was difficult at the beginning, but later it became a habit. The adoption of this habit implies that this very useful strategy went from the declarative knowledge to the procedural knowledge, and finally to the working knowledge quite easily. Besides, in real life in L1 native speakers are constantly faced with new words whose meaning may be unknown, but they figure out their meaning by guessing.

Table 4.34

Support Reading Strategies

Category	Strategy	Pre-test Mean	S.D.	Post-test Mean	S.D.	Mean Difference
S 10	Underlining information in the text to help me remember it.	3.08	1.03	4.24	0.87	1.16 (38%)
S 2	Taking notes while reading.	3.00	1.18	3.88	0.72	0.88 (29%)
S 22	Going back and forth in the text to find relationships among ideas.	2.56	1.35	3.88	0.78	1.32 (52%)
S 18	Paraphrasing (re-state ideas in my own words) for better understanding.	2.16	1.14	3.76	0.92	1.60 (74%)
S 26	Asking oneself questions.	2.00	1.08	3.60	0.91	1.60 (80%)
S 5	Reading aloud when the text becomes difficult.	3.64	1.22	3.56	1.00	-0.08 (-21%)
S 13	Using reference materials (dictionaries).	3.84	0.94	3.08	1.11	0.76 (-19%)
S 29	Translating into a native language.	3.48	1.22	3.56	1.00	0.6 (4%)
S 30	Thinking about information in both	3.32	0.94	3.36	0.99	0.4 (1%)

	English and mother tongue.					

Note: Prepared by the author, 2017

Strategy 10: Underlining information in the text to help me remember it.

The use of this strategy increased by 38%, with levels of 4.24, which shows that the students used this support strategy constantly. One of the main reasons to use this strategy is to help the students decide what is important. The other reason is to help them visualize how the ideas are related. This process forces the learners to read actively rather than passively.

Strategy 2: Taking notes while reading.

The use of this strategy rose by 29%. This note-taking strategy shows that the students were reading actively rather than passively. On the other hand, it is very possible that note taking is a sign that the students were linking points to think about the ideas that were presented in the text, which is a sign of reading engagement.

Strategy 22: Going back and forth in the text to find relationships among ideas.

The use of this strategy showed an increase of 52%. According to the directions of the researcher, the students had to read the text at least three times in order to reach adequate comprehension levels. The high use of this strategy is a sign that the learners were willing to follow advice. When the students use this strategy, it shows that they were inter-relating ideas, and not just that, they were checking if what was proposed in the topic sentence matched the supporting ideas and the conclusion of the text.

Strategy 18: Paraphrasing (re-state ideas in my own words for better understanding).

The use of this strategy increased by 74%. Using paraphrasing when reading is a very useful tool as it is the first step towards summarizing. To practice this strategy, the researcher asked the learners to say in their own words what they had read about. It was interesting to observe that this process kept on improving. In spite of the fact that the learners used words slightly different from the text, the meaning was retained.

Strategy 26: Asking oneself questions

This strategy rose by 80%. The researcher encouraged the learners to question themselves to activate previous knowledge in order to relieve confusion. Before each reading session, the researcher elicited information from the students and explicitly

encouraged them to provide questions of their own. The use of this strategy shows that the students were going beyond the immediate data presented in the title of the article. Furthermore, it encouraged higher levels of motivation to read.

Strategy 5: Reading aloud when the text becomes difficult.

There was a decrease of 21% in the use of this strategy mainly because the researcher clearly encouraged silent reading. Reading aloud is a technique used by untrained teachers who think that this procedure automatically encourages comprehension. The students were permitted to read aloud after the third time they had read, pointing out the fact that pronunciation was something very different from reading for comprehension, and that other strategies were better suited for oral production.

Strategy 13: Using reference materials (dictionaries).

The use of this strategy decreased by 19%. The students were discouraged to use dictionaries constantly, and encouraged to use guessing from context. The implementation of this process took almost 50% of the intervention process. The learners were kindly asked not to resort to bilingual dictionaries; however, they could ask the teacher who gave them a synonym or a brief explanation in English. By discouraging the use of bilingual dictionaries, the researcher fostered top-down reading, which was another goal of this study.

Strategy 29: Translating into a native language.

The use of this strategy rose only 4%, but it reached a level of 3.56, which is considered high. In spite of the fact that the learners were discouraged from using bilingual dictionaries or constantly translating, the statistical results show that there was almost no change in the use of this strategy. The reason could be that some students were faced with medical texts in English for the first time and they lacked the technical vocabulary necessary to comprehend specialized articles.

Strategy 30: Thinking about information in both English and mother tongue.

The use of this strategy rose by 1%. In spite of the fact that the learners were discouraged from using dictionaries and constant translation, they were asked to transfer knowledge from L1 to L2. So, this may explain why the use of this strategy did not show relevant changes; however, how and in which degree this transferability of knowledge occurs, should be further investigated.

4.1.8. Effect of treatment on post-English Reading Motivation Questionnaire (post-ERMQ).

The third dependable variable is post ERMQ as measured by English Reading Motivation Questionnaire. The tables 4.35, 4.36, 4.37, 4.38,4.39 and 4.40 show the differences between the two groups: the control group and the experimental group (see Table 4.35, 4.36, 4.37, 4.38,4.39 and 4.40).

Table 4.35

Mean and Standard Deviation English Reading Motivation Questionnaire

Group	Mean	S.D.	N
Control	71.82	20.61	25
Experimental	82.8	16.72	25

Note: Prepared by the author, 2017

Table 4.36

Intrinsic Value of Reading Subtest in Post-ERMQ

Group	Mean	S.D.	N
Control	23.82	8.53	25
Experimental	24.00	6.59	25

Note: Prepared by the author, 2017

Table 4.37

Extrinsic Value of Reading Subtests, Post-ERMQ

Group	Mean	S.D.	N
Control	29.34	6.69	25
Experimental	38.7	4.71	25

Note: Prepared by the author, 2017

Table 4.38

Importance of English Subtest, Post-ERMQ

Group	Mean	S.D.	N
Control	9.67	2.14	25
Experimental	10.2	2.09	25

Note: Prepared by the author, 2017

Table 4.39

Reading Efficacy Subtest, Post-ERMQ

Group	Mean	S.D.	N
Control	8.99	3.25	25
Experimental	9.90	3.33	25

Note: Prepared by the author, 2017

Table 4.40

Post-test, ERMQ Distribution

Score ERMQ	Control Group		Experimental Group		Total	
	n	%	n	%	n	%
52 or lower	1	4	0	0	1	2
53 – 70	12	48	12	48	24	48
70 or higher	12	48	13	58	25	50
Total	25	100	25	100	25	100

Note: Prepared by the author, 2017

Table 4.41

The Most Agreed Types of Motivation of EFL Medical Students at the University of Guayaquil. (Experimental Group post-test)

No.	Reading motivation statement	Mean	S.D	Strategy Category
14	I am learning English because I might study for a post-degree abroad in the future.	3.80	0.82	Extrinsic motivation
15	Learning to read in English is important because it will be conductive to my professional development.	4.00	0.00	Extrinsic motivation
16	By being able to learn to read in English, I hope to understand more deeply about life styles and culture of English speaking countries (such as the USA or Canada).	3.80	0.42	Extrinsic motivation
17	By learning English I hope to have more job opportunities around the world.	3.80	0.42	Extrinsic motivation
25	Reading in English is important because it will make me a more knowledgeable person.	3.80	0.60	Importance of English.

Note: Prepared by the author, 2017

4.1.9 Analysis of the ERMQ Subtests

Overall, the students' Intrinsic Value of Reading increased by 5%. Although this is modest, it shows noteworthy advances regarding the enjoyment of English 44%, which is in accordance with the result of the BIQ test. The items: "If it is not strictly required, I would not volunteer to read in English" and "Long and difficult English medical articles discourage me" also show improvement. Finally, the item "I like to read English in my free time" shows that the students' resistance towards reading was overcome, which in the researcher's opinion, is one of the most important objectives of this study (see Table 4.42).

Table 4.42

Intrinsic Value of English

INTRINSIC VALUE OF ENGLISH

		Experimental Group		**Experimental Group**		
	STATEMENT	**Pre-test mean**	**S.D.**	**Post-test mean**	**S.D.**	**Difference**
7	I find useful to learn to read in English.	2.07	0.93	3.00	0.38	44%
8	If it is not strictly required, I would not volunteer to read in English.	2.42	0.89	2.00	0.94	-17%
9	I like to read in English in my free time.	2.08	1.08	2.50	0.73	20%
10	I get immersed in interesting medical articles even if they are written in English.	2.67	0.98	2.90	0.56	8%
13	Long and difficult English medical articles discourage me.	3.00	1.04	2.30	0.82	-23%
20	I like reading in English for fun.	2.83	0.93	2.80	1.03	-1%
21	I liked reading classes in high school.	2.75	0.62	2.80	0.47	2%
22	I like reading websites in English in my free time.	3.08	0.98	2.90	1.10	5%
23	I enjoy the challenge of difficult passages.	2.92	1.08	2.80	0.56	4%
	Total	23.82	8.53	24.00	6.59	5%

Note: Prepared by the author, 2017

Regarding the extrinsic value of reading, the most outstanding result is in the item "I am learning English because I might study for a postgraduate degree abroad in the future", which showed an increase of 19%. "Learning to read in English is important because it will be conductive to my professional development" shows a 14% increase, probably because the students are concerned about their professional development beyond obtaining their professional degree. The item "By being able to read in English I hope to understand more deeply about lifestyles and cultures of English speaking countries" was regarded in the past as "integrative motivation", but according to Mori (2002), it is in reality part of the extrinsic value of English. This item showed an increase of 14%, mainly because the students are starting to realize that language and culture are inter-related (see Table 4.43).

Table 4.43

Extrinsic Value of English

EXTRINSIC VALUE OF ENGLISH

		Experimental Group		**Experimental Group**		
	STATEMENT	**Pre-test mean**	**S.D.**	**Post-test mean**	**S.D.**	**Difference**
3	I am learning to read in English only because I would like to pass this course.	2.17	1.19	2.00	1.07	7%
11	By learning to read in English I hope I will be able to read Medical English.	3.33	1.07	3.40	0.69	3%
12	Even if medical reading was not required in my English lessons, I would read medical readings anyway.	3.00	0.85	2.80	0.63	6%
14	I am learning English because I might study for a postgraduate degree abroad in the future.	3.17	1.03	3.80	0.42	19%
15	Learning to read in English is important because it will be conductive to my professional development.	3.50	0.52	4.00	0.00	14%
16	By being able to learn to read in English, I hope to understand	3.33	0.65	3.80	0.42	14%

	more deeply about lifestyles and culture of English speaking countries (such as the USA or Canada)					
17	By learning English, I hope to have more job opportunities around the world.	3.67	0.65	3.80	0.42	3%
18	I would like to get a job that requires to use the reading strategies in English I know.	3.25	0.45	3.60	0.51	11%
24	Learning to read in English is important because I will broaden my horizons	3.92	0.28	3.70	0.55	-5%
	Total	29.34	6.69	38.7	4.71	8%

Note: Prepared by the author, 2017

Regarding the importance of English, before the intervention the students showed mean standards of 3.5 in two items: “Learning to read in English is important because we need to prepare for the internationalization of majors” and “Reading in English is important because it will make me a more knowledgeable person”, which are considered high. So modest increases of 5% and 1% respectively, show that this belief has not changed. In the item “I think that learning to speak or listen in English is more important than learning to read”, there is an increase of 11%, this item does not show the highly expected change in students’ beliefs and values set at the beginning of the research. Unfortunately, this result shows that students, from the motivational point of view, still do not realize that reading is the most cost-effective receptive skill, which means that the teachers need to work more on motivating the students to first read in order to develop the other skills that are also very important (see Table 4.44).

Table 4.44

Importance of English

IMPORTANCE OF ENGLISH

		Experimental Group		**Experimental Group**		
	STATEMENT	**Pre-test mean**	**S.D.**	**Post-test mean**	**S.D.**	**Difference**
5	I think that learning to speak or listen in	2.42	0.90	2.70	0.82	11%

	English is more important than learning to read.					
6	Learning to read in English is important because we need to prepare for the internationalization of majors.	3.50	0.79	3.70	0.67	5%
25	Reading in English is important because it will make me a more knowl-edgeable person.	3.75	0.45	3.80	0.60	1%
	Total	9.67	2.14	10.2	2.09	5.6%

Note: Prepared by the author, 2017

Regarding reading efficacy, there is an increase of 16% in the item "I am good at reading in English", which shows that the students are slowly but securely changing their perception towards "self-efficacy". This result is in accordance with the scores of the reading comprehension post-test and the BIQ post-test (see Table 4.45).

Table 4.45

Reading Efficacy

READING EFFICACY

		Experimental Group		**Experimental Group**		
	STATEMENT	**Pre-test mean**	**S.D.**	**Post-test mean**	**S.D.**	**Difference**
1	My grades in English in high school were not very good.	1.83	0.93	2.10	0.87	14%
2	Reading in English is my weak subject.	2.33	0.88	2.50	0.85	7%
4	I do not have any desire to read in English even if the content is interesting.	2.33	0.65	2.40	0.51	3%
19	I am good at reading English.	2.50	0.79	2.90	1.10	16%
	Total	8.99	3.25	9.9	3.33	10%

Note: Prepared by the author, 2017

4.2 Qualitative Findings

It is a well-known fact the EFL learners need to develop reading skills and one of the best and fastest ways of achieving permanent outcomes is by means of the application of metacognitive and cognitive reading strategies. With the increasingly added value that English has reached in recent times, it is necessary that teachers and students work together to improve reading for the prosperity of the living conditions of the society as a whole.

Even if the statistical results show improvement after the Reading Strategies intervention, it is necessary to explore other non-quantitative reasons of such improvement. The data collected for analyzing qualitative data consists of students' journals, interviews, and classroom observations that were collected by the researcher. The intention of such an analysis is to explore what specific features that escape the scope of the quantitative findings helped EFL medical students acquire successful reading strategies in order to improve their reading comprehension capabilities.

4.2.1 Finding No. 1: Reading materials in the textbook are not interesting to EFL medical students.

Unfortunately, reading texts in the books currently used at the University of Guayaquil are selected for presenting grammar and vocabulary. Readings from a well-known international publisher are mostly organized for practicing grammar in artificial contexts that are not necessarily appealing or interesting to the students. According to Guthrie J., Wigfield A. & Wei You (2000) , teachers can facilitate intrinsic motivation by suggesting interesting reading materials at an appropriate level for the students. From the needs analysis the researcher has conducted in the last four years, it can be concluded that the students would like to read texts that are related to their future professions, and which are graded to level of difficulty to develop comprehension (see Table 4.46).

Table 4.46

Reading Efficacy: Analysis

Needs	Lacks	Wants
The students need to learn to read critically.	The students do not have enough reading strategies: guessing meaning of unknown words, paraphrasing, using typographical features.	The students want to be able read and comprehend Medical Journals in English to find out updated information for other subjects
The students need to identify the main idea of the reading text.	The students do not use top-down reading techniques to infer.	The students want to pass standardized tests to be eligible for scholarships
The students need to understand the meaning of prefixes and suffixes	Students cannot write an accurate summary of what they have just read.	The students want to use their reading skills to write the abstract of their graduating project

Note: Prepared by the author, 2017

One student mentioned:

"When I read boring texts, it is difficult to remember the vocabulary I learned in elementary school and high school. I have found that reading is a slow process because I have to resort to my dictionary and a list of verbs that I never finish learning."

Another student pointed out:

"I soon forget what I read because it is not related to the medical major I am pursuing; the truth is that I am not interested. It seems that the readings are in reality a grammar or vocabulary exercise, and the same can be said about listening."

This finding clearly shows that lack of personal interest works against motivation. When the students are forced to read texts that are not related to their pre-professional preparation, and have to memorize vocabulary that has very little relevance in the construction of real world knowledge for medical students, they lose interest and the results, in terms of academic achievement and motivation, are disappointing. It is urgent that an English for Specific Purposes course be designed, not only to satisfy the authorities to reach

the B2 level, but mostly based on the real students' needs, so that the learners can take advantage of relevant reading materials that will help them in their professional development.

4.2.2 Finding No. 2: Constructing meaning while reading was not valued, and reading strategies were at the service of test-taking results.

It has been found that the most relevant reading strategies that were taught to the students were those directed to passing tests. Students have only been trained to analyze language features such as vocabulary or grammar without taking into consideration comprehension, summarization or higher order activities that can foster meaning making.

A student referred the following:

> "When I was instructed about reading comprehension strategies, I was asked to read the question first, identify the verb and surrounding words, then look for the answer to the question without bothering in reading the rest of the passage."

Another student mentioned:

> "Even if I did not know what the answered meant, I knew the answer was correct because the main verb in the questions and the answers matched."

With this realization, it can be assumed that good test results in reading can be deceiving, and they only show surface learning rather than meaning construction or language acquisition. This realization shows that formative assessment is even more important than the actual numerical results.

4.2.3 Finding No. 3: Instructors whose teacher-centered instruction relies excessively on multi-tasking, and thus, preventing independent reading or social interaction.

Unfortunately, those multi-task teachers think that a quality instructor is the one who knows and gives all the answers to the learners, but the sad reality is that comprehension is hindered because top-down reading is prevented.

When the teachers translate and explain every single detail to the students, reading does not develop. According to social constructivism, reading is more than linguistic and psychological processing; it also needs social context for the students to develop sound reading strategies. Vygotsky (1978) informs us that language learning and behaviors are

socially shaped. This view supports the fact that teacher's reading instruction has an impact on the learners' reading behavior.

The participants of the experimental group informed the researcher that they preferred to read with the teacher's assistance of constant translation because that was the only way they knew they could comprehend a text. This comment brings about the idea that teachers' reading instruction relied solely on translation and sentence analysis, and that the learners did not have the need to use any other support or problem-solving strategy. This phenomenon may explain why the students are resistant to read extensively even if such reading helps them in their professional development. Unfortunately, the truth is that EFL learners from public universities are not equipped with the reading strategies to become independent readers. In the researcher's experience without the advantage of sound reading strategies, passive reading seems to be the norm, sadly the students lack initiative for reading in English in their free time, which shows the lack of intrinsic or extrinsic motivation to acquire language.

One of the students said:

> "I never read in English in my free time, only in the classroom. If I have to read in English, it is only to memorize grammar and vocabulary for the exams."

Another student informed:

> "Unless the teacher translated all the unknown words before starting reading, the reading exercise was worthless because I dislike using bilingual dictionaries that contain thousands of words I will never learn."

These comments show the lack of active reading and the excessive reliance on the language teacher instead of reading independently. The students have become so used to drills, rote-learning and grammar practices that without these features they develop a sense of helplessness, which counteracts active reading. Unfortunately, teacher-centered classroom activities is still seen by many students as the best way to reach the critical mass of knowledge necessary to pass achievement exams that only foster extrinsic motivation.

In recent times, universities are mostly interested in the fulfillment of the mandatory curriculum and good exam results with high scores. This sad truth shows that English teachers with time constraints to make the students achieve so much in so little time are mainly concerned with exams results rather than with real learning objectives that can be

measured in terms of higher comprehension levels. Unfortunately, the high expectations of the curriculum in the hands of teachers who believe that teacher-centered instruction with minimal social interaction, who stubbornly refuse to change this paradigm, hinders skills development in the students.

The aforementioned view is a clear sign that teachers' instruction has not changed much from the behavioral approach point of view, class instruction for many students is still seen as "class dictation", in which the learner takes notes while the teacher lectures. Social interaction either with the teacher or the classmates, or summarization derived from comprehension was never taken into consideration for evaluation purposes, which sadly shows that for some English teachers form is more important than meaning.

4.2.4 Finding No. 4: Instructions for Reading.

According to the Behaviorist approach for reading, the students followed these steps: First, they checked vocabulary, decoded unknown words with the use of dictionaries, and focused on grammar features, which made the learners spend precious time in translating, which, or course, brought little pragmatic meaning to comprehend a text. When using dictionaries, the students mostly chose the first definition regardless of the context of the word in the text. This process helped very little in meaning construction, thus making the reading process a senseless long lasting task that discouraged motivation.

One of the students from the experimental group commented that she would start reading more when her vocabulary knowledge increased, which shows that her comprehension was conditioned to a future probability rather than on an immediate use. This student's realization proves again that reading is mostly a matter of vocabulary decoding and grammar analysis to the vast majority of the students, the students' perception regarding being a "good reader" is that he or she has already memorized most of the words in the dictionary, which, of course, is an unpractical and unattainable task. Very few students were aware of the fact that they first needed to identify the main idea of the text rather than focusing on unknown vocabulary words, which shows that the students are mainly instructed to use "bottom-up" strategies of word recognition, similar to Spanish reading (L1), leaving aside meaning making.

After applying a Multiple Intelligence Quiz (see Appendix D), it was discovered that only 20% of the students had previously developed Interpersonal Intelligence, which may be the reason why they did not like to ask for help, even when the latest educational tendencies have been to learn cooperatively, and health workers need to work in teams. According to Gan Z., Humphreys, G. and Hamp-Lyons, L. (2004) when the students do not have enough

support from their peers and teacher, they feel frustrated to the point of helplessness. This individualistic reading style works against lowering the affective filter, causing feelings of frustration, as the learners do not have control over their learning, causing psychological interference and rejection toward reading in English.

A few students have stated that they forgot vocabulary faster than they

memorized it, to the point that they could not even recognize the word that was taught at the beginning of the lesson, and very often, the learners relied on the teacher's translation, for faster and immediate results, confirming, once again, the fact that for most students, comprehension depends on vocabulary recognition. Laufer, B. & Ravenhorst-Kalovski (2010) informs us that the English threshold of known vocabulary for an EFL Israeli student at university level is 3,000, which should be similar in Ecuador as most of the students surveyed in the experimental group informed that they had studied English for an average of ten years. However, it is the researcher's opinion that in view of the rather unsatisfactory pre-test intervention results, reading instruction should go beyond the linguistic features of vocabulary and grammar. In order to reach comprehension, the students need to construct meaning by means of inferring, and this aspect needs to be encouraged by English teachers.

According to the interactive reading model (Abraham & Farias, 2017); the interactive dimension of reading expands to the relations between the images and the text, learning preference and proficiency level. In this view, texts should be regarded as cultural tools that have the power to broaden the students' world knowledge. Thus, reading should be taught in a way that students feel comfortable when reading, so that the learners can construct meaning from the text and feel motivated to read extensively outside the protected environment of the classroom because reading has become a pleasurable habit. One of the most effective ways to encourage extensive reading on the students is by means of the instruction of reading strategies. For university students reading is especially important because it is a valuable input, besides it is the most cost-effective means of acquiring another language and culture (Bernhardt, 1991).

4.2.5 Finding No. 5: Bottom-up reading and excessive reliance on vocabulary background knowledge as the starting point of comprehension.

The role of vocabulary knowledge in reading comprehension has been highly prized for decades, however, it is important to point out that translating vocabulary words should not be regarded as the final goal, but the comprehension of chunks of words in order for the learners to convey meaning. Most of the students in this survey informed that they were

mostly worried about their lack of vocabulary, phrasal verbs, idioms and grammar knowledge. The main reason may be the fragmented and isolated way in which the students learned English vocabulary with little pragmatic meaning in the real world. When these students learned to read in English, their teachers asked them to use bilingual dictionaries for translation as the main and probably only resource, or they were directly provided with translations without reading in context, guessing or inferring, which, of course, may have taken longer for untrained teachers who regard reading comprehension as a lesser skill.

One student mentioned:

> "I would like the teacher to write new vocabulary with translations on the board, in this way things will be less complicated."

With this vocabulary method, the students easily forgot meaningless words that had no immediate application; mostly because there was not enough effort to internalize such vocabulary out of context. Students complained that there were vocabulary words whose pronunciation was never modelled by the teachers. They just copied the words in their notebooks, to check spelling and translation. When there was a vocabulary test, the teacher said the word in Spanish and the students had to write it in English, making vocabulary building a purely mechanical decoding process without higher order thinking.

One student said:

> "In order to understand the meaning of new words, it would be a good idea that the teacher explains in Spanish, especially for those who do not know any English."

Some other students complained that their English teacher had them read aloud, only taking care of pronunciation, and their reading abilities were tested solely on their pronunciation abilities. Due to the fact that pronunciation does not necessarily help the learners in vocabulary building, it is urgent that teachers be trained in the theoretical aspects of reading, so that the students

can learn in a meaningful way. Another solution to learn vocabulary may lie in integrating phonological features, spelling and meaning to reinforce learning after comprehension has been done.

In accordance with the previous comment, another group of students informed the researcher that their previous teacher had instructed them to read aloud whenever they

encountered difficulties. This is a feature of reading that is often seen in public universities, especially when untrained professors do not understand the abstract aspects of reading comprehension. In this type of reading the students read as though they were “praying”, especially during exams when they are not allowed to use dictionaries, or any other reference materials. This supportive strategy has proven to have little effect on comprehension, as it does not help the learners cope with the lack of vocabulary knowledge. Vocabulary building in L1 and L2 has gained an important position in recent years, and it is the common consensus that vocabulary knowledge and reading comprehension are highly interrelated, and for this reason, effective vocabulary instruction to build lexical items is important to read L2 texts.

To conclude, it is important to point out that memorizing spelling by means of audio-lingual style practice, relying mainly on word memorization, pronunciation, and overemphasizing grammatical features is not enough. In order to reach comprehension, teachers need to go one step further by instructing the students on the application of Reading Strategies, and avoid excessive reliance on linguistic features.

4.3 Reading Strategy Instruction

From the previous qualitative findings we can reach the conclusion that English teachers in general are mostly not teaching students to read in a meaningful manner, which has made learners mostly rely on superficial learning with a heavy dependence on vocabulary decoding and grammar analysis. This grim reality has brought about the realization that reading is seen either as a tool to develop the aforementioned linguistic features: grammar and vocabulary or as a skill that needs special training to pass achievement standardized exams.

After a sixty-hour course of implementing Reading Strategy Instruction in the English course for medical students at the University of Guayaquil, the qualitative results of this intervention has contributed with various benefits for the students and the researcher which are worth mentioning:

4.3.1 Strategy awareness.

The students have given proof of having achieved a certain degree of reading strategy regulation in the forms of prediction, questioning, clarification, paraphrasing and summarization, which in reality are metacognitive strategies that direct cognitive strategies for the manipulation of the language. To achieve this objective, it is necessary that the teachers instruct, familiarize, guide and support the learners in the use of reading strategies. Once the students have learned to regulate reading strategies, they will be able to use them

in the best possible ways to suit their immediate needs, especially when there is a communication breakdown.

In the initial stage of this study the teacher modelled the reading strategy, and later gave enough opportunities to students for the practice of such strategies in small groups, so as to make the experience as student-centered as possible. However, the teacher monitored the learners to provide enough support to avoid from the part of the learners, excessive grammar analysis or reliance on dictionaries. After thirty hours of instruction, it could be demonstrated that the students had improved their problem-solving skills in the form of inferring, summarizing, going beyond immediate data or predicting. The researcher could observe how the students enjoyed working in groups, how they helped each other to identify the main idea of the text.

One student noticed:

> "Every time I read, I have noticed that I can do it faster without having to translate all the time."

Another student also said:

> "I feel that I have improved reading, now I can deduct some meanings of words I did not know before, which has improved my vocabulary. I am trying to paraphrase words to comprehend the text."

An interesting comment was:

> "With these strategies, there is an order that I have to follow to start understanding English texts, in this way I do not get lost."

The responses reveal that the intervention of Reading Strategies have gradually given the learners control over their reading process, mostly because the researcher, who is a true believer of constructivism, decided to transfer power to the students so that they could become agents of their own learning, and gain confidence.

4.3.2 Finding No. 6: Reading Strategies motivate social interaction, which helps learners with mixed abilities to gain self-confidence and social acceptance.

With the help of social interaction, low proficiency students have benefited a great deal, mostly because they were guided by their better proficiency peers. Baker (2004)

believes that metacognitive skills start from skilled beginner interaction, this view in fact started with Vygotsky's social interaction theory (1978). This community inductive approach of modelling, interacting, giving feedback and allowing enough opportunities for practice may be the solution for students with low proficiency level, who otherwise would be left out, discouraging social integration. With the reciprocal teaching provided by the more able peers, on the other hand, high proficiency learners may reinforce their self-efficacy when they help lower proficiency peers to solve reading problems. Vygotsky's assumption that learning happens in the presence of social interaction, and not it its absence, has not lost actuality.

In this study the learners felt encouraged to share through talking, their mutual reading experiences and observed how their classmates solved reading problems, in spite of the fact that they had not previously developed interpersonal intelligence. This study has also demonstrated that the students were eager to work in teams.

For example, a student stated:

"When my classmates have difficulties to figure out what the main idea is, I feel I have the responsibility to help them identify it."

It is evident that EFL learners enjoy this kind of team work in which they can ask and offer help when it is necessary. This interaction has had the power to eliminate boredom and monotonous learning, which makes students feel interested in learning more.

4.3.4 Finding No. 7: Reading Strategy has helped learners move from meaningless vocabulary learning to higher order thinking processes in spite of occasionally using native language.

O'Malley et al. (1990) maintained that native language can be a source of metacognitive reading strategy. This strategy was especially useful to clarify and explain difficult lexical items when interacting with peers during reading. In spite of the fact that self-translation was discouraged, if it was done to help the group to comprehend reading, it was encouraged, and this activity led to whole class discussion.

This observation was done in class:

Student A: What is the meaning of vaccine?
Student B: It is an attenuated virus or bacteria that is applied to give immunity to people, especially children and old people.

Student A: So, it is similar to "*vacuna*".

Student B: Yes, you are right. Can you give me an example of vaccine?

Student A: The polio vaccine or the rabies vaccine.

Student B: Thanks.

From this descriptive example it could be observed that the students could convey meaning from group interaction, took turns to participate and even finished other peers' thoughts. This social interaction may be conductive to deep learning, which is a great advance from constantly using referential materials such as bilingual dictionaries.

4.3.5 Finding No. 8: Students' journals became a source for self-reflection and continuous improvement.

Students need to self-monitor their progress constantly so as not to make the same mistakes again and improve, and to evaluate the effectiveness of the reading strategy they are using. This combined effect of metacognitive strategies in the form of self-direction and cognitive strategies that manipulate the language in order to comprehend has proven more effective than just implementing one set of strategies.

One student commented:

> "A journal is good because it helps me (figuratively) to travel to the past and identify the strategies that worked and the strategies that did not work. The most important is that I can improve constantly, and I have realized that I am not the person I was two weeks ago."

Reading journals can also help the teachers to identify the common areas that have been improved, such as being organized when reading, working in groups so as to help each other, and summarizations, among others. At the same time, journals can be an excellent source for identifying areas that still need improvement.

4.3.6 Finding No. 9: When students had reached the point of finding out that reading was not a difficult task their motivation levels increased.

A student remarked:

> "I have found that I like reading in English even when I do not know the vocabulary. I think I am doing self-teaching when I read in context and do not

look up words in the dictionary. During these four weeks learning vocabulary without memorization drills was easier than in other courses; however, at the beginning medical English was a little difficult, but with the application of reading strategies, it has become easier."

Another student pointed out:

"This intervention has been unusual and I think it has helped us to be interested in English reading, especially medical English. These strategies have helped me to analyze and evaluate medical articles that I will use for my own personal research"

One of the most interesting comment was:

"These reading strategies helped us to analyze and evaluate the information that we are reading and take it as truth based on my previous knowledge or if it is worth further investigation."

Guthrie, Wigfield & Wei You (2000) developed an engagement perspective on reading that connects classroom instructional practices to students' motivations, strategy use, conceptual knowledge, and social interactions, and ultimately to their reading. This study has shown that reading engagement derived from sound reading comprehension which was enhanced by carefully selected reading material. At the same time promoting students' self-monitoring comprehension was essential to develop deep learning, which is the main goal of any language teacher. The previous comments show that the students outgrew themselves from passive learners to active learners, and this can be observed by evaluating the validity of the reading content, which can be defined as higher order thinking.

In the post-experimental group interview, students offered some interesting reflections about the Reading Strategy Intervention. One student revealed:

"At the beginning I did not like reading in English because I had to use my bilingual dictionary and Google translator constantly. But as the course advanced I began using reading strategies which helped to stop using the dictionary constantly, I began to underline the most important information and to pay little attention to unimportant information. To make comprehension easier, I am still learning to paraphrase, but it is a little complicated".

Another student remarked:

> “I have learned to read faster, to find the relevant information quickly, to organize myself in the order of steps I have to follow. The most important is that I have learned to associate a new word with its context and to infer meaning, mostly by myself or with my classmates’ help.”

The participants found the experience inspiring and useful, they even made positive comments about medical English, which was difficult at the beginning, but with their classmates’ help, they were able to understand more, and the content of the reading material stayed longer in their minds. It can only be hoped that this process will carry on during their professional practice and beyond, and that the learners will continue reading on their own as their intrinsic or extrinsic motivation increases, and will become truly independent readers.

CHAPTER 5
CONCLUSIONS

As a solution to the observed problem of low reading achievement on the students of the school of Medical Sciences at the University of Guayaquil, a study was designed to find out the effect of the application of Reading Strategy Instruction. In the second chapter the literature review showed that it was difficult to make dogmatic generalizations due to the fact that over the years a large array of reading strategies has appeared and disappeared. To further investigate how well the theoretical frame matched the reality in the current context of the medical students at the University of Guayaquil an explanatory sequential mixed method study was carried out. This study had an experimental design followed by group interviews. The experimental phase of the study consisted of two groups: An experimental group and a control group, which were made up of mainly senior students of the School of Medical Sciences who had taken a “fast track” English course during vacation time, and needed to fulfill this requirement in order to be eligible for internship. In total, there were 50 students who participated and completed the study: 25 in the experimental group and 25 in the control group. Three measurements were administered at the beginning of the study as pre-tests, and the statistical analysis concluded that both groups were similar in terms of reading strategy awareness, reading motivation and English reading knowledge.

The experiment lasted four weeks, and took 60 hours, which coincided with the duration of the course. The experimental group was instructed with general reading strategies with a focus on reading practice awareness and self-monitoring in order to achieve self-regulation. The control group did not receive special training on reading strategies. After four weeks of intervention, three post-tests were carried out on all the subjects of the experimental group and the control group to investigate how effective the application of reading strategies had been. At the end of the study the 25 participants of the experimental group were interviewed to find out how their English reading attitudes had changed during the course of the intervention.

The researcher reached the following conclusions:

1. The awareness of reading strategies was higher in the experimental students than in the control group. The quantitative data showed a significant difference, it was found that the students used more Global Strategies than before, the same can be said about Supportive Strategies. This singularity can be explained, mainly, because the researcher

intervention was student-centered, which fostered a cooperative learning environment, that resulted in the use of more metacognitive strategies than before.

2. The improvement of the socio-cultural dimension could be measured in the amount of time the students spent interacting with each other in order to comprehend texts, and the obvious results were the improvement in the cognitive and affective areas. This was possible, first, because the researcher, taking into consideration a constructive stand, decided to make the Reading Strategy Instruction as student-centered as possible, making it cooperative learning rather than relying on long and boring lectures. This was done with the belief that social interaction would benefit a group of students whose self-esteem regarding reading comprehension was low due to the fact that after ten years of studying English, their best supportive strategy was the use of bilingual dictionaries. It is evident that the experimental learners enjoy this kind of team work in which they can ask and offer help when it is necessary. This interaction has had the power to improve reading comprehension scores that would not have been possible with a teacher-centered learning approach.

3. The affective dimension in the form of motivation to reading English was higher for EFL medical students at the University of Guayaquil. The quantitative data to identify motivation levels was collected with Mori's (2002) survey, a modified English Reading Motivation Questionnaire (ERMQ), which was administered before and after the intervention, and significant difference was identified in the post-English Reading Motivation Questionnaire results. The intervention made a noteworthy difference in

   terms of extrinsic motivation and reading efficacy, which indicates that the Experimental Group felt more motivated to English reading than before the intervention.

4. In Chapter 4 numerical data results showed that there had been substantial achievement progress in the experimental group after the reading strategy training, which coincides with the findings done by Anderson (1991) regarding the correlation of Reading Strategy Instruction and the improvement in reading comprehension.

5. The study also showed that the reading strategy instruction had a positive effect on all the intervention participants regardless of their proficiency or perceived achievement level. This phenomenon could be explained because of the social-interaction derived from student-centered instruction, and small group work which promoted a positive learning environment that helped all the participants equally to discuss main ideas, find supportive ideas, and ask their peers about unfamiliar words.

6. The introduction of interesting reading material related to medical topics was a change from the traditional reading exercises that were at the service of developing grammar and vocabulary. When the students were exposed to medical readings, they found that they had a purpose for reading, in spite of the fact that the students found the vocabulary challenging. All the students had a positive attitude towards the adoption of medical English readings which, in the students' opinion, would have an immediate use in the context of their internship practice in public hospitals. The learners even reported that they would like to keep reading medical articles in the future for their professional development.

In what way do metacognitive and cognitive strategy intervention may help current and future EFL English reading instruction at university level?

It is important to take into consideration that after an average of ten years of learning English the vast majority of the students have problems not only with basic linguistic features of the language, such as grammar, pronunciation, spelling and vocabulary, but with all the four skills. This disappointing reality made it necessary the implementation of an intervention of reading strategies mainly because reading is a skill that needs urgent development in the students, not only for its long-lasting ability to bring about updated knowledge, but also because this skill may help them develop other skills such as writing and speaking. This skill is the most time-cost effective of all the skills. With the use of technological tools everybody can have access to reading materials, even specialized updated medical journals. When Reading Strategies Instruction is integrated in the curriculum, there is evidence that the students transfer "metacognition" to other subject areas, as learning is a transferable process. Thus, it is urgent to take advantage of the availability of this skill by increasing the comprehension levels with the help of reading strategies.

On the other hand, the positive results of the Reading Strategies in the experimental group of this study strongly suggests that the English curriculum of the University of Guayaquil needs a revision and a redesign to prioritize reading comprehension in all the English courses as a meaning-making resource rather than at the service of grammar practice. It is important to bear in mind that English, especially at university level, is an interdisciplinary subject. Thus the professors of other subjects frequently request the students to read technical texts, in the case of the School of Medical Sciences, medical articles from specialized journals, which most of the learners do not have the ability to understand due to the lack of reading strategies. Therefore, it is necessary that well-trained

teachers instruct the students on sound reading strategies that have proven to be time-cost effective, and whose positive results can be observed from the first sessions.

From the point of view of the English professors, it is important to realize that the teachers' roles have changed from transmitters and sources of knowledge to that of facilitators who are constantly reflecting on the best way to help the students in the acquisition of language. Oxford (1990) asserted that when the teachers becomes the facilitators of their classes, they become more learner-oriented and more aware of the students' needs, they provide the students with more support, guidance and feedback. When this positive change takes place, teachers begin to reflect on the effect their teaching techniques have on the students' use of learning strategies and in some occasions, change their teaching patterns in response to such reflection. Teachers also learn to refrain themselves from constant and excessive lecturing and unnecessary explanations that demotivate the students to learn through discovery. From the affective point of view, teachers also derive positive attitudes towards students who after having been taught how to learn, achieve good learning outcomes, which means that these strategies not only benefit the students, but also the teachers.

The sociocultural dimension should also be taken into consideration for current and future EFL reading instruction at the University of Guayaquil because once the positive influence of the social interaction is acknowledged, the expected results are improvement in language skills, motivation and better comprehension. Social interaction has proved to be a valuable tool for reading comprehension besides it gives the learners psychological support and social acceptance.

5.1 Limitations

1. The intervention population was small compared to the population of the School of Medical Sciences of the University of Guayaquil who are currently taking the English Module IV during vacation time.
2. The study had an unequal number of female and male students, so it was difficult to identify conclusively which gender did better at reading in the intervention.
3. Updated SORS and EMRQ adapted to the student population of the School of Medical Sciences at the University of Guayaquil need to be refined to measure more accurately reading strategies in other contexts.

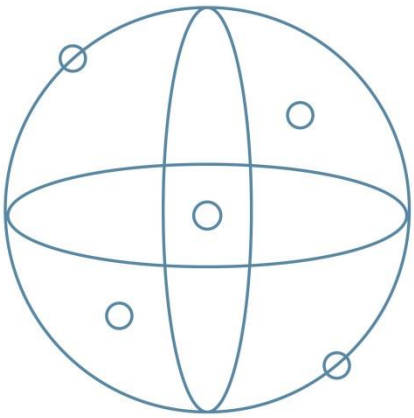
5.2 Recommendations for Future Research

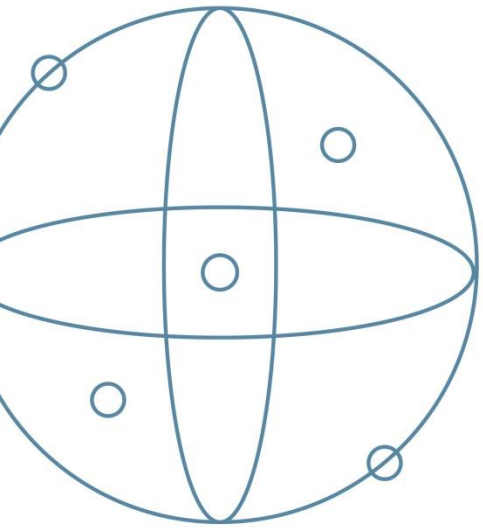
After the encouraging results of this research, there is the need to investigate about other aspects related to reading strategies that need to be answered.

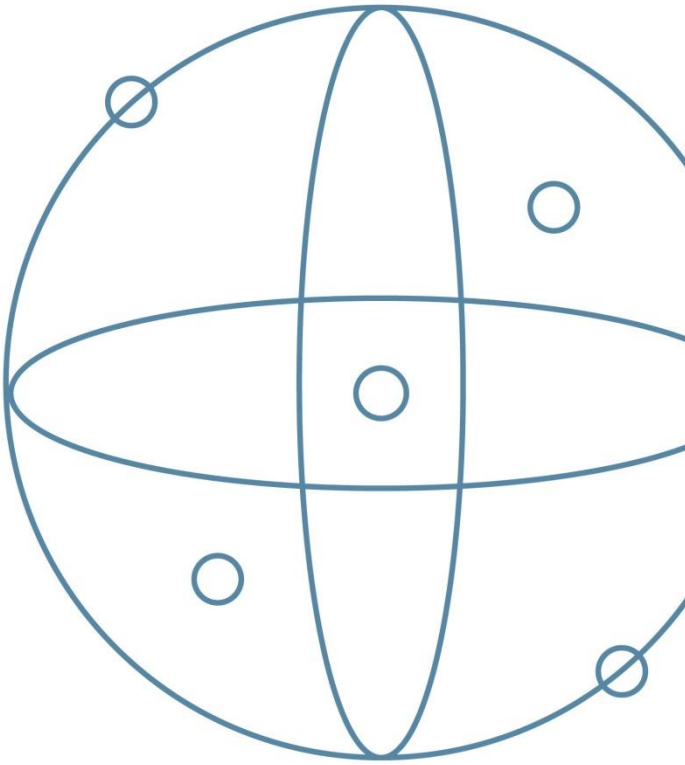
1. How much transferability of reading strategies exist from L1 to L2 in the students of the School of Medical Sciences at the University of Guayaquil?

2. How reading affects writing on students who use sound reading strategies on a daily basis?

3. How do the present results of the application of reading strategies on the students of the School of Medical Sciences compare to a similar application on students of other professional schools at the University of Guayaquil?







REFERENCES

Abraham, P. & Farias, M. (2017). Reading with Eyes Wide Open: Reflections on the Impact of Multimodal Texts on Second Language Reading. *Íkala, Revista de Lenguaje y Cultura.* Medellín, Colombia, Vol. 22, Issue 1 (January-April, 2017), pp. 57-70. Retrieved from www.udea.edu.co/ikala

Aebersol, J. A. & Field, M. L. (1997). *From reader to reading teacher: Issues and strategies for second language classrooms.* Cambridge, UK: Cambridge University Press.

Adams, M. J. (1990). *Beginning to read: Thinking and Learning about print*. Cambridge, MA: Massachusetts Institute of Technology.

Akhtar, Z. (2017) Analogy [Online image]. Retrieved from https://i2.wp.com/examplanning.com/wp-content/uploads/2017/09/4837537.jpg?fit=510%2C339

Alhaqbani, A., & Riazi, M. (2012). Metacognitive awareness of reading strategy use in Arabic as a second language. *Reading in a Foreign Language*, 24(2), 231-255.

Alderson, J. C. (1984). *Reading in a foreign Language*. New York: Longman.

Alderson, J. C. (2000). *Assessing reading*. Cambridge, UK: Cambridge University.

Anderson, N. J. (1991). Individual differences in strategy use in second language reading and testing. *The Modern Language Journal*, 75(4), 460-472. https://doi:10.1111/j.1540-4781.1991.tb05384.x

Anderson, N. J. (2002). The role of metacognition in second language teaching and learning. *ERIC Digest*, 3-4. Retrieved from https://www.gpo.gov/fdsys/pkg/ERIC-ED463659/pdf/ERIC-ED463659.pdf

Anderson, R. C., & Pearson, P. D. (1984). A schema-theoretic view of reading comprehension. In P. D. Pearson. (Eds.), *Handbook of learning research* (pp. 225-291). New York: Longman. Retrieved from

https://www.researchgate.net/publication/242638046_A_schema-theoretic_view_of_basic_processes_in_reading_comprehension

Bailey, E. (2017). Reading Comprehension and Making Predictions. Retrieved June 13, 2017 from http://specialed.about.com/od/readingliteracy/a/Reading-Comprehension-Skills-Making-Predictions.htm

Baker, L. (2002). Metacognition in comprehension instruction. In C . C. Block & M. Pressley (Eds.), *Comprehension Instruction: Research based best practices* (pp. 77-95). New York: Guilford.

Baker, L. (2004). Reading comprehension and science inquiry: Metacognitive connections. In W. Saul (Ed.), *Crossing borders in literacy and science instruction: Perspectives on theory and practice* (pp.239-257). Newark, DE: International Reading Association.

Baker, L. & Brown, A. (1984). Metacognitive skills and reading. In P. D Pearson, R. Barr, M. L. Kamil, & P. Mosenthal (Eds), *Handbook of Reading Research* (pp. 353-394). New York: Longman.

Bandura, A. (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development. Vol. 6. Six theories of child development* (pp. 1-60). Greenwich, CT: JAI Press. Retrieved from https://www.uky.edu/~eushe2/Bandura/Bandura1989ACD.pdf

Bandura, A. (1997). *Self-Efficacy. The Exercise of Control*. New York: Freeman. Retrieved from https://www.uky.edu/~eushe2/Bandura/Bandura1994EHB.pdf

Bernhardt, E. B. (1991). *Reading development in a second language.* Norwood, NJ: Ablex.

Big Think (n.d.). Highlight [Online image]. Retrieved from http://assets3.bigthink.com/system/tinymce_assets/187/original/Highlight.jpg?1360944984

Cano, O. (2009). Language Learning Strategies and its Implications for Second Language Teaching. *Revista de Lenguas Modernas,* N° 11, 2009 / 399-411 / Retrieved from https://revistas.ucr.ac.cr/index.php/rlm/article/viewFile/9454/8904

Carrell, P. L. (1985). Facilitating ESL reading by teaching text structure. *TESOL Quarterly*, 19, 727-752.

Carrell, P. (1988). Interactive text processing: implications for SL/second language reading classrooms. In P. Carrell, J. Devine & D. Eskey (eds.), *Interactive Approaches to Second Language Reading* (pp. 239-259). Cambridge, UK: Cambridge University Press. Retrieved from http://assets.cambridge.org/97805213/58743/excerpt/9780521358743_excerpt.pdf

Carrell, P. L., Pharis, B. G., & Liberto, J. C. (1989). Metacognitive strategy training for ESL reading. *Tesol Quarterly, 23*, 647-678.4.

Cheng, C. K. (1998). *A descriptive study of reading strategies used by Chinese ESL students from Taiwan*, R.O.C. doctoral dissertation, University of Kansas.

Chern, Y. (2003). The effects of web-based instruction on Chinese EFL students' learning outcomes. Ph.D. thesis, University of Houston. Retrieved from https://www.learntechlib.org/p/119618/

Coady, J. (1979). A psycholinguistic model of the ESL reader. In R. Mackay, B. Barkman & R. Jordan (eds.), *Reading in a Second Language* (pp. 5-12). Rowley, MA: Newbury House.

Cohen, A. D. (1991). Strategies in second language learning: Insight from research. In R. Phillipson, E. Kellerman, L. Selinker, M.S. Smith, and M Swain (Eds.), *Foreign/Second Language Pedagogy Research*. Clevedon, UK: Multilingual Matters.

Cohen, A. D. (2003). The learner's side of foreign language learning: Where do style, strategies and tasks meet? *International Review of Applied Linguistics*, 41, 279-291.

Cohen, A. D. (2011). *Strategies in Learning and Using a Second Language*. (Second Edition). Edinburgh Gate, U.K.: Pearson Education Limited.

Cole, K. (2003). Research fails to support link between high esteem, positive behavior.

George Street Journal of Brown University. Retrieved from http://www.brown.edu/Administration/George_Street_Journal/vol27/27GSF26e.html

Cook, V. (2001). Using the first language in the classroom. *Canadian Modern Language Review*, 57, 402-423.

Creswell, J. W. (2013). Steps in Conducting a scholarly Mixed Method Study. *DigitalCommons@University of Nebraska – Lincoln*. Retrieved from http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1047& context=dberspeakers

Devine J. (1993). The role of metacognition in second language reading and writing. In G. Joan and L. I. Carson (Eds*.), Reading in the composition classroom, second language perspective* (pp. 105-130). Boston: Heinle and Heinle Publishers.

Dorneyi, Z. (2001). *Teaching and researching motivation*. New York: Longman.

Duffy, G. (2005). Metacognition and the development of reading teachers. In C. Block, S. Israel, K. Kinnuncan-Welsch & K. Bauserman (Eds.), *Metacognition and literacy learning* (pp. 299-314). Mahwah, NJ: Erlbaum.

Ehrman, M., Leaver, B., & Oxford, R. L. (2003). A brief overview of individual differences in second language learning. *System*, 31, 313–330. Retrieved from https://s11personalityfactors.files.wordpress.com/ 2011/06/individual-differences-in-sla.pdf

Eskey, D. E. (1973). A Model Program for Teaching Advanced Reading to Students of English as a Foreign Language. Language Learning, 23: 169-184. Retrieved from: https://onlinelibrary.wiley.com/ doi/abs/10.1111/j.1467-1770.1973.tb00653.x

Eskey, D. (1988). Interactive models for second language reading perspective on instruction. In P. L. Carrell, J. Devine & D. E. Eskey (Eds.). *Interactive approaches to second language reading.* Cambridge, UK: Cambridge University Press.

Eskey, D. (2005). Reading in a second language. In E. Hinkel (Ed.), *Handbook on Second Language Learning and Teaching* (pp. 563-579). Mahwah, NJ: Erlbaum.

Evans, V. and Salcido, K. (2011) *Careers* Paths - Nursing. Newbury, UK: Express Publishing.

Farrell, Thomas S. C. (2009). *Teaching Reading to English Language Learners: A reflective Guide*. Thousand Oaks, CA: Corwin Press.

Flavell, J. (1979). Metacognition and cognitive monitoring: a new era of cognitive development inquiry. *American Psychologist* 34, 906-911. http://dx.doi.org/10.1037/0003-066x.34.10.906

Furlan, Luis (2009). Estrategias, aprendizaje y ansiedad ante los exámenes. *Pensamiento Psicológico*. *Vol 5, No 12*, p-117-123. Retrieved from http://portales.puj.edu.co/psicorevista/components/com_joomlib/ebooks/PS12-8.pdf

Gajowski, Carrie (2014, March 18). Self-regulation strategies for students with learning disabilities. *Scientific Learning.* [Web blog post], Retrieved from https://www.scilearn.com/blog/self-regulation-strategies-for-students-with-learning-disabilities

Gan, Z., Humphreys, G. & Hamp-Lyons, L. (2004). Understanding successful and unsuccessful EFL students in Chinese universities. *The Modern Language Journal Volume 88,* 229–244.

Gardner, Robert (2010). *Motivation and Second Language Acquisition*. New York: Peter Lang Publishing, Inc.

Gargallo, Bernardo (2009). Un Instrumento para la evaluación de las Estrategias de Aprendizaje en los estudiantes universitarios. *Revista Electronica de Investigacion y Evaluacion Educativa.* Retrieved from https://www.uv.es/RELIEVE/v15n2/RELIEVEv15n2_5.htm

Girgis, L. (2017). Mental Health Disorders [Online image]. Retrieved from http://drlinda-md.com/wp-content/uploads/2017/09/mental-health-disorders.jpg

Google Image (n.d.) Paraphrasing examples [Online image]. Retrieved from

https://i.pinimg.com/236x/c5/a2/a8/c5a2a84 ceada6656bb8edcb4ea52313a--teaching-time-student-teaching.jpg

Google Image (n.d.) How to live long? Japanese secrets [Online image]. Retrieved from https://i.ytimg.com/vi/aNmwqq5iRHE/maxresdefault.jpg

Gough, P. B. (1972). One second of reading. In J. F. Kavanaugh & I. C. Maltingly (Eds.), *Language by ear and eye* (pp. 331-358). Cambridge, MA: MIT Press.

Grabe, W. (1991) Current developments in second language reading research. *TESOL Quarterly, 25, 3*, 375-406.

Grabe, W. (2004). Research on teaching reading. *Annual Review of Applied Linguistics*, *24*, 44-69. https://doi.org/10.1017/S0267190504000030

Grabe, W. & Stoller, F. L. (2002). Research on teaching reading. *Annual Review of Applied Linguistics, 24*, 44-69.

Griffiths, C. (2004). Language learning strategies: Theory and Research. Research Paper Series. *Centre for Research in International Education*. Retrieved March 12, 2017 from http://www.crie.org.nz

Grice, T. and Meehan, A. (2007). *Oxford English for Careers. Nursing 1. Student's Book.* Oxford: Oxford University Press.

Griffin, E. (2015) When are Old Data New Data? GeoResJ 6 (2015) 92–97. Retrieved from: https://ac.els-cdn.com/S2214242815000121/1-s2.0-S2214242815000121-main.pdf?_tid=99373a9a-0fa7-4634-9204-51763ba481bb&acdnat=1525540866_f937b4d997fa3f8af141f7023954a775

Guthrie J., Wigfield A. & Wei You (2000). Instructional Contexts for Engagement and Achievement in Reading. In S.L. Christenson et al. (Eds.), *Handbook of research on student engagement* (pp. 601-634). Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.688.4291&rep=rep1&type=pdf

Hassan, X., et al. (2005). Strategy training in language learning a systematic review of available research. In: *Research Evidence in Education Library*. London: EOOI-Centre, Social Science Research Unit, Institute of Education, University of London.

Images Digopaul. (n.d.) Paraphrasing [Online image]. Retrieved from: http://images.digopaul.com/wp-content/uploads/related_images/2015/09/08/paraphrasing_1.jpg

Images Digo Paul (n.d.) Paraphrasing example [Online image]. Retrieved from https://i.pinimg.com/236x/c5/a2/a8/c5a2a84ceada 6656bb8edcb4ea52313a--teaching-time-student-teaching.jpg

Imgur (2015). Cute cat wearing glasses [Online image]. Retrieved from https://i.imgur.com/VZe5ZpK.jpg

ITC Publications (n.d.). Retrieved from http://www.collegesuccess1.com/ InstructorManual4thEd/Learning%20Style/MI_quiz.pdf

Jiménez, R., García, G., & Pearson, P. (1996). The Reading strategies of bilingual Latina/o students who are successful English readers: Opportunies and obstacles. *Reading Research Quarterly*. *31*(1), 90-112.

Karbalai Kamran, S. (2013). Does Reading strategy use predict and correlate with reading achievement of EFL learners? *International Journal of Research Studies in Language Learning*, *2*(2), 29-38.

Laufer, B. & Ravenhorst-Kalovski (2010). Lexical threshold revisited: Lexical text coverage learners' vocabulary size and reading comprehension. *Reading in a Foreign Language, 22*(1), pp. 15–30. Retrieved from http://nflrc.hawaii.edu/rfl/April2010/articles/laufer.pdf

Madhumathi, P. & Ghosh, A. (2012). Awareness of reading strategy use of Indian ESL students and the relationship with reading comprehension achievement. *English Language Teaching, 5(*12), 131-140.
Retrieved from https://files.eric.ed.gov/fulltext/EJ1080099.pdf

Magogwe, J. (2013). Metacognitive awareness of reading strategies of University of Botswana English as Second Language students of different academic reading proficiencies. *Reading & Writing, 4*(1), 8 pages. doi: https://doi.org/10.4102/rw.v4i1.29

Malcolm, D. (2009). Reading strategy awareness of Arabic-speaking medical students studying in English. *System, 37*, 640-651.

MacIntyre, P. (1995). How does anxiety affect second language learning? *The Modern Language Journal, 79*(1), pp. 90-99. Retrieved from http://www.jstor.org/stable/329395

Massage Magazine (2017). Oncology massage brings pain relief to cancer patients[Online image]. Retrieved from https://cdn.massagemag.com/wordpress/wp-content/uploads/Cancer-Patient-for-Oncology-Massage-e1486565117714.jpeg

MedLifeweb (n.d.) Pregnancy month by month [Online image]. Retrieved from: https://www.medlifeweb.com/pregnancy-month/

Mokhtari, K., & Reichard, C. A. (2002). Assessing students' metacognitive awareness of reading strategies. *Journal of Educational Psychology, 94*, 249-259.

Mokhtari, K. & Sheorey, R. (2002). Measuring ESL Students' Awareness of Reading Strategies. *Journal of Developmental Education 25*(3), 2-10

Mori, S. (2002). Redefining motivation to read in a foreign language. *Reading in a Foreign Language, 14*(2) Retrieved May 14, 2017 from http://njlre.hawaii.edu/rfl/October2002/mori/mori.html

Nassaji, H. (2003). Higher Lever and Lower Level Text processing Skills in Advanced ESL Reading comprehension. *The Modern Language Journal. 87*, 261-276.

Nunan, D., (1992). *Research Methods in Language Learning*. Cambridge, UK: Cambridge University Press. Retrieved from https://archive.org/stream/ilhem_20150321_1947/[David_Nunan]_Research_Methods_in_Language_%20Learning_djvu.txt

O'Malley, M. & Chamot, A. (1990). *Learning strategies in second language acquisition*. Cambridge, UK: Cambridge University Press. Retrieved from http://catdir.loc.gov/catdir/samples/cam031/89009770.pdf

Osorio Tinoco, F., & Pereira Laverde, F. (2011). Hacia un modelo de educación para el emprendimiento: una mirada desde la teoría social cognitiva. *Cuadernos De Administración, 24*(43). Retrieved from http://revistas.javeriana.edu.co/index.php/cuadernos_admon/article/view/2598

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know.* Boston, MA: Heinle & Heinle Publishers.

Oxford, Rebecca. (2011). *Teaching and Researching Language Learning Strategies.* Edinburgh Gate, U.K.: Pearson Education Limited.

Paris, S. G. & Jacobs, J. (1984). The benefits of informed instruction for Children's reading awareness and comprehension skills. *Child development 55*, 2083-2093. http://dx.doi.org/10.2307/1129781

Pearson, P. D. (1979). Basic Processes and Institutional Practices in Teaching Reading. *University Education Quarterly, 10*(2).

Pereira-Laird J. & Dean F. (2006). Development and validation of a self-report measure of reading strategy use, *Reading Psychology, 18*:3, 185-235. https://doi:10.1080/0270271970180301

Poole, A. (2012). The metacognitive strategic knowledge of seven successful L1 readers at a North American University: A qualitative study. *Studies in Self-Access Learning journal, 3(*4) 392-406.

Pressley, M., & Afflerbach, P. (1995). *Verbal protocols of Reading: The nature of constructively responsive reading.* Hillsdale, NJ: Lawrence Erlbaum.

Pressley, M. (2000). What should comprehension instruction be the instruction of? In M. L.

Kamali, P. B. Monsenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of Reading Research, Volume. III.* Mahwah, NJ: Lawrence Earlbaum Associates.

Pritchard, R. (1990). The effects of cultural schemata on reading processing strategies. *Reading Research Quarterly, 5*(4), 273 – 295. http://dx.doi.org/10.2307/747692

Razi, O., & Grenfell, M. J. (2012). The impact of linguistic knowledge on learner strategy deployment. *Social and Behavioral Sciences, 47*, 818-822.

Reid, W. A., Duvall, E. & Evans, P. (2007). Relationship between assessment results and approaches to learning and studying in year two medical students. *Med Educ. 41*(8):754-62. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/17661883

Rumelhart, D. E. (1977). Toward an interactive model of Reading in S. Dornie (Ed.), *Attention and Performance, VI* (pp. 573-603). New York: Academic Press.

Samuels, S. J. & Kamil, M. L. (1988). Models of the reading process. In P. Carrell, J. Devine & D. Eskey (Eds.), *Interactive Approches to Second Language Reading* (pp.22-36). New York: Cambridge University Press.

Seymour, K. (2017) Schema Theory and Reading Comprehension [Online image]. Retrieved from: https://wehavekids.com/education/Reading-Comprehension-Theory

Sheorey, R., & Baboczky, S. E. (2008). Metacognitive awareness of reading strategies among Hungarian college students. In K. Mokhtari, & R. Sheorey (Eds.), *Reading strategies of first and second-language learners: See how they read* (pp. 61-173). Norwood, MA: Christopher-Gordon Publishers, Inc.

Sheorey, R. & Mokhtari, K. (2001). Differences in the metacognitive awareness of reading strategies among native and non-native readers. *System*, *29*, 431-449

Sheorey, R., Kamimura, Y., & Freiermuth, M. (2008). Reading strategies of users of English in library language: The case of Japanese ESP students. In K. Mokhtari & R. Sheorey (Eds.), *Reading strategies of first and second-language learners* (pp. 175-184). Norwood.MA: Christopher-Gordon Publishers, Inc.

Singhal, M. (2001). Reading proficiency, reading strategies, metacognitive awareness in L2 readers. *Reading Matrix*, 1-9. Retrieved May 2017 from http://www.readingmatrix.com/articles/singhal/

Slide Share (2012). [Online Image]. Retrieved from https://image.slidesharecdn.com/chronicandacuteillnesslecture-122775770528-phpapp02/95/chronic-and-acute-illness-lecture-18-728.jpg?cb=1227730309

Smith, F. (2004). *Understanding reading* (6th ed.). Mahwah, NJ: Lawrence Erlbaum

Snow, C (2002). *Reading for understanding: toward a research and development program in reading comprehension*. RAND Santa Monica, CA. RAND URL: http://www.rand.org/

Soria, C. (2009). Motivational Profile: A small-scale study. *Lenguas Modernas 34*, 53-66. Retrieved from http://www.lenguasmodernas.uchile.cl/index.php/LM/article/viewFile/30659/32415

Stanovich, K. (1980). Toward an interactive-compensatory model in individual differences in the development of reading fluency. *Reading Research Quarterly,16,* 32-71. Retrieved from http://www.keithstanovich.com/Site/Research_on_Reading_files/Stanovich_RRQ_1980.pdf

Teachers Pay Teachers (n.d.). Schema-Evidence-Inference [Online image]. Retrieved from https://ecdn.teacherspayteachers.com/thumbitem/ Schema-Evidence-Inference-An-Interactive-Notebook-Freebie-1518459-1414276516/original-1518459-1.jpg

Thorpe, S. & Snelling, R. (2012). *American Essential 4.* Oxford: Richmond.

Universidad de Guayaquil (2015). *Evaluation and Regulation Statute.* Guayaquil.

User Content (n.d.) Reading comprehension [Online Image]. Retrieved from https://usercontent1.hubstatic.com/13364860_f1024.jpg

Ushioda, E. (2008). Motivation and good language learners. In C. Griffiths (Ed.), *Lessons from good language learners*. Cambridge, UK: Cambridge University Press.

Van Duzer, C. (1999). Strategies of unsuccessful language learners. *TESOL Quarterly*, *24* (2), 177-198.

Villalobos, R. (2008). Enseñanza del Inglés como Segunda Lengua o como Lengua Extranjera. *Revista Semestral de Humanidades y Educación. Universidad Técnica Metropolitana* (p 57).

Vygosky, L. S. (1978). *Mind in Society*. Cambridge, MA: Harvard University Press. Retrieved from http://ouleft.org/wp-content/uploads/Vygotsky-Mind-in-Society.pdf

Whyte, S. (1985). *Learning and Teaching Foreign languages*. Declarative vs. Procedural Knowledge. Retrieved from http://unt.unice.fr/uoh/ learn_teach_FL/affiche_theorie.php?id_concept=9

Wigfield and Guthrie (1997). Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology, 89*, 420-432. Retrieved from https://www.researchgate. net/publication/232540100_Relations_of_Children%27s_Motivation_for_Reading_to_the_Amount_and_Breadth_of_Their_Reading

Wright, R. and Cagnol, B. (2012). English for Nursing 1. Harlow: Pearson Education Limited.

Yang,Y. F. (2006). Reading strategies or comprehension monitoring strategies? *Reading Psychology*, *27*(4), 313-343

Zimmerman, B. J. (1990). Self-regulated learning and academic achievement: an overview. *Educational Psychologist, 25*(1): 3-17.

GLOSSARY OF ACRONYMS

BIQ	Background Information Questionnaire
CEAACES	Consejo de Evaluación, Acreditación y Aseguramiento de la Calidad de la Educación Superior (Higher Education Council in charge of guaranteeing quality)
EFL	English as a Foreign Language
ENES	Examen Nacional para la Educación Superior (Higher Education Entrance Exam
ERMQ	English Reading Motivation Questionnaire
ESL	English as a Second Language
ESP	English for Specific Purposes
GLOB	Global Reading Strategies
L1	First Language, Mother Tongue
L2	Second Language
MARSI	Metacognitive Awareness of Reading Strategies Inventory
MRQ	Motivation for Reading Questionnaire
PROB	Problem-solving Reading Strategies
RSI	Reading Strategy Instruction
SENESCYT	Secretaría Nacional de Educación Superior, Ciencia, Tecnología e Innovación (National Office of Higher Education Science, Technology and Innovation)
SORS	Survey of Reading Strategies
SUP	Supporting Reading Strategies
SPSS	Statistical Package for the Social Sciences

GLOSSARY

Ability. A criteria of competence level of a person to accomplish a specific objective.

Attitude. The perspective towards a phenomenon, which can be positive or negative.

Affective. Closely related to beliefs, emotions and motivation.

Affective dimension. It is essential for life and for learning purposes, especially to learn a foreign language, it includes two important aspects:

- Activating emotions, beliefs and supporting values.
- Activating and maintaining emotions, beliefs, attitudes and values.

Agency. The capability to construct and put into action intentions to achieve a positive effect in the learning process.

Agent. The person who has the capability of having a positive effect in the learning process of others.

Alternating with the socio-cultural contexts and identities. The imitation of cultural conducts, the exploitation of social roles, which involves identities, symbols of power and convince others about their cultural backgrounds.

Anxiety. The fear or apprehension. Anxiety of using a foreign language, anxiety derived from the communicative act.

Appropriate strategy. For a strategy to be considered appropriate, it should comply with the following objectives:

- To be aligned with the students' objectives.
- To work well with the learning style of the student.
- To influence learning in a positive manner.
- To adjust to the circumstances and the social context.

Assimilation. The acceptance of information with the objective of learning.

Attribution. The process of identifying the source or cause of success or failure of performance.

Attribution control. Selecting the attributions that are needed to sustain and increase motivation, which presupposes identifying the causes for success or failure, for example, attributing the success to personal effort or blaming failure to external factors such as the weather or lack of time to study.

Autonomy. The self-regulation or self-determination of the student to learn.

Belief. The psychological premise that a person takes as trustworthy. It is part of the affective dimension. Beliefs are related to emotions, attitudes and motivation.

Cognitive. Related to construction, transformation and application of knowledge.

Cognitive and metacognitive schemata. A chain of strategies that are devised to lead, organize, execute and verify learning.

Cognitive process of information. The mental process by means of which Declarative Knowledge turns into automatic Procedural Knowledge during the learning process.

Cognitive strategy. Strategy used for the construction, transformation and application of knowledge of a language, for example, the activation of

previous knowledge by means of brainstorming.

Communication. The exchange of ideas and information among people. It also includes pauses, hesitation and silent periods that influence language.

Contexts. Complex communities that overlap, in which various participants learn practical constructions that are specific, local and historic.

Control of strategies. The decision to continue using a specific strategy, stop using it, modifying it or transferring it to new tasks.

Control of stress. The management of stress to counteract it or decrease it. Among these strategies there it is worth mentioning:

- Listening to music
- Relaxing
- Doing exercise.

Declarative Knowledge. It is important to distinguish three types of Declarative Knowledge:

- Semantic Knowledge, which consists of concepts, facts, names and rules.
- Pragmatic Knowledge, which is the ordinary knowledge adapted to the social world.
- Episodic Knowledge, which is based on the memory of an event.

The students organize and represent their Declarative Knowledge as learning schemata, which is lost if it is not practiced.

Deep-process learning. This process requires the personalization of a task and the integration of the information so that the students can construct knowledge based on previous knowledge, and this knowledge is stored in the long-term memory.

Dialogue. The oral interaction of two people; this learning dialogue is supported by the Socio-cultural Theory which is based on the social interaction between two adults. In this respect, the more capable peers help, direct and organize collaboratively the learning process of the less capable peers before they can dominate or interiorize such learning. This process is done by means of a metaphoric scaffolding that consists of the support provided to the learners by instructors, parents and classmates to do a task until the learners can do the task by themselves.

Emotion. Spontaneous mental state accompanied by physiological changes.

Establishing objectives. Planning and establishing objectives can improve motivation, progress evaluation, beliefs in one's own capabilities, the use and adaptation of learning strategies.

Evaluation. A meta-strategy that involves the evaluation of success or failure of the following aspects: performance, the knowledge construction process, strategies or chain of strategies.

Flow. The highest level of intrinsic motivation. This dimension describes how learning objectives are established beforehand in such a way that the learner knows what steps to take to achieve them. According to this theory, the learners feel contented, satisfied, engaged and experiences a feeling of competence.

Foreign language. A language learned in an environment in which it is not the main vehicle for daily communication used by the vast majority of the people. Due to globalization, the distinction between English as a Second Language and a Foreign Language has turned problematic.

Generating and maintaining motivation. An effective strategy that helps the students to increase and maintain motivation.

Going beyond immediate data. A cognitive strategy that involves predicting, supposing, inferring based on previous knowledge and contexts.

Habit. When a strategy has turned into a habit, it is automatic, which means that it does not require effort and it is unconscious, and it is no longer considered a strategy.

Identity. One's own perception or cultural group with which a person feels affiliated, for example, the members of a class, which can result in conflict situations for some students.

Implementation of a plan. A meta-strategy that helps the learners to put into action a plan that has previously been prepared. In this respect, the preparation of a plan may have the following variants: for cognition, for the affective dimension, for contexts, and for communication and culture.

Interactive model of self-reliance. A generic model for learning a language that involves a chain of strategies: planning, monitoring, evaluating, identifying a problem and solving it.

Integrative motivation. The desire to come closer socially and psychologically to a community that uses another language to identify with it.

Interactive. The interaction of two or more people, but it may also refer to the interaction of a person with a technological tools such as computer, tablet or smart phone.

Interacting to learn and communicate. A socio-integrative strategy that involves working with other people, asking for information to learn by means of communication.

Instrumental motivation. The desire to learn a language for practical reasons such as a promotion.

Knowledge of group-culture. A cognitive strategy that involves understanding the norms and cultural expectations of a human group.

Language. A system that a human community uses to develop communication. It can also be defined as a human activity to relate with other people to understand and express messages.

Learned helplessness. An attitude characterized by the lack of intention for learning and lack of self-efficacy based on the belief that the learner is unable to do a task.

Learning strategy. The deliberate intention to control and direct one's own efforts towards a learning objective.

Learning style. A learning preference which is influenced by genetic and societal factors, for example, introversion, extroversion.

Linguistics. A science that studies language and its realization in natural languages, and by extension in artificial languages.

Mastery goals. These achievement objectives are directed towards the development of skills.

Mediated learning. Based on Vygotsky's socio-interactive theory in which the learning process is done in an environment in which the more capable one helps the less capable to learn. In a broader sense mediated learning not only includes the instructor or the more able peers, but also the social means, such as books, magazines, newspapers and the aids provided by the technological tools.

Motivation. The spark that initiates action. Extrinsic motivation happens when the desire to do something is derived from external rewards such as money, grades, prestige or pride. Intrinsic motivation happens when the desire to do something derives from the satisfaction that produces its execution, this process is self-sustained because the learner considers it to be valuable, useful, interesting, besides it represents a challenge of one's own abilities. Intrinsic motivation comes along with high levels of participation and creativity.

Praxis strategies. A form of practice directed towards the training of structures used in communication (Cohen, 2011).

Procedural knowledge. Procedural knowledge involves knowing HOW to do something - ride a bike, for example. We may not be able to explain how we do it. Procedural knowledge involves implicit learning, which a learner may not be aware of, and may involve being able to use a particular form to understand or produce language without necessarily being able to explain it. (Whyte, 1985)

Qualitative investigation. It does not involve the quantification of data; its purpose is to describe and analyze a phenomenon rather than generalizing the characteristics of a population.

Quantitative investigation. It is the quantification or use of numbers. It uses descriptive strategies. It infers the characterization of a population, and consequently, it is directed to the generalization.

Reasoning. A cognitive strategy that involves a logical process and a task related to language.

Reflection. A self-dialogue that is done after a task has been done. It is during this reflection that the learner evaluates the utility of a learning strategy.

Reflection and Self-evaluation. These two strategies have to do with judgment directed to:

- Results
- Strategy effectiveness
- Self-efficacy

Schemata. A mental structure for the Declarative Knowledge which can be expanded or modified during the learning process at the time errors are being corrected. It requires the instructor's help to take declarative knowledge to the next stage, which is procedural knowledge. To achieve this process scaffolding is necessary, and it can gradually be withdrawn when it is no longer necessary.

Self-consequence. The incentive of motivation by means of self-reward or self-punishment, depending on the result. For example, if I do well in the exam, I will treat myself with a trip to the beach, but if I do not do well in the exam, I will not go to the beach and study more.

Self-dialogue. It is a positive activity whose main object is to promote the students' learning abilities to reach an objective and accomplish a task. It is an internal dialogue that happens inside the learner's mind, and its main purpose is to give self-motivation especially when learning becomes difficult.

Self-efficacy. The belief the learners have in their own capabilities to reach an objective or to do a task. For example, when the students are convinced that they will be able to do a task.

Self-inform. What the students tell themselves when they are using reading strategies (thinking aloud and self-inform). This self-inform can be done before or after doing a task.

Self-regulation. Self-regulation is the process by which students take charge of their own learning, monitoring their behaviour and progress and making adjustments along the way to get from idea to execution. It's the transformation of thought into purposeful action (Gajowski 2014)

Self-regulations strategies to learn a language. Deliberate actions to learn a foreign language. These are long-life activities that require:

- Planning
- Monitoring
- Problem solving
- Overcoming communication break downs

These self-regulation strategies also involve chain-strategies that the learners should consider for their learning. These include:

- Establishing objectives.
- Paying attention and concentrating on instruction.
- Using strategies to organize, coordinate and practice information that will be retrieved for later use.

- Establishing a productive working environment.
- Using resources effectively (books, computers, software and other technological tools)
- Self-monitoring performance.
- Asking for help when it is necessary.
- Maintaining beliefs, (feelings) about one's own capabilities.
- The intrinsic value of learning.
- Factors that influence learning: motivation and socio-cultural interaction
- The anticipated result of an effort.
- Experimenting pride and satisfaction for one's own effort.

Social anxiety. The fear or apprehension about communicating in a social situation.

Socio-cultural context. The social identity of the communicators based on the past or future (hopes and dreams) and the communicative activity along with the political effect, cognitive material and its socio-cultural effect.

Socio-cultural dimension. It involves cultural and social aspects. It has to do with interpersonal aspects of learning with other people in the context of society and culture.

Socio-cultural interactive strategies. Strategies that help learning in the communication process, the socio-cultural contexts and identities. They include:

- Interacting to learn to communicate
- Learning in spite of communicational break downs, i.e. inferring the meaning of a word based on the context)
- Interacting with the socio-cultural contexts and individual identities.

Station control. A tactic that helps the learner to eliminate boredom by means of humoristic strategies.

Strategic. The way in which a tactic is applied.

Strategic performance involves:

- The implementation of a plan.
- Monitoring
- Evaluation

Strategies for retrieving information. These strategies help the learners to remember by using visual images and mnemonics that help them recover stored information from memory**.**

Study environment regulation. The regulation of modification of the study environment to optimize the affective dimension.

Suppression. Negative thoughts that undermine motivation.

Surface process learning. The process of information at a superficial level which is easily forgotten because it is not stored in the long term memory.

Tactic. The application of a strategy to establish particular and immediate needs, for example, using the senses to understand and remember. In contrast with strategies, tactics are not so broad or general; however, tactics are related to strategies.

Validity. The indication of how something looks in the eyes of the non-expert from the intuitive point of view.

Volition. These strategies are directed toward sustaining motivation in academic situations. They include any affective strategy that increases the willingness to learn, for example,

- Self-reward
- Belief in self-efficacy
- Self- dialogue

Whole process knowledge. Meta-knowledge that involves knowledge of a specific task. This process is often found among learners who seek to develop high levels of proficiency.

Willingness to communicate. The spark that surges from each student to initiate communication, more specifically spoken communication. It is positively correlated with oral communication and negatively correlated to anxiety or fear to communicate.

Word decoding. The decoding of individual words with the objective of conveying meaning. It is the strategy used for readers who have an analytical style and use bottom-up procedures. Unfortunately, this process does not help the learners to identify the main ideas.

Zone of Proximal Development. It is based on Vygotsky's Socio-cultural Theory. It is the area by means of which the student can optimally traverse with the help of a tutor of a more able peer.

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