

## Reading Comprehension and Reading Speed of University English Language Learners in Ecuador

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### ABSTRACT

Reading represents a significant skill for knowledge acquisition. Nevertheless, many people cannot read properly, which may entail a serious limitation to their study, work, or other aspirations. The purpose of this research work is to determine the reading comprehension level and reading speed of English language students at the University of Cuenca, Ecuador, as well as the impact of sociodemographic factors and the use of reading strategies on these levels. The participants were 400 students who were taking English courses during September 2019 to February 2020 semester. The students completed a questionnaire on sociodemographic factors, took reading tests to determine their reading speed and comprehension, and then completed another questionnaire on reading strategies. The results show a high level of reading comprehension in English but a below-average reading speed, in part due to certain external factors. Given these results, research-based intervention is highly recommended to improve reading levels.

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### 1. Introduction

The access to knowledge in formal learning is mostly enabled by audio-visual materials, and a significant portion of that knowledge is acquired through reading (Escurra, 2003; Vallés, 2005). When dealing with higher education, this occurs through academic reading in particular (Hermida, 2009). Reading is a complex activity comprising psychological, linguistic, and sociological aspects; it is an interactive process between the reader and the text in which the reader gives the latter meaning (Shihab, 2011). According to Carrell and Eisterhold (1983), reading is a guessing game in which readers reconstruct the message coded by writers. For Sparks et al. (2009), sensory skills like vision and hearing are enhanced through reading expertise, which together with the acquisition of the habit of reading, build up a series of elements such as the use of reasoning skills. This involves the development of cognitive skills like critical thinking, understanding, analysis, synthesis, inference, and value judgments, which increase the probability of becoming a proficient reader (Halpern, 2014; Vallés, 2002, 2005; Yeh and Chen, 2005).

### 2. Literature Review

Research into reading and comprehension skills is extensive. According to Anderson and Pearson (1984), reading comprehension is defined as a process in which the reader produces meaning by interacting with the text; this interaction comes from previous experiences when the words, phrases, paragraphs, or ideas of the author are decoded. Therefore, the knowledge of vocabulary, concepts, and structural elements of the text, as well as the reader's existing knowledge, contribute to a successful understanding (Schutz, 2010; Snow, 2002). In the first years of schooling, an individual is taught to read; once this is achieved, they are expected to read to acquire knowledge, and this can only be accomplished with accurate reading habits, regardless of the mother tongue of the reader. The knowledge of vocabulary is a crucial factor in reading comprehension in both a first language (L1) (National Reading Panel, 2000) and second language (L2) or foreign language (Iqbal, Noor, and Kazemian, 2015; Laufer, 1989; Nation, 2001). With regard to reading skills in an L2 or foreign language, factors that negatively influence reading comprehension includes poor management of vocabulary, tenses, and grammar structures, emphasis on passing an exam instead of developing the skill, a lack

of knowledge of reading strategies, and a lack of reading habits (Iqbal et al., 2015). According to Anderson (1991) and Bongratz et al. (2002), readers who effectively use a higher number of strategies achieve better results in reading comprehension tasks.

Another essential aspect of reading skill is speed, which refers to the number of words a person can read correctly in a specific amount of time. This speed varies according to the type of reading performed. Fry (1975) suggests three levels: 1) common reading (magazines, books, simple texts): 250–500 words per minute (wpm) with a 70% comprehension level; 2) study reading (complex texts that demand deep concentration): 180–200 wpm with 90% comprehension; and 3) superficial reading (text exploration): 800 wpm with 50% comprehension. In general, the rapid reading of a text is essentially the reflection of a good level of automatism in word recognition (López, 2013). Thus, some studies indicate that the average reading speed of a skillful reader in their mother tongue is between 250 and 300 wpm, but in L2 or in a foreign language this average drops to 200–250 wpm (Nation, 2005) when the reading material includes vocabulary and grammatical structures known by the student (Nation, 2009). Additionally, a drop in the average wpm in L2 or foreign language occurs because of the presence of vocabulary and grammar unknown by the reader or because the purpose of reading is not designed for skimming through (Cobb, 2008; Fraser, 2007).

There is a very close relationship between reading speed and reading comprehension. Contrary to what is believed—that the slower the reading, the greater the comprehension—studies have shown that if a person displays a high level of reading comprehension, it is likely that their reading speed will be high as well (Bowey, 2005; Perfetti, Landi, and Oakhill, 2005; Snow, Burns, and Griffin, 1998; Stanovich, 2000). Moreover, intervention research conducted in these two areas shows that when students receive training to improve their reading speed, they also improve their level of reading comprehension (Alessi and Dwyer, 2008; Chang, 2010; Nicholson and Tan, 1999; Segalowitz and Segalowitz, 1993). When a person shows a good level of reading speed and reading comprehension in their mother tongue, something similar usually happens in the target language, based on the averages indicated previously. This is explained by the *linguistic interdependence hypothesis* (Cummins, 1981), which suggests that L1 skills are transferred to L2 skills. That is, a person's level of reading, writing, listening, and speaking in their first language will be similar when using a second or foreign language. In this context, a good level of reading skill may also depend on other factors such as, for instance, a person's reading habits, i.e., if someone often reads books, magazines, articles, etc., they are expected to be fast readers as well as show a high level of comprehension (Francisco and Madrazo, 2019; Septiarini, Rahmat, and Darmahusni, 2018; Suhana and Haryudin, 2017).

A very important issue in the context of speed and comprehension is the use of reading strategies, which might lead a person to read faster or slower or to understand more or less of what they read. A number of authors have developed different questionnaires to identify and/or evaluate reading comprehension strategies. Among these authors, Mokhtari and Reichard (2002) designed the Metacognitive Awareness of Reading Strategies Inventory (MARS), an instrument "to assess adolescent and adult readers' metacognitive awareness and perceived use of reading strategies while reading academic or school-related materials" (p. 249). This questionnaire was the foundation for the generation of the Survey of Reading Strategies (SORS) by Mokhtari and Sheory (2002), an upgraded version of the previous instrument. According to Mokhtari and Sheory (2002), there are three kinds of reading strategies: global, problem-solving, and support. Global strategies (GLOB) "are those intentional, carefully planned techniques by which learners monitor or manage their reading" (p. 4), such as predicting what the subject of the text will be, confirming predictions, or making decisions regarding what needs to be read more carefully. Problem-solving strategies (PROB) "are the actions and procedures that readers use while working directly with the text" (p. 4). More specifically, these are strategies for solving problems when reading a text becomes too difficult, such as reading more slowly, rereading, or reading out loud. Finally, support strategies (SUP) "are basic support mechanisms intended to aid the reader in comprehending the text" (p. 4), such as taking notes, underlining, or writing summaries. Reading strategies can be used before, during, and/or after reading; this will depend on the type of text and/or the participants' decisions regarding what strategy to use and when each works best for them.

The importance of reading strategies lies in the fact that the more frequent their use the better is the comprehension of a text (Abdelrahman and Bsharah, 2014; Abdullah, 2018; Anderson, 1991; Bongratz et al., 2002; Grabe, 2009; Pressley, 2006; Uribe-Enciso, 2015). With regard to speed, the two most common strategies that lead to faster reading are skimming and scanning (Abdelrahman and Bsharah, 2014; Abdullah, 2018). Skimming is reading a text quickly to get the main idea, while scanning is doing the same but with the objective of getting specific information. Therefore, both strategies involve not reading every single word in the text, and in this way, readers do not waste time, which results in an increase in their reading speed (when reading silently). In this regard, Beale (2013) states that "people who know how to skim and scan are flexible readers. They read according to their purpose and get the information they need quickly without wasting time. They do not need to read everything, which increases their reading speed. Their skill lies in knowing what specific information to read and which method to read" (p. 1). In sum, the constant use of certain reading strategies helps a person comprehend a text better and when a person effectively uses a number of strategies

when reading (like skimming and scanning), their speed tends to increase as well (Abdelrahman and Bsharah, 2014; Barzegar and Fazilatfar, 2019).

A number of studies indicate that certain sociodemographic factors might have an effect on the reading performance of individuals. Gender is one of the variables that has been found to have a significant impact on reading comprehension, reading speed, and reading strategies. In some case studies, women outperformed men in reading comprehension (Fauzan, 2016; Reilly, Neumann, and Andrews, 2019) and reading speed (Emma and Yousef, 2012). However, in others, no statistically significant differences were found (Hussein, 2018; Poole, 2005). According to Goh and Kwah (1997) and Hong-Nam and Leavell (2006), women use more reading strategies and do so more frequently than men, particularly compensation and effective strategies. Nevertheless, Poole (2005) and Ismail, Karim, and Mohamed (2018) state that the use of reading strategies might be influenced by certain factors other than gender. On the other hand, Chen and Wu (2017) and Miñoza and Montero (2019) found that the socioeconomic status (SES) of their family might have an impact on the reading performance of children: those with higher incomes develop better reading skills than those with lower incomes since the latter tend to lack access to a variety of reading materials. A study by Ismail, Karim, and Mohamed (2018), however, did not find any relationship between SES and reading performance. In sum, it seems that there are no definite sociodemographic factors that regularly have an influence on the reading performance of individuals; some factors are statistically significant in some cases but are not in others. It seems that the variation in the type of study participants plays a role: each population studied has its own particular characteristics and, therefore, study results are mixed.

In spite of this, studies on the aforementioned reading skills and the impact of sociodemographic factors are still scarce, particularly in reference to local university students, and even less in the context of learning English as a foreign language. Therefore, the research questions addressed in this study are as follows:

1. What is the reading comprehension level and reading speed of English language students at the University of Cuenca?
2. To what extent does the use of reading strategies affect the level of English reading comprehension of learners?
3. What sociodemographic factors have an effect on the reading comprehension level, reading speed, and use of strategies by English language students at the University of Cuenca?

### 3. Methodology

#### 3.1 Participants and context

The participants were 400 students taking English language courses at the University of Cuenca, Ecuador, during the September 2019–February 2020 term. The University of Cuenca is a public university located in the southern area of the country and is the sixth-largest university in Ecuador. It comprises a population of around 16,000 students divided into 12 schools and 5 campuses. Students have to pass three English language levels equivalent to the A1, A2, and B1 levels of the Common European Framework of Reference for Languages (CEFR) as a mandatory requirement for all majors. These courses are provided by the Language Department of the University of Cuenca, an academic unit that also offers courses in English and other languages for the general public. These are called *intensive courses* and feature levels A1–B2. Some students of these English language courses took part in the study as well.

The average age of the sample population was 22.94 years: 60.25% were female and 39.75% were male students; 90.25% of the students were single; 81.5% were taking mandatory courses, while the remaining 18.5% were students of courses offered to the general public. Table 1 summarizes the sociodemographic profile of participants.

**Table 1.** Participant sociodemographic profiles

| Parameter  | Group                     | n   | %      |
|------------|---------------------------|-----|--------|
| Age        | Average age (22.94 years) | 400 | 100.00 |
| Gender     | Female                    | 241 | 60.25  |
|            | Male                      | 159 | 39.75  |
| CEFR level | A1                        | 125 | 31.25  |
|            | A2                        | 206 | 51.50  |

|                                   |   |    |       |
|-----------------------------------|---|----|-------|
|                                   | B1  | 55 | 13.75 |
|                                   | B2  | 14 | 3.50  |
| School or field of specialization | Architecture and Urbanism                       | 2  | 0.50  |
|                                   | Art   | 29 | 7.25  |
|                                   | Agricultural Sciences                           | 58 | 14.50 |
|                                   | Chemical Sciences                               | 20 | 5.00  |
|                                   | Dentistry                                       | 10 | 2.50  |
|                                   | Econ. and Admin. Sciences                       | 40 | 10.00 |
|                                   | Engineering                                     | 32 | 8.00  |
|                                   | Jurisprudence and Political and Social Sciences | 43 | 10.75 |
|                                   | Medical Sciences                                | 82 | 20.50 |
|                                   | Philosophy and Ed. Science                      | 48 | 12.00 |
|                                   | Psychology                                      | 18 | 4.50  |
|                                   | High school graduates                           | 16 | 4.00  |

### **3.2 Data collection**

In order to uncover potential correlations between the reading skills of participants and factors such as their age, gender, English language proficiency, and university major, among other personal data, the students first completed a sociodemographic questionnaire. Then they took a reading speed and comprehension test. To determine their competence in these skills, the web page [www.freereadingtest.com](http://www.freereadingtest.com) was used. This is a free service provided by the research and development company *StepWare, Inc.*, which developed *AceReader*, a reading speed, comprehension, and fluency software program. This test was chosen after an analysis of at least six sites with similar characteristics. The instrument presents a series of texts on history, science, and current issues, featuring 13 levels of difficulty and three topics for each level. In the last twenty years, *AceReader* has been applied to different groups, both at a middle and higher level of education, with highly reliable results (Snead, 2005; Willingham, 2017).

Before administering the tests to determine speed and reading comprehension, these were piloted to ensure that the vocabulary and difficulty of the selected texts were in agreement with participants' English language proficiency. For this purpose, the readings were analyzed and compared to the parameters with which performance in the acquisition of a foreign language is categorized according to the CEFR, that is, into levels A1, A2, B1, B2, C1, and C2. As a result, 12 readings (Appendix 1) were selected for the tests (three for each of the levels except C1 and C2 because these are not offered by the Language Department at the University of Cuenca). The protocol for administering these tests was as follows:

1. The students browsed the website [www.freereadingtest.com](http://www.freereadingtest.com) and read three passages previously selected according to their English level proficiency.
2. After reading the passages, the students answered four comprehension questions for each passage. The average reading speed of an adult in a second language is between 200 and 250 wpm. If a student's reading speed is slower than this, their level is considered insufficient and the student is deemed to require support to improve their speed; if they reach a higher number of wpm than the average, they are considered advanced readers. The level of understanding of each text can be 0%, 25%, 50%, 75%, or 100%. If a student obtains 0%, they are considered to have an insufficient level of comprehension; 25% is considered regular comprehension; 50% is a good level; 75% is very good, and 100% is outstanding. In sum, by averaging out the results, if a participant manages to read between 200 and 250 wpm with a reading comprehension of at least 50%, they are considered average

second language readers. Testing at lower values means that the student has reading difficulties while getting higher values means that they have advanced reading skills.

After the reading tests, the participants completed a questionnaire on reading strategies (Pereira and Ramírez, 2006) that was based on the Survey of Reading Strategies (SORS) by Mokhtari and Sheory (2002) (Appendix 2). The questionnaire was in Spanish so as to allow the students, and especially those with only basic proficiency in the target language, to feel confident enough to fully understand the questions and provide suitable answers. This survey featured 24 questions intended to measure the type and frequency of strategies the participants use when reading in English as a second language. Each of the questions used a 5-point Likert scale, ranging from 1 (*I always or almost always do this*) to 5 (*I never or almost never do this*). After reading each statement, the participants selected the number that applies to them. This number indicates the frequency with which they use the strategy mentioned in the statement. The reading strategies measured in the survey were global, problem-solving, and supporting strategies (these are explained in detail in the Introduction). After scoring the questionnaire, three levels of reading strategy use can be identified: high (mean of 3.5 or higher), moderate (mean of 2.5 to 3.4), and low (mean of 2.4 or lower). This questionnaire was administered after the reading speed and comprehension tests so that the participants could provide answers based on the material they read a few minutes before.

#### 4. Results and Discussion

The average reading speed and comprehension of the participants are shown in Table 2. The average reading speed was 142 wpm, meaning that the students have a low reading speed and require additional support. However, their average reading comprehension was 80%, above the minimum of 75% (a very good level of understanding). This might imply that the students focused on understanding the texts well enough to be able to answer the comprehension questions correctly, resulting in slow reading.

**Table 2.** Average reading speed and comprehension.

|           | Reading speed | Reading comprehension |
|-----------|---------------|-----------------------|
|           | wpm           | %                     |
| Reading 1 | 142           | 80                    |
| Reading 2 | 149           | 80                    |
| Reading 3 | 135           | 79                    |
| Average   | 142           | 80                    |

In order to determine whether there is a correlation between the average reading speed and reading comprehension of the participants, the non-parametric Spearman's rank correlation test was used; however, the results show that there is no relationship between the aforementioned variables.

**Table 3.** Spearman's correlation matrix between reading speed and reading comprehension.

| Correlations   |                           |                         | Reading comprehension (%) | Reading speed |
|----------------|---------------------------|-------------------------|---------------------------|---------------|
| Spearman's Rho | Reading comprehension (%) | Correlation coefficient | 1.000                     | 0.032         |
|                |                           | Sig. (2-tailed)         |                           | 0.522         |
|                |                           | N                       | 400                       | 400           |
|                | Reading speed             | Correlation coefficient | 0.032                     | 1.000         |
|                |                           | Sig. (2-tailed)         | 0.522                     |               |
|                |                           | N                       | 400                       | 400           |

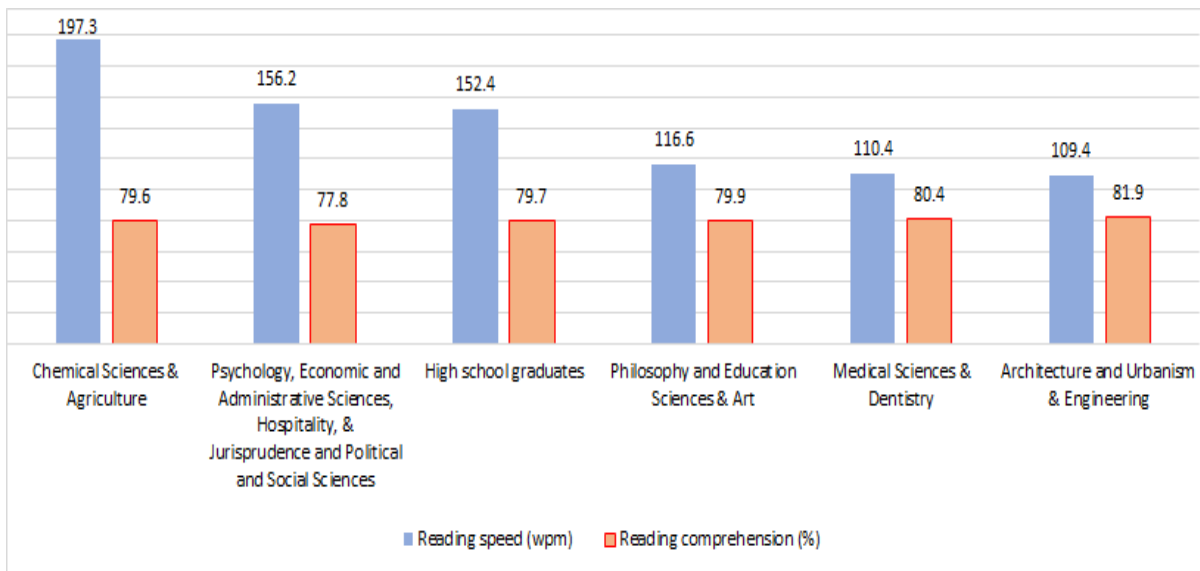
The participants were grouped according to their A1, A2, B1, and B2 CEFR levels. Table 4 shows the average reading speed and reading comprehension according to language proficiency. The results indicate that the A1-level participants achieved the best results in terms of speed, with 188 wpm, and the B1-level participants achieved the highest level of reading comprehension (83%), while the B2-level participants, with 84 wpm and 66% comprehension, obtained the lowest scores.

**Table 4.** Average reading speed and comprehension by proficiency level.

| English level | Reading speed (wpm) | Reading comprehension (%) |
|---------------|---------------------|---------------------------|
|               | Mean                | Mean                      |
| A1            | 187.95              | 79.73                     |
| A2            | 120.50              | 79.53                     |
| B1            | 132.23              | 82.73                     |
| B2            | 84.38               | 66.07                     |

Figure 1 below shows the average reading speed and comprehension by school or field of specialization, which is grouped in different areas of knowledge. The evidence indicates that the participants reading the fastest were in the fields of agricultural sciences and biosciences, while those reading the slowest were in the exact mathematical sciences. The level of reading comprehension was quite similar in all areas. The results concerning reading speed, however, cannot be considered conclusive since the number of participants was different in each of the areas of knowledge. We will discuss this issue in more detail in the discussion section.

**Figure 1.** Average reading speed and comprehension by school or field of specialization.



In order to determine the relationship between age and reading speed and comprehension, the non-parametric Spearman’s rank correlation test was used. The results show that there is a negative association between age and reading comprehension, meaning that the older the learner is, the lower their comprehension. With regard to reading speed, there is no evidence of an association with the age of the participants.

**Table 5.** Correlation coefficients between age and reading speed and comprehension.

| Correlations   |                         | Reading comprehension (%) | Reading speed (wpm) | Age   |
|----------------|-------------------------|---------------------------|---------------------|-------|
| Age            | Correlation coefficient | -0.113*                   | 0.025               | 1.000 |
| Spearman's Rho | Sig. (2-tailed)         | 0.024                     | 0.612               |       |
|                | N                       | 400                       | 400                 | 400   |

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

On average, women read 136 wpm and achieved 80% comprehension, while men read 150 wpm and achieved 79% comprehension. A mean difference test was used in order to uncover any significant differences between men and women. The results show that men read faster than women; however, their average reading comprehension was the same.

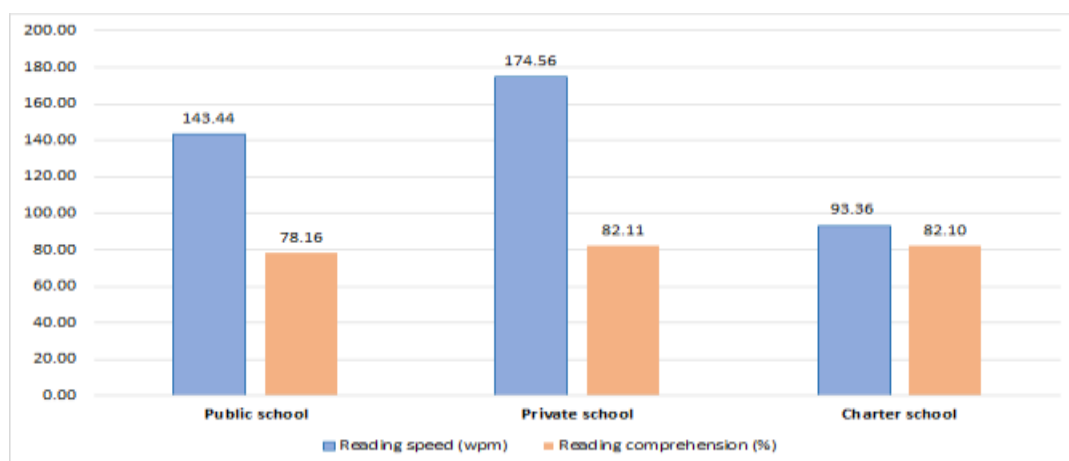
**Table 6.** Gender differences in reading speed and comprehension.

| Test Statistics        | Reading speed | Reading comprehension |
|------------------------|---------------|-----------------------|
| Mann-Whitney U         | 16,030.500    | 18,557.000            |
| Wilcoxon W             | 45,191.500    | 31,277.000            |
| Z                      | -2.765        | -0.541                |
| Asymp. Sig. (2-tailed) | 0.006         | 0.589                 |

<sup>a</sup> Grouping variable: Participant gender.

The type of high school the learners attended prior to their university studies (public, private, or charter) could have had an impact on the results of this study. Figure 2 below shows that the students from private institutions obtained the best results regarding reading speed (174 wpm), 31 more words than those who studied in a public institution, and 81 more than students from charter schools. Their reading comprehension levels, on the other hand, were about the same.

**Figure 2.** Average reading speed and comprehension according to the type of high school (public, private, or charter).



The income of participants is another variable that may play a role. Table 7 indicates the correlation between the students' income and their average reading speed and comprehension levels. The results show that there is no evidence of an association of any kind.

**Table 7.** Association between participant income and reading speed and comprehension.

| Correlations   |        |                         | Reading speed (wpm) | Reading comprehension (%) |
|----------------|--------|-------------------------|---------------------|---------------------------|
| Spearman's Rho | Income | Correlation coefficient | 0.066               | 0.002                     |
|                |        | Sig. (2-tailed)         | 0.187               | 0.965                     |
|                |        | N                       | 400                 | 400                       |

Another variable that might have a bearing on the average reading speed and comprehension level is the use of reading strategies. As stated in the Introduction, their effective and frequent use may lead a person to read and comprehend more than those who do not. Mokhtari and Sheory (2002) established three kinds of reading strategies: global (GLOB), problem-solving (PROB), and supporting (SUP). Table 8 indicates that the participants in this study show high use of all of these strategies, and particularly PROB strategies, which show a mean of 4.27 out of 5 points.

**Table 8.** Use of reading strategies.

| Type of strategy | Mean | Percentage |
|------------------|------|------------|
| GLOB             | 3.56 | 71.11%     |
| PROB             | 4.27 | 85.38%     |
| SUP              | 3.50 | 70.05%     |
| Average          | 3.75 | 74.88%     |

Table 9 portrays the distribution of strategy usage by the participants in the study. As can be seen, the five top strategies are PROB strategies, ranging from 4.31 points (item 1: *Try to get back on track*) to 4.43 points (item 5: *Reread the text to increase understanding*). On the other hand, the five lowest scores include two GLOB strategies (item 20, 3.20 points: *Decide what to read closely and what to ignore*, and item 24, 2.93 points: *Preview the text before reading*), two SUP strategies (item 22, 3.16 points: *Ask myself questions while reading*; item 23, 3.02 points: *Take notes while reading*), and just one PROB strategy (item 21, 3.20 points: *Stop from time to time and think*).

**Table 9.** Distribution of strategy use.

| Strategy | Strategy category | Mean |
|----------|-------------------|------|
|----------|-------------------|------|



|   |      |      |
|---|------|------|
| 1. Reread the text to increase understanding                                      | PROB | 4.43 |
| 2. Pay close attention to reading   | PROB | 4.40 |
| 3. Read slowly but carefully  | PROB | 4.33 |
| 4. Translate from English into my native language                                 | PROB | 4.32 |
| 5. Try to get back on track   | PROB | 4.31 |
| 6. Use figures, tables, and pictures to increase understanding                    | GLOB | 4.23 |
| 7. Think about information in both English and native language                    | SUP  | 4.15 |
| 8. Think about what I know  | GLOB | 4.08 |
| 9. Try to guess the meaning of unknown words or phrases                           | PROB | 4.03 |
| 10. Use dictionaries  | SUP  | 3.95 |
| 11. Preview the text before reading   | GLOB | 3.90 |
| 12. Adjust my reading speed   | PROB | 3.88 |
| 13. Go back and forth to find relationships among ideas                           | SUP  | 3.63 |
| 14. Underline and circle information  | SUP  | 3.59 |
| 15. Paraphrase  | SUP  | 3.58 |
| 16. Skim the length and organization of the text                                  | GLOB | 3.53 |
| 17. Use context clues   | GLOB | 3.42 |
| 18. Check if guesses are right or wrong   | GLOB | 3.35 |
| 19. Use typographical aids like bold face and italics to identify key information | GLOB | 3.26 |
| 20. Decide what to read closely and what to ignore                                | GLOB | 3.20 |
| 21. Stop from time to time and think  | PROB | 3.20 |
| 22. Ask myself questions while reading  | SUP  | 3.16 |
| 23. Take notes while reading  | SUP  | 3.02 |
| 24. Preview the text before reading   | GLOB | 2.93 |

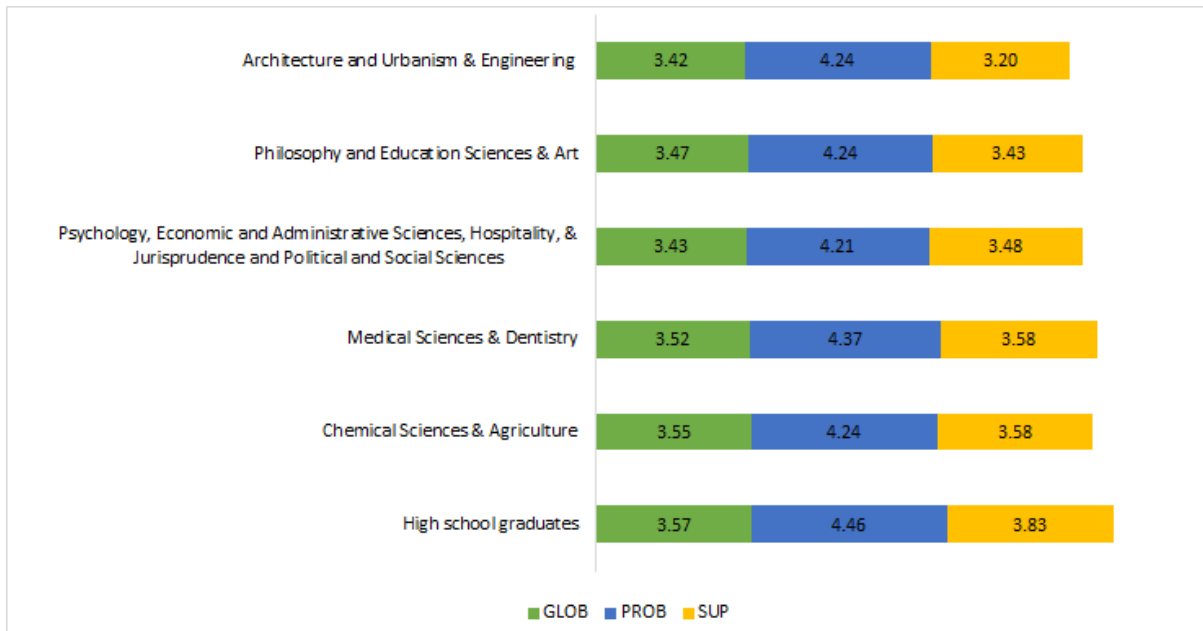
In order to determine the usage level of reading strategies according to the English language proficiency of the participants, the non-parametric Kruskal–Wallis test was used. This test again indicated that PROB strategies are more frequently employed than the other strategies, and especially by B1 students, who show a mean of 4.36. On the other hand, SUP strategies are used less frequently overall, and particularly by B2 students, who display the lowest score (3.21).

**Table 10.** Use of reading strategies by proficiency level.

| English level | Reading strategies |      |      |
|---------------|--------------------|------|------|
|               | GLOB               | PROB | SUP  |
| A1            | 3.55               | 4.13 | 3.59 |
| A2            | 3.47               | 4.34 | 3.48 |
| B1            | 3.49               | 4.36 | 3.45 |
| B2            | 3.22               | 4.08 | 3.21 |

Figure 3 below shows the use of reading strategies based on the school or field of specialization. As can be seen, the trend seen in previous data persists: PROB strategies are more frequently used than GLOB and SUP strategies. High school graduates obtained the highest score, followed by medicine, dentistry, chemistry, and agriculture students. The participants in the other schools or fields of specialization show high and moderate use of all strategies.

**Figure 3.** Reading strategy use scores by school or field of specialization.



In order to determine whether there are significant differences between schools or fields of specialization, the non-parametric Kruskal–Wallis test was used. The results show that there is a statistically significant association between SUP strategies and high school graduates: they use these strategies far more often than the other participants.

**Table 11.** Average comparison test of GLOB, PROB, and SUP strategies by school or field of specialization.

| Test Statistics <sup>a,b</sup> | GLOB  | PROB  | SUP    |
|--------------------------------|-------|-------|--------|
| Chi-square                     | 2.945 | 8.988 | 13.367 |
| df                             | 5     | 5     | 5      |
| Asymp. Sig.                    | 0.708 | 0.110 | 0.020  |

<sup>a</sup> Kruskal–Wallis test; <sup>b</sup> Grouping variable: school or field of specialization.

Regarding a correlation between age and reading strategies, the results show that unlike the relationship between age and reading speed and comprehension, the age of students of the Language Department of the University of Cuenca does not show an association with any of the strategies investigated in this study, that is, their use and application are independent of the age of participants.

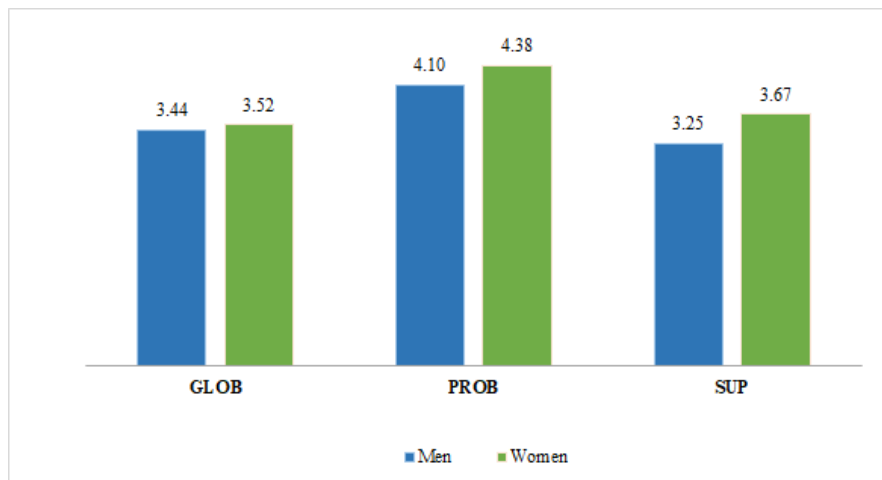
**Table 12.** The correlation coefficient between age and reading strategies.

| Correlations* |                | GLOB   | PROB    | SUP     | Age    |
|---------------|----------------|--------|---------|---------|--------|
| Age           | Spearman's Rho | 0.0069 | -0.0524 | -0.0252 | 1.0000 |
|               | Prob > t       | 0.8909 | 0.2962  | 0.6147  |        |
|               | N              | 400    | 400     | 400     | 400    |

Test of H0: GLOB, PROB, SUP, and age are independent. \*Correlation is significant at the 0.05 level.

Regarding gender, Figure 4 below shows that on the whole female participants employ reading strategies more frequently than male participants. Furthermore, PROB strategies again turn out to be the ones that both groups (male and female) use the most. The highest score corresponds to the use of PROB strategies by women (4.38), while the lowest score corresponds to the use of SUP strategies by men (3.25).

**Figure 4.** Reading strategy differences between genders.



A difference of means test was run in order to uncover significant differences between men and women regarding reading strategies. Table 13 shows that there is a statistically significant association between GLOB strategies and gender: female participants use these strategies more frequently than males. The other two types of strategies are used similarly by both genders.

**Table 13.** Reading strategy differences between genders.

| Test statistics <sup>a</sup> | GLOB       | PROB       | SUP        |
|------------------------------|------------|------------|------------|
| Mann–Whitney U               | 18,174.000 | 12,903.000 | 12,915.000 |
| Wilcoxon W                   | 30,894.000 | 25,623.000 | 25,635.000 |
| Z                            | -0.873     | -5.555     | -5.524     |
| Asymp. Sig. (2-tailed)       | 0.383      | 0.000      | 0.000      |

<sup>a</sup> Grouping variable: Participant gender.

Perusal of Table 14 indicates that the group of language learners who come from private institutions use PROB reading strategies more frequently (4.29) compared to language learners who come from public and charter schools. It is also observed that the participants who completed their high school education in public institutions display, on average, a high score in the use of GLOB (3.54) and SUP (3.55) strategies.

**Table 14.** Average use of reading strategies by type of high school education.

| High school education | Reading strategies |    |      |
|-----------------------|--------------------|----|------|
|                       | GLOB               | OB | SUP  |
| Public school         | 3.54               |    | 3.55 |
| Private school        | 3.30               |    | 3.38 |
| Charter school        | 3.51               |    | 3.47 |

Regarding the income of participants, this variable is independent of the three types of strategies (GLOB, PROB, SUP) used by the English language learners at the University of Cuenca, meaning that the use of these strategies is not related to having a high or low income (Table 15).

**Table 15.** Participant income and reading strategies.

| Test statistics <sup>a,b</sup> | GLOB  | PROB  | SUP   |
|--------------------------------|-------|-------|-------|
| Chi-square                     | 0.678 | 1.431 | 2.090 |
| df                             | 3     | 3     | 3     |
| Asymp. Sig.                    | 0.878 | 0.698 | 0.554 |

<sup>a</sup> Kruskal–Wallis Test; <sup>b</sup> Grouping variable: participant monthly income (USD)

The purpose of this study was to determine the reading speed and reading comprehension level of English language students in the Language Department of the University of Cuenca, as well as the factors that might have an influence on these levels. Our results indicate that these students read 142 wpm and reach 80% of comprehension, on average. This slow reading speed may be the result of an insufficient reading proficiency acquired before their university studies and/or a sedulous reading of the texts featured in the reading tests, with the purpose of answering the comprehension questions successfully. This is in line with Ngoc (2016), who states that the participants in his study who showed a high level of comprehension decided to “slow down to get more information from the text” (p.8) when taking the reading tests (the participants reached an average of 130 wpm and 72.5% comprehension). Other similar results were obtained in studies by Wallot et al. (2014) and Borja (1998), in which the participants achieved a low number of wpm but a high percentage of reading comprehension. This slow reading leading to a high level of comprehension has been reported in many other studies (Allen, Jacovina, and McNamara, 2016; Chang, 2010; Fry, 1975; Nuttall, 1996; Stanovich, 1980). Nevertheless, a number of studies (Bowey, 2005; Maluch and Sachse, 2020; Perfetti, Landi, and Oakhill, 2005; Snow, Burns, and Griffin, 1998; Stanovich, 2000) have shown that when a person reads a high number of wpm it is likely that they will reach a high level of comprehension as well. This contradictory assertion might be explained by the reading habit factor: when facing a reading test featuring comprehension questions, those who frequently read books, magazines, online articles, and other texts will not necessarily slow down their reading in order to retain information in their minds to answer those questions correctly (which is what most people tend to do); their reading habit is so regular that even during a test they read in the habitual way they are accustomed to (Beglar, Hunt, and Kite, 2012; Chmykhova, Davydov, and Lavrova, 2014; Mu, 2014; Owusu-Acheaw and Larson, 2014; Rosli et al., 2017).

Another factor at play may be the English language proficiency level of participants. According to the Education First (EF) English Proficiency Index (2019), Ecuador is ranked 81 out of 100 countries and regions in terms of English skills. This ranking means Ecuadorian students show, on average, very low proficiency in the English language, equivalent to the A1 level of the CEFR. Usually, when students face a reading test featuring vocabulary and grammatical structures they are not familiar with, their reading speed tends to decrease (Cobb, 2008; Fraser, 2007; Student Academic Resource Center, 2017). It appears that there is no set pattern regarding the results of reading speed and comprehension tests, however: in some studies, participants achieve a low number of wpm but a high level of comprehension; in others, they reach a high number of wpm and also a high level of comprehension; and sometimes they obtain a low number of wpm and also a low level of comprehension. It, therefore, seems likely that these results depend on other factors, such as the participants' English proficiency level and their reading habits.

The second research question posed here is about the impact of the use of reading strategies on reading comprehension levels. The data show that the use of any type of strategy (GLOB, PROB, or SUP) has an influence on participants' comprehension, meaning that the more frequently they use these strategies, the better their comprehension. The results regarding the impact of GLOB, PROB, and SUP strategies on the level of comprehension of participants in this study are consistent with the findings of Abdelrahman and Bsharah (2014), Adbullah, (2018), Anderson (1991), Bongratz et al. (2002), Felts (2018), Grabe (2009), Hans and Hans (2015), Hong-Nam (2014), Huang and Nisbet (2014), Par (2020), Pressley (2006), and Uribe-Enciso (2015). These previous studies indicate that the use of reading strategies increases reading comprehension. An important aspect to mention is that the context in which a comprehension test is applied will determine which strategy or strategies are used more. That is to say, if the participants were to read a passage as homework and were told they would have to take a comprehension test the following day, they would surely adopt strategies like taking notes while reading (SUP), underlining and circling information (SUP), using dictionaries (SUP), going back and forth to find relationships among ideas (SUP), among others, because they have enough time to do so. On the other hand, if participants read a passage in class and immediately take a comprehension test (as in this study), they do not have time to employ the same strategies and would likely prefer to reread the text to increase understanding (PROB), pay close attention to reading (PROB), read slowly but carefully (PROB), and/or adjust their reading speed (PROB).

Finally, our third research question deals with sociodemographic factors that may have an effect on reading comprehension, reading speed, and the use of strategies. The following significant results were found:

- Reading speed and comprehension and English proficiency:* The results show that participants with the lowest English language level (A1 students) read the fastest, while those who theoretically manage the English language the best (B2 students) read the slowest. These results are in contrast with what commonly tends to occur—that is, advanced L2 students generally tend to read faster than L2 beginners, as corroborated by the findings of Chang and Millet (2013), Maluch and Sachse (2020), Quirk and Beem (2012), Taguchi and Gorsuch (2002), and Taguchi, Takayasu-Maass, and Gorsuch (2004). This contradictory outcome might be explained by the fact that the B2 students who took part in the current study represent only a small proportion of total participants (only 3.5%), while A1 students embodied 31.25% of the sample. Another cause might be that most of the A1 participants were students who, besides taking English language courses, were taking other classes in which they frequently had to read academic material and thus were more accustomed to the types of texts presented in the reading test. On the other hand, not all of the B2 participants were university students (the Language Department offers English courses to the general public); they were mainly people aiming to improve their English skills either to get a better job or to apply for a scholarship to study abroad and were not fully involved in an environment in which the constant reading of academic texts is mandatory. Regarding comprehension levels, the results of the A1, A2, and B1 groups were alike (between 79 and 82%), while the B2 participants showed lower levels of comprehension (66.07%). Likewise, their reading comprehension results might be explained by the small number of participants belonging to this group of learners.
- Reading speed and comprehension and field of specialization:* Comprehension levels were similar across all majors (average 79.88%). However, the results regarding reading speed are not conclusive because the number of participants in each knowledge area was different. When focusing on the results of groups with similar participant numbers (20–25% of the sample), we find that those who achieved the fastest reading speeds were in the chemical sciences and agriculture (197.3 wpm), followed by psychology, economic, and administrative sciences, and jurisprudence and the political and economic sciences (156.2 wpm), and finally, the medical sciences and dentistry (110.4 wpm). As can be seen, the major pursued does have an impact on reading speed. These results, however, are in contrast to the findings of De Brito Cunha and Angeli dos Santos (2005), Fregoso (2005), and Navarro et al. (2020), whose studies on university students suggest that there is no specific field of knowledge that may be deemed as a determinant of higher levels of speed or reading comprehension. These studies, however, analyzed the link between reading speed and comprehension *in one's mother tongue* and the field of specialization. The limited data regarding the relationship between reading speed and/or

comprehension in English as a foreign language and one's field of specialization does not allow us to suggest any particular reason for the aforementioned results, and further work is needed to shed more light on these results.

- *Reading speed and comprehension and age:* There was no relationship between the age of participants and their reading speed. The data, however, indicate that there is a negative association between age and reading comprehension. This means that as people get older, their comprehension skills tend to decrease. This is in line with the findings of Hannon and Daneman (2009), Mitzner and Rogers (2006), and Véliz, Riffo, and Arcancibia (2010), who claim that reading comprehension skills are likely to decline with normal aging. This occurs because working memory (the capacity to hold information temporarily) reduces as people get older as a result of neurological and cognitive changes such as metabolic variation, neurochemical alteration, attention, and processing speed reduction, among others (Hannon and Daneman, 2009; Ruiz-Vargas, 2008). These changes are a natural occurrence in all human beings, and cognitive abilities like conceptual reasoning, memory, attention, and processing speed decline gradually over time, being more evident in older adults (Deary et al., 2009; De Beni, Borella, and Carretti, 2007; Harada, Natelson, and Triebel, 2013; Murman, 2015; Pérez, 2005; Ruiz-Vargas, 2008; Sosa, 2016).
- *Reading speed and comprehension and prior education:* The level of reading comprehension was similar across participants (average of 80.79%) regardless of the type of school they attended prior to their university studies—public, private, or charter. The results, however, show that students from private schools read a lot faster (174 wpm) than those from the public (143 wpm) or charter schools (93 wpm). Despite the fact that the number of participants from public, private, or charter schools differs (students from public schools were three times more numerous than the others), several studies corroborate that students from private schools read faster than those going through the public system (Aldazabal, 2019; Carreño, 2000; Cruz, Gálvez-Sobral, and Argueta, 2017; Ecurra, 2003; Sánchez, 1987). This might indicate ineffective educational policies by governments of countries like Ecuador in regard to the development and strengthening of the reading skills of public school students (Carreño, 2000; Greany, 1996). This situation is evidenced by the fact that according to the UNESCO Institute for Statistics (UIS) (2017), school children and teenagers in Latin America (most of whom attend public schools) lack basic competency in reading comprehension. Moreover, while in countries like India or France people read 10.7 and 6.9 hours per week, respectively (NOP World Culture Score Index, 2013), in Ecuador—where most students attend public schools—people read just 1–2 hours per week (INEC, 2012).
- *Use of reading strategies and gender:* The female participants in this study use reading strategies more frequently than the males. These results are consistent with the findings of Lee (2012), Oxford, Nyikos, and Ehrman (1988), Peart (2017), and Poole (2009). It seems that female students adopt a more positive attitude towards reading and thus may be more thorough readers than male students; consequently, female readers make extensive use of a wider range of strategies (Lee, 2012; Peart, 2017). This might be explained by the findings of Stoet et al. (2013), which support the notion that women have an advantage over men in multitasking; therefore, when facing a reading task, women seem to be able to use different strategies at the same time, consequently outperforming men. In fact, recent studies have shown that the female brain is more active than the male one (Harasty et al., 1997; Xin et al., 2019; Zaidi, 2010), which seems to support the notion that women use reading strategies more than men.

## **5. Conclusion**

Studies of reading speed and comprehension highlight the importance of these two aspects of reading skill, which is a key element of knowledge acquisition. Those who read faster and comprehend more than others have an advantage in activities involving interaction between a reader and a text, which might also denote a sizable advantage for good readers in terms of personal goals that could impact their lives (e.g., school achievements or job opportunities). The results of the current research suggest that when faced with a reading speed test (particularly in a foreign language) followed by comprehension questions, participants tend to slow down their reading speed in order to retain as much information as possible and be able to accurately answer the questions. This also results in high use of reading strategies (mainly PROB strategies) because of the little amount of time elapsed between reading the text and answering questions. All of this frequently entails high levels of comprehension but low levels of speed, which is what was observed in the participants in this study: they achieved 80% comprehension of the texts but their average reading speed was just 142 wpm, which is far from the international standard average of a skillful reader in a foreign language (200–250 wpm).

The lack of similar studies in the local context, that is, concerning Ecuadorian university students taking a reading speed and comprehension test in a foreign language, as well as their use of reading strategies, led us to develop procedures for the application of these kinds of tests based on case studies from other countries and other contexts. This adaptation of tools may represent a

significant limitation of this work. This study is therefore exploratory, and further studies on reading speed, reading comprehension, and the use of reading strategies in English as a foreign language (EFL) context are needed to shed light on the results obtained here. We particularly recommend carrying out studies featuring different ways of administering the reading tests, e.g., recording participants' reading speeds when reading a text out loud or allowing them to read a text at home and testing their comprehension the following day. Differences in speed, comprehension level, and use of strategies are expected with these and/or other variations, which might shed light on the importance of context when assessing reading skills and provide a more comprehensive understanding of their dynamics, with the aim of supporting those who show deficiencies. Furthermore, according to the outcomes of this study a research-based intervention with the aid of English teachers at the University of Cuenca may represent a good step to take to improve the reading speed and comprehension levels of our university students. In order to fulfill this goal, it is necessary to make students aware of the wide range of reading strategies that might help them boost their reading speed and comprehension in a foreign language. This could entail a significant improvement of the student's performance, since being able to read fast and fully comprehend a text usually means that students can more effectively acquire a vast knowledge of different subjects. With regard to English language courses, proficient readers frequently succeed and, when dealing with international examinations to apply for a scholarship, for instance, are those who regularly succeed as well. Therefore, the research-based intervention mentioned above will not only mean support for those with reading difficulties but might also constitute a reference point for future research endeavors on this issue.

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## **Appendix 1**

### **Readings selected for the tests**

#### **A1**

##### **1**

An "ant farm" is a toy. It is almost like a pet. Kids can see where the ants live. They can see how they work and eat. Milton Levin created the first ant farm. He was curious. He watched ants at a picnic. Then he had an idea. In 1956, he made the "farm." It was a hit.

People have sold more than 25 million farms. They are easy to care for. They are also fun to watch. The toy remains popular.

Two other toys came out the same year. These were Play-Doh and Yahtzee.

##### **2**

Do you like movies? George Lucas does. He wanted to race cars, but he got hurt. He went to film school. He worked on other people's movies. Then he made his own. "Star Wars" came out in 1977. It made the most money any film ever had. It also changed the way we watch movies. It had a lot of action and special effects. Now a lot of people use them. They also use computers to help create what we see.

##### **3**

Mercury is the closest planet to the Sun. It is the smallest planet in the solar system. Pluto is no longer called a planet. It is too small. Mercury has a day side and a night side. The dayside is the hottest place in the solar system. It takes 88 days to move around the sun and 59 days to spin on its own axis. The surface of Mercury is full of craters.

#### **A2**

##### **4**

Tea is the second most popular drink in the world; the first is plain water. The tea plant is native to many countries, including China, and there are many stories about how people started drinking it. One story tells of a famous Chinese emperor. His name was Shen Nong, and he lived about 2,000 years ago. He knew a lot about plants and medicine. In fact, he told his subjects to boil their water before drinking it because he thought it was healthier. He, himself, drank hot water in his garden every day.

One day a leaf blew into his cup. It smelled good, so he drank some of it. He liked the taste, and it made him feel better. He told others to try it, and they liked it, too.

The first written description of tea as a deliberately made drink came in 350 A.D. The Chinese writer Kuo P'o' ut it in a new dictionary. He said it was a "beverage made from boiled leaves." At that time, people mixed the tea leaves in water with ginger, orange, or other plants. They used it mostly as medicine for the stomach and nerves. In some places in China, people also pressed the leaves into a brick. They used it for money.

## 5

You know that the United States was born on July 4, 1776. But did you know that the U.S. Navy also has a birthday? It's October 13, 1775. How can the Navy be older than the United States?

The American colonies depended on the sea for their living. Some people built ships. Others traded goods when foreign ships came into port. When the Revolutionary War started, the British attacked the ports. Many people struggled to survive. If the colonies were going to win the war and become independent, they needed ships of their own to fight the British.

On October 13, 1775, the Second Continental Congress bought two ships. It wasn't much, but it was the beginning of the Navy as we know it.

## 6

Earth has an atmosphere. Not every planet does. It is the air around us. The layers form a "blanket." They protect us from the Sun. They also protect us from the cold of space.

Air contains many parts. It has nitrogen, oxygen, and small pieces of dust. Animals breathe oxygen. They get rid of carbon dioxide. Plants breathe carbon dioxide and get rid of oxygen. We find both in the air. We also find small amounts of other things. These can be natural or man-made.

The atmosphere is held in place by the pull of the Earth's gravity. It extends to about 1,250 miles above the surface of the planet.

## B1

## 7

Professional football was first played around 1895. In 1920 the American Professional Football Association was formed. The APFA handed out franchises right and left and it ended up with 23 terms. One year later, it charged again and in 1922. It was renamed the National Football League.

The NFL was limited to only ten terms which then grew to 16 in 1970 the NFL teams merged with 10 American Football League (AFL) teams to form one league with two divisions. The result was the first modern professional football association.

In the 1980s, further, expansion was processed, and by the 1993-1994 NFL season approval was given for a thirty-team league. The next step towards the growth of the league was to separate the NFL into eight different divisions, each with four teams.

## 8

Today Crayola Crayons are everywhere, but that wasn't always the case. In 1885, two cousins, Edwin Binney and C. Harold Smith formed a business partnership. In 1900, they purchased a stone mill in Easton, Pennsylvania, and began to produce slate pencils for schools.

With schools accounting for a large percentage of their business the cousins started to research non-toxic and colorful media kids. They had already invented a new wax crayon which was used to draw on creates and barriers, but it was loaded with carbon black that it made it too toxic for children.

Still, the pair were confident that the pigment and wax mixing techniques they had developed could be adapted for a variety of safe colors.

In 1903, They introduced a new brand of crayons that contained both superior color and child-friendly ingredients. The name "Crayola" was coined by Binney's wife Alice, it comes from "craie" the French word for chalk, and "ola" for fat/wax-like. There were originally only eight colors: black, blue, brown, green, orange, red, violet, and yellow.

Now Crayola has become the crayon standard and it boasts 23 reds, 20 greens, 19 blues, 16 purples, 14 oranges, 11 browns, 8 yellows, 2 grays, 2 coppers, 2 blacks, 1 white, 1 silver, 1 gold.

**9**

The atmosphere is made up of many gases. Some of these are nitrogen, oxygen, and carbon dioxide. It also has layers. Each one has different properties.

The troposphere reaches from the ground to 12 kilometers high. It is the region where weather occurs. It contains clouds rain snow and storms. The stratosphere reaches from 12 to 50 kilometers high. The ozone layer in this region absorbs ultraviolet radiation. This makes it possible for life to exist on the planet. The atmosphere or "middle atmosphere" reaches from 50 to 80 kilometers high. The temperature drops sharply in this region. Most meteorites burn up here. The thermosphere extends above 80 kilometers high. The air is very thin here and very hot –up 1800 degrees Celsius. It has no outer limit.

The thermosphere is divided into two regions. The Ionosphere reaches 80 to 550 kilometers above Earth's surface. Ions in this region reflect radio waves back to Earth. This is also the region that produces the aurora borealis, or the "Nathen Lights" The exosphere is the "Outer Atmosphere" It extends from 550 kilometers high out into space. Artificial satellites orbit in this region.

**B2**

**10**

When we fall victim to difficulties that cannot be avoided, we often think of Murphy's law. If anything can go wrong. It will. What we may not realize is that Murphy's law is not just a fictitious character from an obscure period of our history. But he was an actual person whose actions gave rise to the term.

The term Murphy's law was invented at Edwards Field, California in 1949 and was named after Captain Edward E. Murphy. Murphy was a development engineer on the Air Force Project MX981, which was designed to see how much sudden deceleration a person can withstand in a crash, by conducting research on rockets sleds. Upon discovery one day that a technician, whose name has long since been lost to history, had wired a piece of equipment incorrectly, Murphy cursed the technician and said "if there any way to do things wrong he will "during the testing a list of "laws" was being completed, and this one was included and entitled "Murphy law".

A few weeks later, in a press conference Murphy's superior, Colonel J.P Stapp credited his program's good safety record to planning for Murphy's law.

**11**

Do you know the name, Randy Kerr? Maybe not. But you do know what he did.

Polio is a disease. It is caused by a virus. It enters through the nose and mouth and affects the body's nerves and muscles. People can become paralyzed. They may also have trouble breathing or even die. It used to be very common. By 1954 there were about 50.000 new cases in the United States alone each year.

The virus mostly hit young children. Parents were scared and they pulled their children from school. But people found that adults could get it too. President Franklin Roosevelt got it when he was an adult.

Many scientists tried to find out how the virus worked. They wanted to create a way to prevent people from getting the disease. Two men, Jonas Salk and Albert Sabin created vaccines. The Salk vaccine was the first to be tried. It was April 26<sup>th</sup>, 1954. 6-year-old Randy Kerr was the first in the line to get the shot. He said it barely hurt. It also worked. Now the polio is almost unknown in the US.

**12**

The solar system is the name we give to our Sun and the planets that orbit it. The Sun is all the center. Mercury is the closest planet to the Sun and Neptune is the farthest away. Pluto used to be considered a planet, but it has gone through several names changes over the years. Today, it is thought to be too small to be a true planet. But that may change again. The inner planets. Are Mercury, Venus, Earth, and Mars. They all have rocky surfaces. The outer planets are Jupiter, Saturn, Uranus, and Neptune. They may or may not have a solid core, however, they all have layers of gas around them. Pluto is also rocky it may be a captured asteroid. It has at least five of its own moons. All the planets except for Mercury and Venus, have at least one moon orbiting them.

In between Mars and Jupiter is the main asteroid belt. There are thousands of small, rocky bodies in this region. Some people think these may be part of a planet that broke up because of Jupiter's enormous gravity. Others feel that they are part of a planet that never formed, for the same reason. There is another region of asteroids beyond Pluto, called the Kuiper belt. It contains many more than the asteroid belt. It may also serve as the origin for comets.

**Appendix 2**  
**Mokhtari and Sheory Survey of Reading Strategies (SORS) (2002)**

The purpose of this survey is to collect information about the various techniques you use when you read **academic materials in English** (e.g., reading textbooks for homework or examinations, reading journal articles, etc.).

All the items below refer to your reading of **college-related academic materials (such as textbooks, not newspapers or magazines)**. Each statement is followed by five numbers, 1, 2, 3, 4, and 5, and each number means the following:

- '1' means that 'I **never or almost never** do this'.
- '2' means that 'I do this **only occasionally**'.
- '3' means that 'I **sometimes** do this'. (About 50% of the time.)
- '4' means that 'I **usually** do this'.
- '5' means that 'I **always or almost always** do this'.

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) which applies to you. Note that there are **no right or wrong responses** to any of the items on this survey.

| Category | Statement  | Never | 1 | 2 | 3 | 4 | Always |
|----------|--|-------|---|---|---|---|--------|
| GLOB     | 1. I have a purpose in mind when I read.   | 1     | 2 | 3 | 4 | 5 |        |
| SUP      | 2. I take notes while reading to help me understand what I read.                         | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 3. I think about what I know to help me understand what I read.                          | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 4. I take an overall view of the text to see what it is about before reading it.         | 1     | 2 | 3 | 4 | 5 |        |
| SUP      | 5. When text becomes difficult, I read aloud to help me understand what I read.          | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 6. I think about whether the content of the text fits my reading purpose.                | 1     | 2 | 3 | 4 | 5 |        |
| PROB     | 7. I read slowly and carefully to make sure I understand what I am reading.              | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 8. I review the text first by noting its characteristics like length and organization.   | 1     | 2 | 3 | 4 | 5 |        |
| PROB     | 9. I try to get back on track when I lose concentration.                                 | 1     | 2 | 3 | 4 | 5 |        |
| SUP      | 10. I underline or circle information in the text to help me remember it.                | 1     | 2 | 3 | 4 | 5 |        |
| PROB     | 11. I adjust my reading speed according to what I am reading.                            | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 12. When reading, I decide what to read closely and what to ignore.                      | 1     | 2 | 3 | 4 | 5 |        |
| SUP      | 13. I use reference materials (e.g., a dictionary) to help me understand what I read.    | 1     | 2 | 3 | 4 | 5 |        |
| PROB     | 14. When text becomes difficult, I pay closer attention to what I am reading.            | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 15. I use tables, figures, and pictures in text to increase my understanding.            | 1     | 2 | 3 | 4 | 5 |        |
| PROB     | 16. I stop from time to time and think about what I am reading.                          | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 17. I use context clues to help me better understand what I am reading.                  | 1     | 2 | 3 | 4 | 5 |        |
| SUP      | 18. I paraphrase (restate ideas in my own words) to better understand what I read.       | 1     | 2 | 3 | 4 | 5 |        |
| PROB     | 19. I try to picture or visualize information to help remember what I read.              | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 20. I use typographical features like bold face and italics to identify key information. | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 21. I critically analyze and evaluate the information presented in the text.             | 1     | 2 | 3 | 4 | 5 |        |
| SUP      | 22. I go back and forth in the text to find relationships among ideas in it.             | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 23. I check my understanding when I come across new information.                         | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 24. I try to guess what the content of the text is about when I read.                    | 1     | 2 | 3 | 4 | 5 |        |
| PROB     | 25. When text becomes difficult, I re-read it to increase my understanding.              | 1     | 2 | 3 | 4 | 5 |        |
| SUP      | 26. I ask myself questions I like to have answered in the text.                          | 1     | 2 | 3 | 4 | 5 |        |
| GLOB     | 27. I check to see if my guesses about the text are right or wrong.                      | 1     | 2 | 3 | 4 | 5 |        |
| PROB     | 28. When I read, I guess the meaning of unknown words or phrases.                        | 1     | 2 | 3 | 4 | 5 |        |
| SUP      | 29. When reading, I translate from English into my native language.                      | 1     | 2 | 3 | 4 | 5 |        |
| SUP      | 30. When reading, I think about information in both English and my mother tongue.        | 1     | 2 | 3 | 4 | 5 |        |