

## Role of gender in Spanish L2 reading

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**RESUMEN:** En el campo de estudio de la adquisición de segundas lenguas (ASL), diversas investigaciones empíricas han encontrado una brecha entre los resultados que obtienen las mujeres y los hombres en las universidades de los Estados Unidos en relación a la comprensión lectora en una segunda lengua (L2). Esta brecha entre alumnos y alumnas hace que sea importante el estudio del género en el proceso de adquisición de una L2. Este artículo examina dichos efectos en el aprendizaje del español como L2, particularmente en la comprensión lectora. Para evaluar esta competencia, se presentaron tres textos literarios a los participantes y se evaluó la comprensión de los mismos a través de dos modalidades diferentes (reflexión escrita y preguntas de opción múltiple). Se evaluaron también las estrategias cognitivas que emplearon las alumnas y los alumnos para comprender dichos textos. Los análisis estadísticos mostraron una diferencia significativa entre las alumnas y los alumnos en relación a la comprensión del contenido de los pasajes así como una de las estrategias cognitivas empleadas para acceder a los mismos. Al final del estudio se ofrecen recomendaciones pedagógicas basadas en los resultados obtenidos.

**Palabras clave:** comprensión lectora en una L2, género, conocimientos previos, estrategias de lectura, Español a nivel universitario.

**ABSTRACT:** In the arena of second language acquisition (SLA) research has found a gap in reading comprehension scores between male and female second language students in university courses, highlighting the need to study the impact of gender in Higher Education. This article examined the effects of gender on Spanish L2 reading comprehension. Participants read three literary passages and completed two measures to assess reading comprehension (written recall and multiple choice questions). Another measure was used to assess cognitive strategies used by the participants to access the texts. Statistical analyses showed a significant difference between female and male participants' understanding of the passage content, as well as in one of the cognitive strategies they used for comprehension. Pedagogical recommendations are offered based on the results of this study.

**Keywords:** L2 reading comprehension, gender, background knowledge, reading strategies, Spanish at university-level.

### 0. INTRODUCTION

In most universities in the United States, beginning foreign language courses usually focus on “skill-getting” (Mecarty, 2006). This means that learners study basic thematic vocabulary and grammar of the target language. It is only later, after they complete three or four semesters of basic language instruction, that learners are challenged with literary pieces, short stories and more complex cultural passages. Once they reach this level of instruction, learners should have the necessary skills to read these challenging texts. However, Rava (2001), stated that faculty in language departments found that students were not sufficiently prepared to shift from plot-level discussions to text analysis and interpretation. This discrepancy prompted many university language departments to revise their curricula, and part of this re-evaluation was motivated by studies on the impact of gender on the comprehension of L2 reading (Brantmeier & Pulido, 2010). Specifically on the issue of

literature in foreign language courses, the 2007 Modern Language Association (MLA) report suggested “a broader and more coherent curriculum in which language, culture, and literature are taught as a continuous whole” (Ad Hoc Committee on Foreign Languages, 2007: 236). Given the emphasis on improving L2 reading, it is crucial to have more research into the question of the relationship between student gender and second-language learning (Brantmeier, 2003), particularly at the intermediate level where students transition from a more grammar and vocabulary-focused approach to a content- and literary-focused one.

The question of how second-language learners acquire literacy has been studied extensively. Background knowledge itself (i.e., first-language literacy and second-language knowledge) has been found to account for about 50% of the variance in second-language reading assessment results (Bernhardt, 1991; Brantmeier, 2005). The other 50% has not yet been explained fully, although several authors have noted that gender may play a role. While the specific findings are not unanimous, the general consensus is that gender, along with type of reading comprehension selected (essay, short story, history) and the assessment strategy (recall, sentence completion, and multiple choice), are all contributing factors. Dornyei (2005) claimed that gender affects all aspects of the language learning process and urged more research in the area. This study represents our effort to build on these results through a quantitative assessment of the role of learner gender, passage gender, and strategy use in Spanish language reading.

## 1. LITERATURE REVIEW

**1.1. Background Knowledge, L2 Reading, and Gender.** Research on L2 reading has consistently shown that students’ background knowledge, itself partially related to gender (Carrell & Wise, 1998), significantly impacts how they process material as well as their ability to read for meaning (Carrell, 1981, 1983a; Koda, 2005; Bernhardt, 2011; Leiser, 2004 & 2007; Brantmeier, 2014). Also related to background knowledge are concepts of content schemata. Bruning (1995) described schemata as the mental organization of knowledge and the mental framework that learners create in order to organize knowledge. Based on the schema theory, what learners already know (background knowledge) significantly impacts what they understand and process when reading L2 materials. Hudson (1982) claimed that reading problems in L2 are caused when the learner activates the wrong schemata. Bügel & Buunk (1996) extended that claim and found that schema theory could explain why different texts can influence males and females in different manners. Their justification for this claim was that males and females have different interests; therefore, they read different texts, which results in different schemata for males and females. In the same line, Brantmeier (2004) found that gender is an important element affecting schemata in the process of L2 reading comprehension.

All of these studies support our claim that more empirical studies on gender and L2 reading are needed. However, only a few studies have investigated the role of gender on L2 reading comprehension. For example, Bügel & Buunk (1996) found that males outperformed females on topics such as laser thermometers, volcanoes, cars, and football players, while females outperformed males on readings about midwives, sad stories, and a housewife’s dilemma. They concluded that a reading passage topic has a significant impact on the way learners process and comprehend it. Extending that study to gender-neutral topics such as economics, foreign cultures, and history, Young & Oxford (1997) found no significant differences in textual recall ability. Similarly, Brantmeier (2002) reported no significant differences by gender in the comprehension of two passages, this time with one female-oriented and the other male-oriented. However, Brantmeier (2003) found that intermediate-level males outperformed on a male-oriented passage and females outperformed on a

female passage. She found that passage content clearly influenced how male and female readers processed a text. Brantmeier (2004) returned to the neutral passage, one with minimal differences in topic familiarity by gender, and found that females performed better than males on free written recall tasks. Similar to Bügel & Buunk (1996) and Brantmeier (2003), Ismail & Nadia (2010) found that males outperformed females on a male oriented passage and that females performed better on a female oriented passage. However, different from Brantmeier (2004), Ismail & Nadia (2010) found that males outperformed females on a neutral passage. Based on participants' responses on a questionnaire, they concluded that variability in topic familiarity by gender was the primary reason for their results. Yazdanpanah (2007) studied strategy use and L2 reading, and while the overall performance of males and females on the reading test was not significantly different, females scored higher on identifying the main idea, guessing meaning from context, and text coherence questions while males outperformed females in reading for specific information, identifying reverential information, and matching titles with paragraphs.

The investigations discussed above were conducted with different subjects at different proficiency levels in multiple languages. The fact that the results were mixed suggests that gender remains an important variable to consider when investigating L2 reading comprehension and passage content. While gender alone does not predict comprehension, these studies show that gender and passage content can have an impact on comprehension. Furthermore, the general trend is for females to outperform males on written recall tasks, while multiple choice tasks seem to remain inconsistent across genders. Given the continued uncertainty, one of the two goals of our study was to examine the effect of gender on L2 reading comprehension in the unique environment of our institution.

**1.2. Gender Differences in Strategic Behavior.** Strategy use in the context of second language acquisition may vary depending on the specific language skill that is being examined. Studies that investigate the strategy use in specific L2 tasks and its relationship with gender are scarce. Among the few examples of this research are Young & Oxford (1987) who investigated strategy use by males and females in L1 (English) and L2 (Spanish) settings. The authors found no significant difference in strategy use in L2 reading comprehension. However, males reported monitoring their reading pace, reading strategies, and paraphrasing strategies more often on one L2 text. In light of these results, the authors concluded that gender-based differences in strategic behavior may be related to the level of specific strategies use to comprehend L2 passages. Similarly, Oxford, Park-Oh, Ito & Sumrall (1983) and Oxford & Nykos (1989) reported that females used more cognitive strategies than males. A number of studies in this field (Ehrman & Oxford, 1989; Bacon, 1992; Kaylani, 1996; Sheorey, 1999; among others) also found that females use significantly higher number of metacognitive strategies than males. In light of these results, Chavez (2001) points out that the main goals of understanding strategy use and gender differences are the following: (a) to make L2 teachers aware of how gender can affect development and achievement of L2 reading; (b) to support L2 teachers to use this awareness and help their students of both genders to improve in their L2 reading comprehension process; (c) to encourage more research regarding the role of gender and L2 reading comprehension; and to (d) accommodate individual differences and needs of both genders. Given the mixed results in studies over the past 30 years, research in this area has not produced conclusive evidence regarding strategy use and L2 reading among females and males. This motivated the other of the two goals of our study, which was to examine the effect of learner gender on L2 reading strategy use.

**1.3. Concept and Theoretical Perspectives on Gender.** The discussion of gender as a variable in strategy use on L2 reading comprehension requires a brief discussion on how the concept of

gender has been defined in previous research and how this definition has impacted research findings in the field. In all the studies presented in the previous sections, the category of gender has been based on a biological dichotomy. However, when the results of each investigation are interpreted, the meaning of gender often deviates from the biological difference between females and males to the psychological and social differences among gender. This interpretation enters the discussion of the different social and cultural beliefs and expectations of what it means to be female and male. In other words, we approach the difficult discussion of the dynamic nature of gender identity as it emerges in a particular sociocultural context. As reviewed by Phakiti (2003), the concept of gender identity presents a series of theoretical and practical problems. The most important point is that there is no conclusive methodology of analysis or theoretical framework available to examine and interpret gender identity in context. Therefore, the categories of female and male postulated by the traditional biological dichotomies cannot completely explain the different ranges of personal alignments, as subjects position themselves in their own society and culture as being masculine or feminine. The fluid nature of gender identity makes it very difficult for any researcher to design studies that are able to capture the strategic nature of gender production and interpretation. In this study, we do not aim to solve this complex theoretical and practical problem, but to follow Phakiti's (2003) principles in order to frame our approach of research keeping the biological dichotomy and presenting our subjects based on their gender.

## 2. THE PRESENT STUDY AND METHODOLOGY

The present study extends previous research to assess the role of gender in Spanish L2 reading specifically building on the findings of Brantmeier (2003), Yazdanpanah (2007), and Ismail & Nadia (2010). Two of the three reading passages selected for study here (one male oriented passage and one female oriented passage) were adapted from Brantmeier (2003), and the third passage (gender-neutral) was motivated by Yazdanpanah (2007) and Ismail & Nadia (2010).

**2.1. Research Questions.** The first objective of this study was to investigate the effects of learners' gender and passage content on Spanish L2 reading comprehension at the university level. The second objective was to explore the impact of gender on comprehension strategies that L2 learners used when reading a Spanish text. The research questions posed were:

1. Does the gender of the learner affect L2 reading comprehension?
2. Does passage content (female oriented, male oriented and neutral) affect L2 reading comprehension?
3. Does the gender of the learner affect strategies for L2 reading comprehension?

**2.2. Participants.** A total of 47 intermediate English-speaking learners of Spanish (26 male and 21 females) participated in the study. The demographics at this institution—approximately 80% of the student body is male—allowed for this study to have a majority male population, something that is unusual for a university-level L2 course in the United States (Chavez, 2001). None of the participants were older than 25. Students were placed at this level through a combination of a placement test and successful completion of introductory course work. All of the students were enrolled in a 300-level course entitled “Advanced Spanish with Readings on Contemporary Latin American Culture,” and the study population came from three different course sections taught by three different native Spanish-speaking instructors. The course focused on the objective of gaining Spanish language skills via presenting and analyzing key issues in contemporary life and culture of Latin America. Throughout the semester, students were exposed to Latin American views of geography, history, literature, and everyday life, as well as regional current events. The course was

taught exclusively in Spanish, and the content included readings from key historical and contemporary authors (Cabrera, Borges, Cortázar, Cantón, and Neruda) as well as encyclopedia-like passages on the countries of Latin America and films that presented contemporary Latin American issues. Students took this course for primarily two reasons: pursuit of a Spanish minor (the institution does not offer a major in Spanish) and continued mastery of this language.

**2.3. Selected Reading Passages.** Three reading passages were selected for this study: one intended to be male-oriented, one female-oriented, and one of neutral gender orientation. This is based on Bügel & Buunk's (1996) classification. Two of the three reading passages follow Brantmeier (2003): "La noche de Mantequilla" ["The night of Mantequilla"] by Julio Cortázar and "La casita de Sololoi" ["The little house of Sololoi"] by Elena Poniatowska. The Cortázar passage has all male characters and centers around male spectators at a boxing match. The Poniatowska passage has all female characters and focuses on a visit by a frustrated wife and mother to her friend and former college roommate. A third passage, "El árbol de oro" ["The golden tree"] by Ana Maria Matute, was chosen for this study because it appears in several L2 anthologies that are commonly used at the intermediate level. The Matute passage has mixed male and female characters and centers on a young girl's interaction with two young boys in a primary school classroom. The first two passages were not used in their entirety but rather in 600-word vignettes. The third passage was used in its entirety and consisted of approximately 1200 words. All three passages were formatted with similar font and appearance, and glosses were provided for each, following Brantmeier (2003) for the Cortázar and Poniatowska passages and the anthology *El cuento hispánico: A graded literary anthology* for the Matute passage.

**2.4. Assessments.** Test methods have been shown to affect reading comprehension (Liu, 2009), with multiple-choice and true-false questions found to be the easiest (Shohamy, 1984; Wolf, 1993) and fill-in-the-blank and open-ended questions being the hardest (Liu, 1998; Samson, 1983). To attempt to control for this effect, this study employed two comprehension assessment techniques: multiple-choice questions and an open-ended written recall. The recall protocol procedure was selected because (a) it is considered "the most straightforward assessment of the results of the reader-text interaction" (Johnston, 1983; 54) and (b) because "generating recall data does not influence a reader's understanding of a text" (Bernhardt, 1986: 103). This is also the reason why students started with the recall tasks first.

The students completed the recall task and then answered the multiple-choice questions. For the recall assessment, after reading a passage, participants were asked to recall in English as much of what they read, and were instructed that the emphasis was on quantity of ideas recalled. A third assessment technique, used to examine reading strategies, presented participants with eleven possible strategies that they might have used to help understand the passages. All of the assessment activities were completed in English, the students' native language.

**2.4.1. Written recall.** The free written recall assessment is used in L2 reading research to measure reading comprehension (Lee, 1986; Riley & Lee, 1996; Brisbois, 1995). In the assessment used here, participants were asked to recall in English as much as what they read and were instructed that the emphasis was on quantity of ideas recalled. Because memory affects reading comprehension and recall performance (Chang, 2006), students were encouraged to concentrate only on recalling details. The focus was on quantity of correct information recalled (e.g., Barnett, 1986; Brantmeier, 2003; Carrell, 1983b) to minimize the influence of the assessment activity on the reader's understanding of the text (Bernhardt, 1991).

**2.4.2. Multiple choice.** After reading each passage and answering the written recall question, students were asked to answer ten multiple-choice questions on content from the passage. Questions for the Cortázar and Poniatowska passages follow those from Brantmeier (2003). Questions for the Matute passage were written following the guidelines in Wolf (1991) to make the questions passage-dependent, require the reader to make inferences, and eliminate implausible distractors. The questions also were not answerable from information provided in other questions. Each question had three choices, one of which was a correct response.

**2.4.3. Reading strategies.** It is well known that the best readers employ certain strategies during the reading process (Alderson, 1984; Clarke, 1979; Cziko, 1978; Mokhtari & Reichard, 2002). Such strategies include using general antecedent knowledge to comprehend texts (Snow, Burns, & Griffith, 1998), monitoring comprehension while reading (Pressley & Afflerbach, 1995), and recognizing inconsistencies and contradictions in textual understanding (Snow *et al.*, 1998). The benefits for such reading strategies –and particularly metacognition of them– manifest themselves in enhanced motivation and promoting academic learning (Paris & Winograd, 1990; Mokhtari & Sheorey, 2002). However, what is not well known is whether student gender affects any of the reading strategies employed by university-level L2 students. After reading the three passages and answering the written recall and multiple-choice questions, students were asked to read 11 strategy statements and respond to them on a scale of 1-5, with 1 implying complete disagreement with the statement and 5 implying complete agreement with the statement. The strategy statements assessed reading techniques such as skimming, using word cognates, and re-reading; comprehension levels including making predictions of what was going to happen, inferring the action of the passage, and separating main from supporting ideas; and finally L2-specific strategies such as translating to English, thinking in Spanish, and using passage organization and quotations.

**2.5. Procedures.** Participants were asked to complete a formal consent form acknowledging that they agreed to voluntarily participate in this anonymous study and that neither their participation nor their results would affect their semester grade. In all three sections, all of the students present agreed to participate, and there was no other classroom activity for that day. Participants were presented with a package that contained the three aforementioned texts, a page to complete the written-recall, multiple-choice questions, and the reading strategy statements. The participants read each passage, and upon completing the reading, were not permitted to return to the passage when answering any of the assessments. After reading a passage, participants were asked to recall in English as much as what they read and were instructed that the emphasis was on quantity of ideas recalled. Then the participants answered 10 multiple-choice questions and, after completing the questions, they moved on to the next passage. After all reading passages and written recall and multiple choice questions were completed, students answered the reading strategy questions.

The study was conducted during one regular class period in the subjects' regular classrooms during the twelfth week of the semester. The researchers were present at all times and gave the same instructions to each participant. The multiple-choice questions were scored based on the percentage of correct responses, with one point awarded for each correct answer. A maximum of 10 points were possible for each passage. The written recall assessment was scored using Riley & Lee's (1996) criteria to identify each "unit of analysis." Following Brantmeier (2003), both literal and inferred ideas were counted, with one point awarded for each idea. Both investigators scored the written recall separately for each student, and the two counts were averaged together. The reading strategy assessment responses, which ranged from 1-5, were compiled separately for each question. A series of hypothesis tests were performed, all using the Student's *t*-test: (1) did student gender impact reading recall scores on the male-oriented passage? The female-oriented passage? The neutral passage? (2)

Did student gender impact multiple-choice scores on the male- oriented passage? The female- oriented passage? The neutral passage? (3) Did student gender impact use of any of the eleven reading strategies?

### 3. RESULTS

**3.1. Reading Recall.** For the three short stories, “La noche de Mantequilla”, “La casita de Sololoi”, and “El árbol de oro”, males recalled a mean of 5.1, 5.0, and 11.3 ideas for each, respectively (see Table 1 for a summary of all results on the reading recall assessment). Females recalled slightly more ideas for the first two stories, but mean number of ideas recalled was very similar to that of males: females recalled a mean of 5.3 and 5.7 ideas, respectively. Neither of these differences was statistically significant at the 95% confidence level, with Cohen’s *d* values of -0.12 and -0.30, respectively (Table 1). For “El árbol de oro”, females recalled a mean of 9.3 ideas. This result was 1.8 recalled ideas fewer than males, but not enough to be statistically significant at the 95% confidence level (*p*-value of 0.27; Cohen’s *d* value of 0.34).

**3.2. Multiple Choice.** Unlike the results in the reading recall, where none of the differences were statistically significant at the 95% level, two of the three mean scores on the multiple choice assessment were statistically significantly different (see Table 2 for a summary of all results on the multiple choice assessment). For the only story without a statistically significant difference in mean score, “La noche de Mantequilla”, males scored a mean of 6.1 and females a mean of 5.7 (Cohen’s *d* value of 0.26). Females outscored males on the “La casita de Sololoi” passage, with a mean of 8.7 versus 7.8 for males. This difference was statistically significant at the 95% confidence level (*p*-value of 0.02; Cohen’s *d* value of -0.73). Males outscored females on the “El árbol de oro” passage, with a mean of 7.8 versus 6.3. This difference was also statistically significant at the 95% confidence level (*p*-value of 0.01; Cohen’s *d* value of 0.83).

**3.3. Reading Strategies.** While only one of the 11 reading strategy questions had a statistically significant difference at the 95% confidence level, the study showed that females and males used some reading strategies more often than others. (See Table 3 for a summary of all results on the reading strategies assessment). Females scored higher than males on strategy questions 1, 3, 8, and 9, with the result on question 1 statistically significant at the 95% confidence level (*p*-value of 0.049; Cohen’s *d* value of -0.67). Females consistently scored higher than males on strategies such as skimming the passage, reading the passage several times, and translating into English. These results show that females tend to have a more holistic approach to L2 texts using a limited number of metacognitive reading strategies. Males scored higher than females on strategy questions 2, 4, 5, 6, 7, 10, and 11. Males consistently scored higher on reading strategies such as using contextual clues, making inferences, identifying main ideas, and thinking in Spanish. From these results, it seems that males use a greater variety of cognitive skills to comprehend an L2 text.

### 4. DISCUSSION

#### 4.1. Research Question 1: Does the gender of the learner affect L2 reading comprehension?

**4.1.1. Recall scores.** The results reveal that females perform better than males on two (male-oriented and female-oriented) out of three passages. However, there are no statistically significant differences between performance of males and females in the written recall for any of the three passages. These results are consistent with those obtained by Young & Oxford (1997), Brantmeier

(2002) and Shokouhi & Parvareh (2010). However, they contradict Brantmeier's (2003) results, who found that females performed better than males on recall tasks. In our study, there was no statistically significant difference between females and males performance on the male-oriented passage, the female-oriented passage, or the gender-neutral passage.

**4.1.2. Multiple choice scores.** Multiple choice scores revealed statistically significant differences between genders in mean scores for two of the three passages. On the male-oriented passage, males scored higher than females, 6.1 versus 5.7, but the result was not statistically significant at the 95% confidence level. Similar to recall, this is inconsistent with those of Brantmeier (2003), who found that on multiple choice questions, females scored higher than males. On the female-oriented passage, females outperformed males, and the difference is statistically significant at the 95% confidence level. This result is consistent with Brantmeier (2003) and follows the general trend in second language acquisition, whereby females usually perform better than males (Chavez, 2001). On the gender-neutral passage, males outscored females, and the difference was statistically significant at the 95% confidence level, conflicting with Ismail & Nadia (2010).

These results, where females scored higher than males on a female-oriented passage and males scored higher than females on a neutral-oriented passage, agree somewhat with previous research, which found that females generally score higher on L2 reading comprehension assessments (e.g. Schueller, 1999; Brantmeier, 2003, 2004; Chavez, 2001; Lin & Wu, 2003; Schueller, 1999; Yazdanpanah, 2007; Keshavaraz & Ashtorian, 2008). A partial explanation for the male outperformance of females on the neutral passage may be found in the methodology, whereby some studies indicate that males usually perform better than females on multiple choice tasks (Makitalo, 1996; Murphy, 1982; Brantmeier 2006). However, this would not explain why females outperformed males on the female-oriented passage, and other studies have found mixed results comparing gender and assessment type. Feingold (1988) concluded that differences between males and females in multiple choice assessment scores have declined, and Wester (1995) found no differences by gender on multiple choice format or open ended questions. Thus, although the relationship between gender and multiple choice score remains unsettled, we believe our findings, that males statistically significantly outperformed females in multiple choice questions from a neutral passage, and females statistically significantly outperformed males in multiple choice questions from a female-oriented passage, make an important contribution to the L2 field by showing that gender does have at least some impact in L2 reading comprehension.

Another hypothesis that may explain the results of this study comes from the fact that the assessments conducted in this investigation were not part of formal testing conditions. There is evidence which suggests that the context of assessment is quite important (see Pakhiti, 2003). A graded assessment may have yield different results than a non-graded assessment, because the later will not affect the learners' performance in their class, nor the result of it would dramatically impact these students' lives. Graded assessments would probably be perceived as having a larger impact in learners' lives. However, the assessments of our study were taken for research purposes. Thus, in real testing conditions on language abilities, females might perform subtly better than males on L2 reading comprehension. These somewhat conflicting findings both support the idea that more research is needed regarding gender and L2 reading comprehension.

**4.2. Research Question 2: Does passage content (female oriented, male oriented and neutral) affect L2 reading comprehension?** As discussed in Research question 1, male and female performance on comprehension tasks was different, depending on the passage. For the written recall assessment, females outscored males on both the male-oriented and female-oriented passages, while males performed better on the gender-neutral passage. For the multiple choice assessment, males



outperformed females on the male-oriented passage and on the gender-neutral passage, and females outperformed males on the female-oriented passage. These results suggest that at the university level of instruction, females generally perform better on written recall tasks whereas males generally perform better on multiple choice tasks. Both of these results are in agreement with Brantmeier (2006). However, because the results from the recall and multiple choice assessments were mixed, it is not clear whether the passage content orientation (female, male and neutral) influenced one student gender to be more successful than the other. However, it is important to note that one possible reason for the difference between the results of our study and those of other similar studies is that the institution where this investigation was conducted is unique among U.S. institutions of higher education. Specific differences include its enforcement of military decorum, the number of females who participate in varsity athletics, including a mandatory 6-week boxing module in physical education classes (the male-oriented passage was a story about a boxing match), and well-defined gender roles (Boyce & Herd, 2003). Furthermore, while other studies regarding second language acquisition and gender show that females outnumber males in the foreign language classroom (Brantmeier, 2003; Chavez, 2001), in this institution, foreign language classes have an oppositely high ratio of male to female students (up to as many as 4 males for every female). This particular characteristic of our institution may have called for a different set of texts, based on Bügel & Buunk's (1996) classification, but with certain modification that would accommodate our particular settings.

This ambiguity of the results obtained supports our conclusion that more research is needed regarding the role of gender and passage content on L2 reading comprehension with a particular attention on the institution and its participants. As Phakiti (2003) pointed out in his study, context of strategy use in L2 reading comprehension is critical, not only in the sense of how cognitive and metacognitive strategies are used in a particular test, but also regarding the particularities of the educational settings where the study is conducted and how this intuition defines what is masculine and feminine. We hypothesize with El-Dib (2004) that strategy use in foreign language learning, and particularly in L2 reading comprehension, can be strongly affected by the learning context of a cultural milieu. Findings obtained in previous research on how gender impacts on foreign language learning may be valid for certain cultural or institutional contexts, but limited in generalizability to others. It is important to better analyze all the factors that impact the relationship between gender and foreign language learning, for example the different strategies and language sociocultural contexts and educational institutions, and to test the generalization of any finding across a range of sociocultural contexts and educational institutions.

**4.3. Research Question 3: Does the gender of the learner affect strategies for L2 reading comprehension?** The strategy survey shows that learners use different strategies by gender. Females scored higher on the following processing strategies: 1, 3, 8 and 9. They focused on making sense of the whole passage, for example skimming and reading the text several times to understand it. It seems that they did not focus on the details of understanding word by word in order to make sense of the whole passage. Top down processing follows when the reader interprets the writer's intentions and is able to make inferences, understand the overall sense of the passage, and is capable to make predictions about what is going to happen along the text (Jay, 2003; Nuttall, 1998; Yazdanpanah, 2007; Schueller, 2009). However, in this study, females systematically scored lower in strategies that involve predicting what was going to happen in the text, inferring, separating main and supporting ideas, and paying attention to the organization of the text. It seems that females did not pay enough attention to details in the text and tried to understand it as a whole, this may explain why they were slightly better in the written recall and less successful on the multiple choice section,

where males scored higher in two out of three passages. Multiple choice questions generally require analytic skills and to pay attention to specific aspects of the text in question, which is the strength of males regarding L2 reading comprehension strategies (Yazdanpanah, 2007; Schueller, 2009).

On the other hand, males obtained higher scores on a greater number of processing strategies which are 2, 4, 5, 6, 7, 10, and 11. Nuttall (1998) refers to making inferences from the text, and understanding the “overall purpose of the text” (p. 16) as top down processing. Accordingly, top down processing involves paying attention to the main topic, making hypothesis, making inferences, guessing from context, and avoiding translation. Males scored higher in all these strategies, which reveal that they used them more frequently while they were reading the passages. However, in our study, males also scored higher on bottom up strategies such as knowing words, focusing on the structure of the text and segmenting (Bacon, 1992). Based on this, it seems that males used a combination of both top down and bottom up strategies to comprehend the passages. Males reportedly used the target language to think, were able to separate main and supporting ideas, and were able to predict what was going to happen in the stories they were reading (all top down strategies). They also were able to guess from context and use cognates and family word to understand the passages (all bottom up strategies). These results seem to suggest that males in this study used a wider range of strategies to understand the passages, and were better at handling both types of processing (bottom up and top down) when compared with females. These results somewhat contradict those reported by Yazdanpanah (2007), where females were better at handling both bottom up and top down strategies. However, our results are consistent with Phakiti (2003), who found that males used more metacognitive strategies in comparison with females. Nevertheless, the difference in strategy use was not significant for 10 of the 11 strategies we tested. Phakiti (2003) also poses an interesting interpretation of his results that may apply to our study: he hypothesizes that females may not have encountered as much difficulty reading the passages as males did because females showed a limited use of metacognitive strategies (p. 669). According to Phakiti (2003), females may have been more expert learners using a limited set of skills that they already mastered which in turn demanded less cognitive energy. Thus, while it seems that females used a limited number of strategies in our study, they were not unsuccessful L2 readers.

Our study seems to indicate that females had a limited set of strategic preferences while males showed a more compressive set of cognitive and metacognitive strategies. This conjecture seems to bring to our attention the fact that the real location of gender differences as Liyanage & Bartlett (2012) have indicated in their study resides not only in the strategies that females and males use more often as foreign language learners, but also on the metaprocess through which males and females decide on what strategy works in certain situation and how many strategies are enough in that specific context.

## 5. CONCLUSIONS

This study yielded mixed results. On the recall task, females performed better on two (male-oriented and female oriented) out of three passages. However there was no statistically significant difference between male and female performance. In the multiple choice task, females statistically significantly outscored males on the female-oriented passage, and males statistically significantly outscored females on the gender-neutral passage. These results show that gender has an impact on L2 reading comprehension, as measured by multiple choice assessment, and that the impact varies by gender orientation of a passage. This study also shows that the strategies that males and females use to comprehend an L2 passage are different. Males were found to be more skillful than females at using a combination of bottom up and top down strategies to process all three passages, while

female readers used a more global approach in L2 reading comprehension showing less number of strategies when interacting with all three passages. Our results seem to indicate that strategy use varies by gender; however, the mixed results indicate that more research is needed in terms of treatment studies and how females and males interact with different test items.

Several limitations of this study need to be addressed after discussing the main findings of this study. These limitations are associated with the nature of the instruments used to collect the data in this research. First, self-reported instruments as the survey used in this investigation have been used in the past (Brantmeier, C., Schueller, J., Wilde, J., & Kinginger, C, 2007; Phakiti, 2003) with similar mixed results. It seems unclear whether males and females are equally able to assess their own strategy use. The main problem that these types of instruments bring to light is that learners who employ more strategies may in turn be more aware of their strategy use. In our study, this is the case of males. However, again Phakiti's (2003) argument could be true; females may report a less frequent use of strategies because they have internalized its use, which makes their strategic processing an unconscious competence (p. 670). There is always the possibility that the survey used in this study captured automatized or routinized processing because when the participants answered the survey, they reconstructed the reading assessments tasks conducting a post self-analysis. Self-reported instruments may always alter findings concerning the nature of the strategies used by learners rendering a limited view of strategy use in L2 reading comprehension.

Second, the assessments were conducted in order to analyze how learners interacted with all three passages. In the past, Brantmeier (2006) pointed out that gender differences in comprehension may be a function of the type of assessment used. It is possible that females outscored males on most of the recall tasks because the testing method gave them an advantage. In the interpretation of these results it is important to note that of the few studies that included a gender-neutral passage (e.g., Bügel & Buunk, 1996; Ismail & Nadia, 2010; Yazdanpanah, 2007) each obtained different results respectively. Bügel & Buunk (1966) found that males performed better than females, Yazdanpanah (2007) found that females outperformed males in all tasks, and Ismail & Nadia (2010) found that males performed better in all tasks. We found that males outperformed females in the neutral passage in both recall and multiple choice. Although all of these studies conducted research on L2 passage content comprehension and gender, the procedures and study design, number of participants, and methods of analysis were different. Thus, while we believe that reader's gender and passage content seems to play a role on L2 reading comprehension, more research is needed in order to achieve more definite conclusions. A combination of assessments needs to be used in future investigations to avoid any gender bias.

Finally, we would like to focus on the pedagogical implications of our research. First, it is important to carefully select the material in an L2 intermediate Spanish course. The topic of the passage content should be taken into consideration when selecting any text for an L2 intermediate Spanish course. Second, the assessment methods should also be chosen carefully, particularly for mixed-gender classrooms. One possible strategy would be to select a variety of gender oriented texts and to use different assessment methods, thus avoiding any possible gender effect favoring females or males.

Third, the demographical characteristics of the institution are important, and instructors should keep this in mind when selecting reading passages for their classes. As this investigation has shown, the gender of a reader is a variable that plays a role in the L2 comprehension of a text. It is not only the linguistic feature of the language that may impede comprehension, but also the familiarity or unfamiliarity with the text.

Finally, the results of this study show that instructors should teach a variety of top down and bottom up strategies for L2 reading comprehension to their students, taking into account that males tend to use bottom up strategies while females tend to use top down strategies to comprehend and L2 text. Schueler (2009) in her study found that strategic training has a strong impact in L2 reading comprehension; in her study those participants who were trained on top down strategies outperformed those who were trained in bottom up strategies. Females and males who pre-trained on top down strategies outperformed their peers in the bottom up groups. These results seem to suggest that strategy training may overcome gender inequality in the manner that females and males interact with a written text. Nevertheless, foreign language teachers should use assessment methods that take into consideration the different reading strategies employed by students of each gender, presenting –at the same time- a wide range of strategies according the learners' language proficiency.

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## APPENDIX A

### Comprehension Questions for the Reading “El árbol de oro”.

1. The main character attended the school of Señorita Leocadia one fall because:
  - a. Her parents lived in that town.
  - b. Her health was poor.
  - c. Her former school closed.
2. Ivo Márquez was:
  - a. Son of a poor sharecropper.
  - b. Son of Señorita Leocadia.
  - c. Brother of the main character.
3. Ivo Márquez’s main responsibility in the class was:
  - a. Clean the chalkboards after class.
  - b. Help the teacher pass out papers.
  - c. Distribute and collect the textbooks.
4. Mateo Heredia was:
  - a. Ivo Márquez’s brother.
  - b. The best student in the school.
  - c. Not popular with the other students.
5. The possession that Ivo Márquez had that made the other students jealous was:
  - a. The key to the little tower.
  - b. A key to the treasure box.
  - c. A key to the library.
6. Ivo Márquez sees the tree of gold:
  - a. Through a crack in the wall.
  - b. In the courtyard of the school.
  - c. In his dreams.
7. Ivo Márquez wonders if he climbs the tree of gold:
  - a. If he will find golden fruit.
  - b. If he will turn into gold himself.
  - c. If he will see another world.
8. The main character gets an opportunity to look for the tree of gold from:
  - a. Ivo Márquez.
  - b. Señorita Leocadia.
  - c. Mateo Heredia.
9. The main character finally sees a tree of gold in the:
  - a. Courtyard of the school.
  - b. Cemetery.
  - c. Town square.
10. The main character ends the story full of:
  - a. Sadness.
  - b. Happiness.
  - c. Fear.





	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
La Noche				-0.4	0.72	-0.12
Male	26	5.1	1.7			
Female	20	5.3	1.7			
La Casita				-0.9	0.36	-0.30
Male	26	5.0	2.3			
Female	21	5.7	2.3			
El Arbol				1.1	0.27	0.34
Male	23	11.3	6.1			
Female	19	9.3	5.6			
All 3 Stories				0.4	0.71	0.09
Male	23	6.9	1.5			
Female	19	6.7	2.8			

Table 1 - Reading recall scores.

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
La Noche				0.9	0.36	0.26
Male	26	6.1	1.5			
Female	21	5.7	1.6			
La Casita				-2.5	0.02	-0.73
Male	26	7.8	1.5			
Female	21	8.7	0.8			
El Arbol				2.8	0.01	0.83
Male	25	7.8	1.4			
Female	20	6.3	2.2			
All 3 Stories				1.1	0.29	0.29
Male	25	7.2	1.0			
Female	20	6.9	1.1			

Table 2 - Multiple choice scores.

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
Skim Passage				-2.1	0.05	-0.67
Male	24	2.5	1.1			
Female	19	3.3	1.3			
Rely on Cognates				1.5	0.15	0.53
Male	24	3.8	0.9			
Female	19	3.3	1.0			
Read Again				-0.2	0.83	-0.08
Male	24	2.7	1.0			
Female	19	2.8	1.4			
Guess Context				1.6	0.13	0.49
Male	24	4.3	1.1			
Female	19	3.8	0.9			
Predict the Action				0.3	0.79	0.09
Male	24	2.7	1.1			
Female	19	2.6	1.0			
Make Inferences				1.4	0.17	0.38
Male	24	3.5	0.7			
Female	19	3.2	0.9			
Identify Main Ideas				0.4	0.72	0.11
Male	24	3.4	0.8			
Female	19	3.3	1.1			
Use Background Knowledge				-0.4	0.69	-0.07
Male	24	2.7	1.4			
Female	19	2.8	1.5			
Translate to English				0.7	0.51	-0.22
Male	24	3.0	1.4			
Female	19	3.3	1.3			
Think in Spanish				0.5	0.64	0.18
Male	24	3.0	1.1			
Female	19	2.8	1.1			
Note Text Organization				0.6	0.53	0.17
Male	24	3.5	1.2			
Female	19	3.3	1.2			

Table 3 - Reading strategies scores.