The Reading Comprehension Strategies of Second Language Learners: A Spanish-English Study

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Abstract

This study identified the reading comprehension strategies that English-speaking college students enrolled in beginner, intermediate, and advanced Spanish language classes at a major Midwestern university in the United States used to comprehend a text in their second language. The findings suggest that readers tended to use the same comprehension strategies when approaching a text in their second language, regardless of their proficiency level. However, there was a qualitative difference in how these strategies were used by readers of low, middle, and high proficiency in Spanish. Readers of all levels used their first language when reading in their second language.

Key words: *reading comprehension, reading comprehension strategies, second language reading, Spanish language learners*

Background

Researchers, educators, and foreign language program directors that work with students who are learning a second language need to understand what learners do when they approach language and literacy tasks in that language. The purpose of this study was to identify and describe the reading comprehension strategies used by college students who were native speakers of English and who were enrolled in beginning, intermediate, and advanced Spanish foreign language classes at a major Midwestern university in the United States.

Identifying what readers do when they encounter a text in a foreign language and understanding their thought processes more thoroughly may provide relevant information to the development of curriculum and instruction, potentially guiding teacher training and informing curriculum planning decisions. Furthermore, educators who understand what readers of different proficiency levels do—and what they need to do in order to be successful in their reading efforts—will be more likely to attend to their students' specific needs, helping them move toward achieving higher levels of reading and language proficiency.

Literature Review

Vocabulary

Vocabulary plays a major role in reading comprehension for both L1 and L2 readers (Coady, 1997; NRP, 2000; NLP, 2006), since, without vocabulary, reading a text and understanding its meaning are not possible. According to Nation (1990,

2001), to be successful readers, L2 learners need to know approximately 98% of the words that are in the materials they read. This means that L2 readers need to have and use their knowledge of L2 vocabulary in order to function in a second language successfully. While an essential vocabulary base of 2,000 words (Hinkel, 2006; Hirsh & Nation, 1992; Nation, 1990) is sufficient for daily interaction, that number increases to 5,000 if the goal is to comprehend written texts that are addressed to a general audience (Nation, 1990; Hirsh & Nation, 1992).

L2 readers may benefit from using cognates by drawing from prior knowledge in their L1 when encountering new words in the second language (Tindall & Nisbet, 2010). However, the transfer of cognates requires a certain degree of awareness on the part of the reader, as not all words that look or sound alike are cognates. False cognates may be a source of misunderstanding and confusion for L2 readers. In addition, the transfer of L1 to L2 vocabulary does not occur when the writing systems of the two languages are different (Birch, 2002; Koda, 1999, 2005; Hinkel, 2006), such as Chinese and Hebrew.

Vocabulary development is aided by extensive reading in the L2 (Coady, 1993; Constantino, Lee, Cho, & Krashen, 1997; Hinkel, 2006; Lervåg & Aukrust, 2010; Nation, 2001; Pitts, White, & Krashen, 1989) because extensive reading offers learners exposure to new and old vocabulary. However, the process is gradual and may only become evident after a certain level of L2 proficiency is achieved (Coady, 1993). Consequently, for less proficient language learners, graded or simplified texts with controlled vocabulary may be preferable to support decoding (Nation, 2001), but they would offer fewer opportunities to learn new vocabulary.

In a study that looked at depth of L2 vocabulary knowledge, Nassaji (2004) used think aloud protocols to identify the degree and types of strategies used by the readers to derive word meaning from context. The study found that there was a significant relationship between depth of vocabulary knowledge, strategy use, and success. L2 readers who had stronger vocabulary knowledge utilized certain strategies, such as inferencing, more frequently compared to readers who had weaker vocabulary knowledge, and depth of vocabulary had a significant contribution to success.

In addition to predicting the use of strategies and facilitating reading comprehension, vocabulary knowledge has been found to be strongly related to learners' ability to read and acquire new information from texts in both L1 and L2 (Nagy, 1997; Nation, 2001; Parry, 1997; Pulido, 2003; Qian, 1999, 2002; Read, 2000; Wesche & Paribakht, 1999). For example, Pulido (2003) found that vocabulary knowledge was correlated with incidental vocabulary gains from reading. Other studies related to L2 reading vocabulary found that vocabulary makes a greater contribution to L2 reading comprehension than grammar (Bossers, 1991; Brisbois, 1995; Taillefer, 1996).

Reading Comprehension

Reading comprehension is the process through which readers engage a text and extract meaning from it. Tindall and Nisbet (2010) call reading comprehension the "focus of all reading engagement" because readers need to be able to read text fluently, have sufficient prior knowledge and vocabulary, and be able to apply strategies when reading. Some limitations to L2 reading comprehension include limited vocabulary knowledge, unfamiliar content, and limited knowledge of L2 language structures.

In addition, cultural and social elements related to language might also be a limitation to reading comprehension because values, experiences, beliefs, and concepts can vary across languages and cultures. Different studies suggest that L2 readers may benefit from working with culturally familiar texts (Johnson, 1981, 1982; Pritchard, 1990; August, 2003) because reading comprehension is enhanced in children and adult readers when they read culturally familiar content.

Reading Comprehension Strategies

Reading comprehension strategies are "the conscious actions readers use to repair breakdowns in comprehension (cognitive strategies) or the deliberate actions readers use to monitor and oversee those attempts at repair (metacognitive strategies)" (McNeil, 2011, p. 885) and they are important to both L1 and L2 reading. L2 reading comprehension is also impacted by L1 reading ability and L2 language knowledge (Bernhardt & Kamil, 1995; Lee & Schallert, 1997; Perry, 2013; Song, 1998).

Research shows that more proficient L2 readers, those with high reading comprehension and/or a high knowledge of the L2, are different from less proficient L2 readers in how they use strategies (Anderson, 1991; Block, 1986, 1992; Ikeda & Takeuchi, 2006; Jimenez, Garcia, & Pearson, 1996; Oxford, Cho, Leung, & Kim, 2004; Wang, 2016; Yang, 2006). The differences in strategy use by less proficient L2 readers compared to more proficient L2 readers are due to deficits in lexical knowledge, decoding skills, and syntactical knowledge (Alderson, 1984; Clarke, 1979; Koda, 2007; Nassaji, 2007; Wang, 2016). In addition, less proficient L2 readers have fewer resources to apply to higher-level cognitive or metacognitive strategies.

Jiménez, García, and Pearson (1996) found that successful bilingual readers understood the relationship between the L1 and L2, were aware of the similarity between the languages, and explicitly transferred information or strategies learned in one language to the other language as they thought aloud. They also knew English-Spanish cognate relationships and substituted words from their other language when they encountered unknown vocabulary. However, less successful L2 readers were unable to identify strategies to help their comprehension of the text and tended to view their L1 and L2 as two separate, unrelated languages. Perhaps the most compelling finding from the Jiménez et al. (1996) study is, however, that successful L2 learners used strategies that were unique to their bilingual status. These findings indicated that students reprocessed L2 words into their L1 while reading L2 texts. The strategies that L2 learners used were cognate knowledge, information transfer between languages, and mental translation.

Similarly, Upton and Lee-Thompson (2001) explored the way students used their L1 and L2 while they read and found that L2 readers accessed and used their L1 in the comprehension strategies they employed. They found that mental translation was a common way for adult learners to "reprocess" L2 words into L1 words as they read a text in their L2. However, the degree to which learners relied on their L1 declined as their proficiency in the L2 increased.

Research has found that reading strategies can be transferred between languages, and that there is a correlation between reading performance in the L1 and L2, especially for more proficient readers (Bernhardt & Kamil, 1995; Brisbois, 1995; Perales Escudero & Reyes Cruz, 2014; Taillefer, 1996; Yamashita, 2002a). However,

without explicit strategy instruction, readers may continue using only those strategies instead of developing new strategies for the L2. This practice may be detrimental because L1 strategies are not always fully successful in helping readers comprehend L2 text (Yamashita, 2002b).

Think Aloud Protocols

Think aloud protocols have been used in language research to identify and study the ways in which learners notice and process language. L1 reading research has employed think alouds (Bereiter & Bird, 1985; Fox, 2009; Kucan & Beck, 1997; Kuusela & Paul, 2000; Strømsø, Bråten, & Samuelstuen, 2003) to investigate reading strategies used by young and adult learners to determine differences between the thought processes of less and more successful readers, to provide explicit instruction to improve learners' reading skills, and to explore students' writing processes in their L1.

In second language acquisition research, think alouds have been used to gain insight into the cognitive processes and strategies learners use when they read in their L2 (Pressley & Afflerbach, 1995; Yang, 2006); to examine the role of mental translation as a strategy that L2 readers use when they encounter a text (Kern, 1994); and to compare the reading strategies that readers use in their L1 and L2 (Davis & Bistodeau, 1993; Jiménez, García, & Pearson, 1996; Upton and Lee-Thompson, 2001; Wang, 2016).

Many L2 readers spend much of their time thinking about L2 texts in their first language. Research that examined other L1s and a range of language proficiencies (Kern, 1994; Lee, 1986a, 1986b; Perry, 2013; Upton, 1997) found that L2 readers use their L1 as they try to comprehend an L2 text. This may be a way for learners to confirm their understanding of the text or to store what they comprehend in a more efficient way. Other studies suggest that this may simply be the readers' "language of thought." Lee (1986a, 1986b) found that college students taking Spanish as a foreign language were able to express their understanding in a more complete way when they were allowed to write in their L1. Similarly, Moll (1988) found that the readers' reports in their L1 provided a better picture of their reading comprehension. Thus, allowing readers to think aloud in their L1 when reading in their L2 may result in a better understanding of the reading process.

Limitations of Think Alouds

Although think aloud protocols have been successfully used to explore different reading processes in L2, there are also limitations to using them as a tool for researching reading. Block (1986) states that think alouds are most useful when they provide information about the learners' reading processes as they have trouble understanding what they are reading; however, processes that are already automatic or cannot be easily verbalized by learners are more challenging to study. Pressley and Afflerbach (1995) write that fully automatic processes are difficult to self-report because "they occur very quickly, so much so that intermediate products of processing are not heeded in short-term memory and, thus, not available for self-report" (p. 9). Therefore, think alouds are better for studying processes "that have not been automatized, ones that are still under conscious control" (p. 9).

Even though researchers have frequently used think alouds to study language

and reading, their use has been at times controversial. Rossomondo (2007) explains that, "concerns have been raised as to the validity of employing think aloud protocols as a means of data collection because of the possibility that the act of thinking aloud actually adds an additional task that might affect processing" (p. 44).

In order to determine whether verbalization affected the subjects' task performance, several studies have used separate groups, with one group completing the task silently and the other groups completing the task while doing a think aloud (Bowles & Leow, 2005; Leow & Morgan-Short, 2004; Rossomondo, 2007), and found no significant difference between the groups, concluding that "thinking aloud is not reactive; that is, thinking aloud did not add an additional attentional burden" (Rossomondo, 2007, p. 60).

Ericsson and Simon (1993) found that in groups that were asked to complete the think aloud non-metacognitively; that is, without justifying or hypothesizing about the process, the subjects' performance was usually not significantly different from the subjects who completed the same task silently. However, if subjects were asked to complete the task by thinking aloud metacognitively; that is, providing reasons, hypotheses, or conjectures about the process, their performance was significantly different from the performance of the silent subjects, sometimes underperforming and sometimes outperforming the silent group.

Non-metacognitive verbalizations do not seem to have an impact on cognitive processes when compared to silent control groups. Therefore, this type of concurrent verbal protocol appears to be a valid way of exploring learners' cognitive processes as they read and complete tasks. Leow and Morgan-Short (2004) recommend that this type of verbalization be collected because this allows learners to focus on the task without having to look for an explanation as to why they are thinking what they are thinking, instead simply voicing their thoughts as they read.

Research Questions

The purpose of this study was to identify and describe the reading comprehension strategies used by college students who are native speakers of English and who were enrolled in beginning, intermediate, and advanced Spanish foreign language courses. Specifically, this study addressed the following research questions:

1. What are the reading comprehension strategies used by native English language college students who are beginner, intermediate, and advanced learners of Spanish as a second/foreign language when approaching a text in their L2?
2. How do these college students use their first language (English) when they encounter reading or comprehension difficulties in a Spanish text?

Methods

Participants

The study was conducted in the Spanish foreign language program of a major university in the Midwest United States. The participants of this study were students whose first language is English, who were enrolled in intensive beginner courses, upper intermediate courses, and advanced level courses in the Spanish program. In order to identify such students, participants filled out a background questionnaire

during the data collection session. Fifteen think alouds from each level were selected for analysis for a total of 45 think alouds across the three levels of proficiency.

Materials, Procedures, and Data Collection

Participants completed a Spanish placement exam, which was a version of the University of Wisconsin System Spanish Language Usage and Reading Exam, modified due to the time constraints of the data collection session. It was possible to establish the modified test's own reliability measure and confirm that it was an accurate measure of Spanish proficiency, with an overall Cronbach's α coefficient α of 0.835, and individual test items ranging between 0.821 and 0.838. This placement exam served to establish the participants' level of proficiency in the L2, independently from the class in which they were enrolled and from their self-reported Spanish level. The scores also determined which students' think alouds were to be included in the data analysis.

Participants were provided with instructions in English explaining think alouds and their procedure, a sample think aloud transcript, and a warm-up activity before they recorded their own protocol. Students were asked to start reading and thinking aloud non-metacognitively, that is without justifying or hypothesizing about the process, as they worked through the text passage (Bowles & Leow, 2005; Leow & Morgan-Short's, 2004; Rossomondo, 2007). The language of verbalization was English (Bowles, 2010).

An expository text from a world news source in Spanish about a culturally unfamiliar topic was used for the study. To determine their actual familiarity with the topic, participants completed a familiarity questionnaire during the data collection session (Block, 1986; Davis & Bistodeau, 1993). Participants also completed a written recall protocol to assess reading comprehension (Lee, 1986b) without being able to look back to complete the task, and a background information questionnaire that focused on students' language knowledge, experience, and reading. In order to assess the participants' comprehension of the text, participants also completed a multiple choice comprehension test that addressed (a) low level/in text information, (b) high level/go beyond the text information, and (c) vocabulary related questions.

In order to participate in the study, students signed up electronically and their information was kept confidential. Data collection sessions lasted 50 minutes and were conducted in a computer language lab using software that allowed control of participants' access to the text and their computer screens, as well as the ability to start and stop their think aloud audio recordings. All materials were presented using software that made it possible to lock the students' work stations and limit their Internet access.

To ensure confidentiality, each student's data were identified by a number, thus making it impossible to tell which students recorded which think alouds. During the data collection session, participants wore headsets with microphones, which prevented them from listening to other people's recordings.

Data Analysis

Inclusion of Participants in the Data Analysis. In order to determine which participants would be included in the data analysis, three groups of 15 participants each were formed. The information gathered during the data collection sessions was or-

ganized, collapsing the files to make (a) a single file that contained the data of all students who completed a session, (b) separate files for each course, and (c) separate files for each level; that is, combining the participants who were beginner students but enrolled in different courses. Every participant's level check test was scored and their results were sorted along with enrollment information. Groups were based on the participants' level of proficiency as evidenced by the level check, as opposed to the levels in which students were enrolled. This entailed mixing students enrolled in different levels to make groups of participants that scored similarly on the proficiency test.

The SPSS Statistics software was used to separate the participants' scores on the test into three separate groups. Students who reported a first language other than English and/or a primary language spoken at home other than English were eliminated from the group. Of the 82 remaining students, participants of each level who received the same or similar scores on the placement test and whose first language was English were considered for inclusion in the data analysis. Additional criteria for making the three 15-participant groups were (a) excluding participants who did not complete all the tasks, (b) excluding participants whose recordings were difficult to hear/poorly articulated or that suffered technical difficulties, (c) excluding think alouds in which the student was often quiet, and (d) when possible including participants whose proficiency based on the level check matched the course in which they were enrolled, in order to keep participants who were enrolled in courses true to their proficiency level together.

In order to avoid confusion, an alternate set of labels for the groups in the study was created based on their level as evidenced by the proficiency test. When discussing groups formed for analysis for the purposes of this study, the labels low-proficiency, middle-proficiency, and high-proficiency are used. When discussing groups based on enrollment, the labels beginner, intermediate, and advanced are used.

Qualitative Analysis.

A strict transcription of the think alouds was done, including participants' pauses, sighs, and yawns. The think aloud transcriptions were coded qualitatively, according to the strategies identified in each paragraph, in order to keep the original context of the participants' think alouds (LaPelle, 2004). Reading comprehension strategies found by other studies using think alouds (Jiménez et al, 1996; Kamhi-Stein, 2003, Upton and Lee-Thompson, 2001; Wang, 2016; Yang, 2006) with L2 learners served as a guide during the collection and transcription of data and became the basis for the qualitative codebook. The following reading comprehension strategies were used in the coding of the think aloud protocols: focusing on vocabulary, summarizing, restating/rereading the text, paraphrasing, using context clues, decoding, inferencing, questioning, predicting, confirming/disconfirming, integrating information, invoking prior knowledge, monitoring, visualizing, evaluating, noticing novelty, demonstrating awareness, searching for cognates, translating, code-switching, and transferring.

The coded transcriptions of the think alouds were used to address the research questions. The coded transcriptions provided information about participants' specific strategies. They also provided information about how participants used the same or different strategies when they came across difficulties in the text. In addition, the

think alouds made it possible to draw connections between different participants of the same level who struggled with the same sections of the text similarly. Further, it was possible to make comparisons of certain strategies used for specific sections of the text by participants across levels.

During the qualitative coding process it became evident that participants tended to use the same strategies and that some strategies were used more widely than others. Consequently, rather than addressing all nineteen strategies that were originally described in the codebook, the most commonly observed strategies became the focus of the analysis. In order to determine which strategies were the most commonly used, the coded transcriptions were reviewed and counted to determine how many strategies were used by each of the participants throughout the reading and how many times each strategy was used by each participant. The frequency of strategies participants used was determined and compared across proficiency levels, and the qualitative data was then quantified using the data transformation approach (Creswell, 2003).

Quantitative Analysis.

Following the concurrent model, the qualitative data was quantified. According to Creswell (2003), the data transformation approach involves "creating codes and themes qualitatively, then counting the number of times they occur in the text data" (p. 221). Creswell (2003) argues that this quantification of qualitative data "enables a researcher to compare quantitative results with the qualitative data" (p. 221). This approach made it possible to identify and describe the reading comprehension strategies qualitatively by using the data that emerged from the think alouds, and then to quantify the frequency of their use.

After the qualitative coding process was completed, the SPSS statistical analysis software was used to run (a) descriptive tests, (b) analysis of variance (ANOVA), and (c) post hoc tests, such as the Tukey HSD, in order to determine the number of strategies used by each participant and the frequency with which each strategy was used by each participant.

Findings

Strategy Use

The following tables show how many strategies, in all, participants used when reading the Spanish text, and whether there was a difference in frequency of strategy use between groups and within groups. In addition, the tables shown below provide an itemization of which specific strategies were used by participants in each level, and how frequently they used them throughout the reading passage.

The descriptive statistics for the number of strategies used are presented below in Table 1.

Table 1

Descriptive Statistics for Number of Strategies Used

Group	N	Mean	SD	Min.	Max.
Low	15	7.80	3.529	2	13
Middle	15	8.40	2.131	2	12
High	15	8.67	3.677	1	13
Total	45	8.29	3.138	1	13

The mean scores for the participants in the low-proficiency group (7.80) were lower than the mean scores for the middle-proficiency (8.40) and high-proficiency (8.67) groups. However, the results indicated that the mean scores for the middle-proficiency (8.40) and high-proficiency (8.67) groups were almost identical. The descriptive statistics also revealed that the minimum and maximum number of strategies used by readers in each group were similar. The mean scores were then submitted to a one-way ANOVA, which is presented below in Table 2.

Table 2

ANOVA for Number of Strategies Used

Task		df	SS	MS	F	*p*
Strategies Used	Between Groups	2	5.911	2.956	.290	.749
	Within Groups	42	427.333	10.175		
	Total	44	433.244			

The results of the ANOVA revealed no significant difference in the number of strategies used between the groups [$F(2,42) = 0.290$, $p=0.749$]. Taken together, these results suggest that the number of strategies that participants used in this study when reading a text in Spanish was not significantly different from the readers of other proficiency levels. The descriptive statistics for the nineteen strategies used by readers in all groups revealed the most frequently used strategies to be (1) focusing on vocabulary, (2) decoding, (3) monitoring, (4) inferencing, (5) paraphrasing, (6) searching for cognates, and (7) translating (See Appendix A for an itemized view of the frequency with which each strategy was used by readers across proficiency groups). The mean scores were then submitted to a one-way ANOVA that revealed no significant difference for the frequency with which each strategy was used by the three proficiency groups, in most cases (See Appendix B for details).

These findings suggest that, in most cases, the frequency with which participants in this study used the reading comprehension strategies was not significantly different from readers of other proficiency levels. The readers in the low-proficiency group decoded much more frequently than the readers in the high-proficiency group. Although there was no significant difference found in the frequency of use of this strategy between either the low-proficiency and middle-proficiency groups, or

between the middle-proficiency and high-proficiency groups, these last two groups approached significance in a way that aligned with the expected trend. That is, more proficient readers decoded words less frequently than less proficient readers, which may indicate that readers who had more vocabulary knowledge also read more fluently, thus needing to use the decoding strategy less when reading.

Further, these results also suggest that even though participants of all groups used the searching for cognates strategy, more proficient readers used this strategy less frequently, which may indicate that because more proficient readers had a larger vocabulary, they did not need to rely on cognates as often as the less proficient readers. There was a statistically significant difference in how frequently this strategy was used by both the low-proficiency and high-proficiency groups, and the middle-proficiency and high-proficiency groups. The frequency with which readers in the low-proficiency and middle-proficiency groups used this strategy was not significantly different.

Reading Comprehension Strategies

Nineteen observable strategies were coded to analyze the think-aloud transcripts. Briefly, the comprehension strategies were: focusing on vocabulary, summarizing, restating/rereading the text, paraphrasing, using context clues, decoding, inferencing, questioning, predicting, confirming/disconfirming, integrating information, invoking prior knowledge, monitoring, visualizing, evaluating, noticing novelty, demonstrating awareness, searching for cognates, translating, code-switching, and transferring. The last four strategies required participants to use their first language, and therefore were defined as bilingual comprehension strategies and will be discussed in a separate section.

Five of the non-bilingual reading comprehension strategies were found to be common and widely used by participants in all three proficiency groups. These five strategies were (a) focusing on vocabulary, (b) decoding, (c) monitoring, (d) inferencing, and (e) paraphrasing. Although the same strategies were commonly used by the readers in this study, within as well as across groups, there were, at times, qualitative differences in how these strategies were used by readers of different proficiency levels. These differences were sometimes subtle and, at other times, blatant.

Focusing on Vocabulary

When using the focusing on vocabulary strategy, readers paid attention to unknown words, identifying problematic vocabulary items. This strategy was frequently used in conjunction with other reading strategies in all three groups, generally monitoring, searching for cognates, paraphrasing, translating, and inferencing. However, the middle-proficiency group used this strategy more extensively than the other two groups.

Readers in the low-proficiency group tended to notice words that repeatedly appeared in the text, although they were less successful than the middle-proficiency and high-proficiency groups at using this strategy to support comprehension. When used on its own, this strategy was not enough to solve a difficulty, and readers in the low-proficiency group were ready to move on or give up more quickly than readers in the two other groups. For example, after focusing on the words *pequeño*, which means small, and *musulmana*, which means Muslim, Participant 15 could not make sense of the paragraph and, quite explicitly, gave up:

> Uh, a un pequeño porcentaje de filipinos se les permite divorcie-divorciarse. Alright, a weird, pequeño… a weird pequeño… pequeño percentage of the Philippines. A weird… no, a small. A small. Oh! A small percentage of the Philippines permits divorce. El five percent de la población que es musul-mana y um… so the, uh, el five percent of the population, musulmana? No. El five percent of the population which is Muslim… that's as close as I can get with this word, I don't know what this is.

Readers in the middle-proficiency group used their focus on vocabulary somewhat differently, often recognizing the form of certain verbs, if not the meaning. This strategy, however, was most efficiently and successfully used by readers in the high-proficiency group, who used it in combination with other reading comprehension strategies. Readers in this group were also more persistent and made more attempts at fixing comprehension problems by focusing on a word or phrase that was problematic. Some particularly problematic words such as *estructuras*, *paupérrimas* and *obispos* all appeared in the same paragraph. Participant 32 used some monitoring and some decoding as well:

> Uh, viviendas tienen estructura espalperimas. Almost all families, numerous families, uh… are living… (pauses) Have, tienen istructuras, have structures, or have lessons, uh, I don't know what pal-perimas is. (…) Cuando los obsipos dice que el divorcio es algo anti-filipino. When the obsipos, bishops? Maybe? When the bishops say that divorce is something anti-Filipino.

Decoding

Decoding was defined as an attempt to read an unknown word that readers encounter by sounding out and/or dividing a word into parts (e.g., syllables). Decoding was used most frequently by the readers in the low-proficiency group, while the group that used it least was the high-proficiency group. The decoding strategy sometimes overlapped with monitoring, but was often used on its own.

The low-proficiency group used this strategy with an emphasis on pronunciation rather than comprehension. For example, Participant 1 used decoding frequently and the word *católicas* required several attempts to decode:

> La meyoría de las personas en Filipinas no son… no son **[cat-catoolicas]** sólo de la boca para afiura. Casi todos son **[catico… catoolicos]**, numerosas familias sias **[ver… veviendas]** tienen estructiuras **[para-permias]**, lenan las iglasias los domingos. Cuando los **[a-obispos]** dicen que el divorcido es algo anti-filipino y que **[legas, or… ligalizarlo…]** actually, I don't know how to pronounce that word… la institución del matrimonio, la gente escuchó con sumo serdida.

While participants in all three groups used this strategy similarly, breaking down words into more manageable chunks, the low-proficiency group tended to stop and restart the attempt, or repeat words more often than readers in the other groups. The low-proficiency group was also more likely to consider moving on without further attempts at comprehension once a word was decoded.

The high-proficiency group was more likely to decode words successfully on the first attempt, as well as more likely to divide words into syllables aligned with the Spanish pronunciation. Further, the total number of words decoded per paragraph was lowest in the high-proficiency group, and these participants tended to decode multisyllabic words with four or more syllables more often than shorter words. However, many of the same words proved to be difficult for readers across all proficiency groups, among them *católicas, viviendas, paupérrimas, mayoría, psicólogo, psicológicas, discapacidad, matrimonio, abiertamente, estructuras, legalizarlo, musulmana,* and *población.*

Monitoring

Monitoring as a reading comprehension strategy is the reader's recognition that comprehension failed or did not occur and often took the form of the reader simply stating that he/she did not understand something. Readers in the low-proficiency group used monitoring most frequently, and it was sometimes used in combination with decoding, inferencing, searching for cognates, translating, and using prior knowledge.

Monitoring by the low-proficiency group consisted primarily of stating that a word was unknown to the reader, focusing more on pronunciation than meaning. Further, for readers in the low-proficiency group, the use of the monitoring strategy was less likely to lead to other strategies; once the monitoring statement was made and the difficulty was acknowledged, readers were frequently ready to move on. For example, Participant 1 repeatedly made statements like "Uh, I don't know how to pronounce that." and "actually, I don't know how to pronounce that word…" These comments were a way of making the participant's struggle with the reading more evident, but they did not lead to any other strategies or trigger attempts at working on the unknown words. It was simply a way of stating that this was difficult and that it was time to move on.

The low-proficiency group was also more likely to dismiss inferencing attempts by framing their guesses with two monitoring statements such as "I don't know". This dismissal was also observed in the middle- and high-proficiency groups, but not as often. Both the low- and middle-proficiency groups used monitoring as a way of listing unknown words and they often failed to use other strategies to solve comprehension problems.

Further, monitoring was used as a concluding statement that applied to sections of or whole paragraphs. In the middle- and high-proficiency groups, it was more likely to find monitoring statements in Spanish, or alternating statements in Spanish and English. The middle- and high-proficiency groups were also more likely to use the monitoring strategy to communicate that the meaning of a word or phrase was in fact known to them. Finally, the dismissal of inferencing statements and listing of unknown words was less common in the high-proficiency group compared to the other two groups.

Inferencing

The inferencing strategy consisted of participants making guesses about the meaning of certain words or phrases, often accompanied by words like "maybe",

"possibly", "so", and at times more certain attempts such as "this must mean" and "I would say that is…". In a few cases, inferencing looked more like a decision that the participant made about a particular guess, using phrases like "I am going to assume this means…"

Readers in the middle-proficiency group used inferencing most frequently while readers in the low-proficiency group used inferencing with the least frequency. Regardless, this strategy was often used in combination with monitoring and searching for cognates. However, the low-proficiency group was less likely to succeed in combining these strategies because they focused on the way words looked and let their assumptions about cognates dominate their inferences more frequently than the other two groups.

Readers in the low-proficiency group also used inferencing to fill in gaps, to make assumptions about words or phrases more explicit, and to indicate that the attempt was considered to be good enough. Finally, the high-proficiency group used inferencing to summarize thoughts at the end of paragraphs, as well as to confirm that certain assumptions about the text were either correct or incorrect. For example, as used by Participant 39: "conseguir, I don't remember what that means, but basically… I'm guessing in context it means you can… in the… you can annul the marriage if you have money."

Participant 42 used the inferencing strategy to provide comments at the end of each paragraph, both summarizing his thoughts and confirming that his assumptions were correct and fit with the paragraph:

> Es resultado es un… that's a typo or something… umm… (clicks tongue) is a system that divides the population in two groups, los ricos pueden volver a casarse y los pobres no. Can marry again? Rich people can marry again? and poor people can't (clicks tongue)… um.. ok, I don't get why. Huh, so I guess poor people never get divorced? So, they just stay married I guess… (clicks tongue)

Paraphrasing

The paraphrasing strategy was defined as readers rephrasing an idea using different wording. Paraphrasing was most frequently used by the middle-proficiency group, while the low-proficiency group used it with the least frequency. This strategy sometimes appeared in combination with translating, monitoring, and inferencing.

Typically, paraphrasing consisted of rewording or repeating a thought from the text as a way to try out the ideas until they fit the paragraph in a way that the readers considered satisfactory. Another use of this strategy involved rewording or repetition, but from a thought *about* the text, which the participants used to make sense of the text's intent or message. Sometimes paraphrasing focused on finding matching verb tenses for a thought in English, helping readers make sense of what the Spanish text was communicating.

Some readers, particularly those from the middle- and high-proficiency groups, used paraphrasing more extensively than others, sometimes to the point that it was the main way to approach a paragraph. Finally, readers from the high-proficiency group were more likely to use paraphrasing as a way of concluding their thoughts or making a decision about how certain words or phrases fit the context.

Participant 40, from the high-proficiency group, used this strategy to address minor changes in meaning by making subtle adjustments to the phrasing of a specific sentence: "Without a doubt, this is… nevertheless this is… a country where a third of the population lives with less than a dollar a day. The annulation of the matrimony (sniffs), marriage is simply an alternative… an expensive alternative… too expensive of an alternative."

Bilingual Strategies

Four possible bilingual strategies were coded: translating, transferring, searching for cognates, and code-switching. However, due to space limitations, this section focuses on the two bilingual strategies that were most frequently used by readers in all three groups: translating and searching for cognates.

Translating

Translating was the most widely used reading comprehension strategy, and almost all readers in this study used it. It was often used in combination with monitoring, searching for cognates, inferencing, and focusing on vocabulary. The middle-proficiency group used this strategy more frequently compared to the low- and high-proficiency groups.

The low- and middle-proficiency groups tended to focus more on words that looked or sounded like a word they knew in English when translating, and they were more likely than the high-proficiency group to make assumptions about false cognates when translating. For example, Participant 9 assumed that the word *país*, which means country, was a cognate for the English word *past*: "Para un paes en el que el divorcio no está… permito, I know the word permito is, um, permitted. I think paes is past and divorcio is divorce, so divorce was not permitted in the past?"

Another common use of the translating strategy in the low-proficiency group was the listing of words the readers knew as they read the text, making monitoring statements or skipping the words that they did not know. In a way, participants in the low-proficiency group used the translating strategy to take inventory of those words that they were indeed able to translate, and to question the words that posed a challenge. Participant 4 offered an example of this: "La principal forma de hacerlo es... the forma principal es, something about having money (…) Conseguir el matrimono se anuludo... something about matrimony."

Readers in the middle- and high-proficiency groups were more likely to read through a whole sentence or even a whole paragraph before attempting translation. Participants in the middle- and high- proficiency groups were also more likely to self-correct while translating than participants in the low- proficiency group.

In addition, participants in the middle- and high-proficiency groups were more likely to make accurate guesses about word meanings than participants in the low-proficiency group. The same words and phrases proved to be difficult to translate for readers across all groups; however, the readers in the high- proficiency group were generally more successful at navigating these words and phrases. Readers in the high-proficiency group tended to translate more smoothly and with less hesitation compared to readers in the other two groups.

Further, readers in the high-proficiency group were more likely to use synonyms of cognates when translating if they considered that they fit the context better than the cognate itself. For example, Participant 31 used the word *handicap* in the context of a physical disability when most readers would have translated this as *incapacity*, which is closer to the Spanish word *discapacidad*, but does not apply as well or is not as acceptable in this context due to its implications.

Searching for Cognates

The searching for cognates strategy was most frequently used by readers in the low-proficiency group, with the high-proficiency group using this strategy with the least frequency. This strategy often overlapped with translating, although not all translating involved searching for cognates. Monitoring, inferencing, and focusing on vocabulary were strategies frequently used in combination with searching for cognates.

Sometimes, the participants' search for cognates relied more on how certain words sounded than on how they looked. The low- and middle-proficiency groups tended to have the same problems with false cognates, often mistranslating the same words based on how they sounded or looked rather than their relation to the topic. For example, Participant 17, from the middle-proficiency group, used the strategy in this way without paying attention to the context of the reading: "demasiado, which makes me think of demise", "listening with… suma seriedad. Which makes me think serious.", and "hm, desearían makes me think dessert…"

Readers in the middle- and high-proficiency groups were more likely to identify true cognates compared to readers in the low-proficiency group, although readers across all groups made some of the same incorrect assumptions about words. Some of the most common problematic words, however, were resolved more successfully by readers that used this strategy in the high-proficiency group compared to the middle- and low-proficiency groups. For example, Participant 33 focused on a word that many readers found extremely confusing by first making a monitoring statement, then acknowledging that the word was unknown to him, and later searching for cognates: "I don't know what paupérrimas means. Who have… It—it looks like pauper, like, whose lives have the structure of what's typically…poor people?"

Discussion

Reading Comprehension Strategies

The first research question determined which reading comprehension strategies students who were beginner, intermediate, and advanced learners of Spanish as a second/foreign language used when they approached a text in Spanish. This question led to two findings. First, regardless of proficiency level, the readers in this study tended to use the same set of reading comprehension strategies when they read the text. Second, there were qualitative differences in how these strategies were used by readers of different proficiency levels.

The focusing on vocabulary strategy was used by the readers in the low-proficiency group as a way to notice words that were repeated throughout the text, but this strategy rarely resolved comprehension problems when used on its own. However, when used by the high-proficiency group, focusing on a word or phrase even-

tually led to solving a comprehension problem. Their success may be due to the fact that focusing on vocabulary was used in combination with other strategies and the readers in the high-proficiency group were more persistent in their attempts at fixing comprehension problems.

Findings from this study echo those by Nassaji (2004), who also used think alouds to identify the degree and types of strategies used by readers and found that second language readers who had stronger vocabulary knowledge utilized certain strategies more frequently than those who had weaker vocabulary knowledge. Readers from the high-proficiency group also made a better use of the focusing on vocabulary strategy, especially when used in combination with inferencing, compared to the readers in the low-proficiency group. Similarly, Nassaji (2004) found that second language readers with strong vocabulary knowledge made more effective use of inferencing strategies compared to weaker readers, and their depth of vocabulary had a significant contribution to success over the contribution made by the learners' degree of strategy use. However, because the present study did not focus on the degree of success in which these strategies resulted, it cannot be stated that they led to overall better comprehension for one group over another. This is perhaps an area for future exploration.

Vocabulary is important to comprehension, and some words proved to be difficult to pronounce and comprehend for readers in all groups. However, the way in which readers of different proficiency levels approached vocabulary varied. Readers in the low-proficiency group used decoding most frequently, while readers in the high-proficiency group used it with the least frequency. Readers in the low-proficiency group tended to focus on pronunciation rather than word meaning and were more likely to move on without further attempts to comprehend once a word was decoded. Although the high-proficiency group also used the decoding strategy, it was usually to decode multisyllabic words, and they were frequently more successful in their first attempt to read those words. These findings suggest that less proficient readers have fewer resources to fix comprehension problems despite using some strategies more frequently than more proficient readers.

Monitoring was a strategy used by all participants, and it refers to the readers' awareness of the extent to which they understand a text while they read (Baker & Brown, 1984a, 1984b). If readers comprehend the text, they do not need to adjust their processing or thinking, but if they recognize that relevant information is missing or the meaning is obscured, they need to implement strategies to help their comprehension, like rereading text or reprocessing certain sections of the reading. Comprehension monitoring is a prerequisite for the effective use of comprehension strategies (Morrison, 2004; Wang, 2016). Readers of all proficiency groups used monitoring, although in qualitatively different ways. Readers in the low-proficiency group used this strategy to state if a word's meaning was unknown to them and, at times, to monitor pronunciation over meaning. On the other hand, both the low-proficiency and middle-proficiency groups used the monitoring strategy as a way to make a list of unknown words, but it rarely led to the use of other strategies to support comprehension. Readers in the high-proficiency group were more likely to use it in combination with other strategies to support comprehension. These findings support the notion that readers with lower levels of proficiency are aware of difficulties and verbalize monitoring but they lack the knowledge and resources to

successfully address comprehension problems.

Inferencing helps learners decide when and how to make choices about proceeding, when to get assistance from the context, and when to use vocabulary knowledge (Huckin & Bloch, 1993; Paribakht & Wesche, 1999). So, a main factor that affects inferencing is the ability to effectively use contextual clues (Huang, 2018; Huckin & Bloch, 1993; Nagy, 1997; Nagy et al, 1987; Nagy & Scott, 2000), and using contextual clues depends on having sufficient vocabulary knowledge (Coady et al, 1993; Nation, 1993). Frantzen (2003) found that learners with stronger linguistic knowledge benefit from using context more than learners who have weaker vocabulary skills. Similarly, Kern (1989) found that the learners' language proficiency influences inferencing strategy use. Findings from this study support several of these points about inferencing. For example, the low-proficiency group used inferencing less often than the other groups, possibly because these readers did not have enough vocabulary knowledge to make good use of the strategy. Instead, this group focused on how words looked in order to make inferences rather than on context clues. Therefore, their inferencing attempts were tied to cognates over context. The high-proficiency group, on the other hand, behaved in a manner consistent with participants in Franzen's (2003) study. That is, the readers in the high-proficiency group used inferencing to both summarize their thoughts at the end of paragraphs and to confirm their assumptions about the text.

Paraphrasing was the reading comprehension strategy that was used most similarly by the readers of different proficiency levels. This strategy consisted of rewording or repeating an idea from the text in different ways until readers felt they had comprehended the idea to the best of their ability. Readers used this strategy as a way to think through difficult sections of the text, regardless of their proficiency level. Even though the high-proficiency group tended to use paraphrasing as a way of concluding their thoughts or making a decision about how certain words or phrases fit the context, there was no major difference on how students reworded sentences.

Overall, readers in all three groups used the same five strategies; however, there were qualitative differences in how these groups implemented most of them. This distinction is important because, as Sarig (1987) argues, good strategies do not necessarily equal good comprehension. Similarly, Anderson (1991) and Wang (2016) state that it is possible for both proficient and less proficient readers to use the same strategies with different results. The usual assumption about comprehension is that new information becomes part of the readers' permanent cognitive knowledge by building on pre-existing information (Bernhardt, 1991; Lee & VanPatten, 1995). Nonetheless, the fact that readers process text in similar or different ways does not automatically imply that they also interpret text in the same way. Second language readers who interact with the same text in similar ways could comprehend the passage differently; conversely, second language readers who interact with the text in different ways could comprehend at the same level.

Bilingual Strategies

The second research question focused on determining when and how students used their first language, English, when they encountered reading or comprehension difficulties in a Spanish text. This question led to three findings. First, regardless of proficiency level, the readers in this study used bilingual strategies when read-

ing the text. Second, searching for cognates and translating were the two bilingual strategies that were most commonly used by readers in all three groups. Third, there were qualitative differences in how readers of different proficiency levels used the bilingual strategies.

Almost all readers in the study used translating to some extent, and some participants used it as their only bilingual strategy, though most used it in combination with other strategies. The way in which this strategy was used varied by group. For example, the low-proficiency group used translating to list the meaning of words they knew, and it rarely supported comprehension since listing separate words rarely led to connected ideas about the text. On the other hand, readers in the middle-proficiency and high-proficiency groups tended to read an entire sentence, sometimes an entire paragraph, before translating, which did lead to more connected ideas and it made them more aware of challenging words. Further, the low-proficiency and middle-proficiency groups tended to focus more on words that looked or sounded like a word they knew in English when translating and this was more likely to make incorrect assumptions about words that were seemingly cognates. On the other hand, the high-proficiency group, who had more vocabulary knowledge, tended to use translating more effectively. Readers in the middle-proficiency and high-proficiency group also tended to self-correct more when translating the text. Further, even though the same words were challenging for readers in all groups when translating, the readers in the high-proficiency group tended to make more accurate assumptions about certain word meanings, presumably because they were able to draw from context, prior knowledge, and vocabulary. Lastly, readers in the high-proficiency group tended to more easily read a sentence in Spanish and then smoothly translate that sentence in English compared to the other two groups.

In sum, readers in this study relied on translation or using their first language to understand the text, which aligns with previous research. That is, many second language readers spend much of their time thinking about L2 texts in their L1, regardless of what languages are involved or the readers' level of language proficiencies (Ahmadian et al, 2016; Kern, 1994; Lee, 1986a, 1986b; Saengpakdeejit & Intaraprasert, 2014; Turnbull & Sweetnam Evans, 2017; Upton, 1997; Upton & Lee-Thompson, 2001). Further, like this study, some studies suggest that using the first language might be a way for readers to confirm their understanding of the text or to store what they comprehend in a more efficient way; other studies suggest that this may simply be the readers' "language of thought" (Lee, 1986a, 1986b; Moll, 1988; Upton & Lee-Thompson, 2001).

Searching for cognates was the other bilingual strategy that was commonly used by readers of all proficiency levels in this study; however, readers in the low-proficiency group used this strategy more frequently than the other two groups. At times, these readers tended to rely more on how certain words sounded than on how they looked to make assumptions about cognates. Also, the low-proficiency and the middle-proficiency groups were more likely to be misled by false cognates, although some readers in the middle-proficiency group tended to identify true cognates more frequently than readers in the low-proficiency group. This is not surprising since transfer of cognates requires a certain degree of awareness on the part of the reader as not all words that look or sound alike are cognates. As Tindall and Nisbet (2010)

found, false cognates are a source of misunderstanding and confusion for second language readers, which was the case with the less proficient readers in this study.

Readers in the high-proficiency group used this strategy less frequently than the other groups, which is consistent with the notion that the degree to which learners rely on their first language, such as cognates and translating, seems to decline as their proficiency in the second language increases (Upton & Lee-Thompson, 2001). That is, higher proficiency students used cognates and translation less frequently when reading the L2 text than did students of lower proficiency. This study partially supports this in that the readers in the high-proficiency group used cognates much less frequently than the lower proficiency readers. However, unlike previous research, the readers in the high-proficiency group frequently used translation when reading the Spanish text.

Implications, Limitations, and Future Research

Implications for Instruction

Based on this study and its findings, relevant information regarding reading instruction can help guide next steps. Since this study did not find a clear continuum of strategies among low, middle, and high-proficiency readers, the same strategies could be addressed and emphasized at all levels, explicitly teaching students when to use a specific strategy to solve a comprehension problem, how to use certain strategies more successfully, and how to combine them with other strategies that might help fix the problem.

If the same set of strategies were emphasized during reading instruction, then students of different levels of proficiency could develop them as they progress through their language studies. Furthermore, educators who understand what readers of different proficiency levels do—and what they need to do to be successful in their reading efforts—will be more likely to attend to their students' specific needs, helping them move toward achieving higher levels of reading and language proficiency.

Limitations of the Study

This study has several limitations that are related to both methodology and cultural factors. First, because the think aloud data was collected in a single 50-minute session, these results reflect but a portion of what readers do when they approach a text in Spanish. What's more, because all readers worked with the same text, assumptions cannot be made about what these same readers would do if they were presented with a different text, a text of a different genre, length, or complexity. In addition, because students who participated in this study read and thought aloud in a test situation, these findings might not reflect what readers really do when they read Spanish texts in the "real world", not in a language lab, or when doing silent reading.

A second limitation is tied to the nature of think aloud protocols. Although they have been used successfully to explore different reading processes in second language, Block (1986) argued that think alouds are most useful when they provide information about the learners' reading processes as they have trouble understanding what they are reading. Nevertheless, they are not as useful to study processes that are already automatic or cannot be easily verbalized by learners. There might have been reading processes that participants were engaging in that were not observed,

due to the nature of the method used for the study. Even if these processes took place during the reading but participants did not verbalize them, assumptions cannot be made about thoughts they did not articulate.

A third limitation is related to cultural factors. Since the participants in this study read a text about a culturally unfamiliar topic, they may have relied on different strategies than they would have used had the topic been culturally familiar. Furthermore, the readers in this study might have been able to use their background knowledge more heavily if they had been reading a culturally familiar text.

Suggestions for Future Research

The present study identified the reading comprehension strategies that adult learners of different levels of proficiency used to read a single text in Spanish, the second language they were learning. Future research might explore whether there is a connection between strategies used by readers of different proficiency levels and the extent to which they comprehend an L2 text. Also, research might examine whether successful L2 readers and struggling L2 readers use the same or different strategies. Further, future studies might include tasks in the readers' first language to determine whether they use the same reading comprehension strategies in both languages, and whether they use them with the same results. Research might also examine whether other types of text genres make a difference in which comprehension strategies readers use to read them. Finally, future research might focus not only on identifying strategies but also on determining if they are successfully used by readers, meaning whether they actually lead to better comprehension over other possible strategies.

This study intends to provide insight into the reading comprehension strategies that second language learners of different proficiency levels use when reading a text in the L2. It may also provide guidance to instructors, researchers, curriculum planners, and foreign language program directors for how they might support the reading comprehension of second language learners.

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Appendix A: Descriptive Statistics for Itemized Strategies Used

Task	Group	N	Mean	SD	Min.	Max.
Focusing on Vocabulary	Low	15	3.00	2.828	0	7
	Middle	15	4.13	1.807	0	7
	High	15	2.93	2.219	0	7
	Total	45	3.36	2.337	0	7
Summarizing	Low	15	.47	.640	0	2
	Middle	15	.20	.414	0	1
	High	15	.40	.632	0	2
	Total	45	.36	.570	0	2
Rereading	Low	15	.87	1.356	0	5
	Middle	15	.80	1.014	0	3
	High	15	.67	.900	0	3
	Total	45	.78	1.085	0	5
Paraphrasing	Low	15	1.93	1.792	0	6
	Middle	15	2.73	1.624	0	6
	High	15	2.60	2.098	0	7
	Total	45	2.42	1.840	0	7
Using Context Clues	Low	15	0.00	0.000	0	0
	Middle	15	0.00	0.000	0	0
	High	15	.13	.352	0	1
	Total	45	.04	.208	0	1
Decoding	Low	15	5.27	2.658	0	8
	Middle	15	4.73	2.463	1	8
	High	15	2.73	1.907	0	7
	Total	45	4.24	2.560	0	8
Inferencing	Low	15	2.27	1.944	0	6
	Middle	15	3.00	1.732	0	7
	High	15	2.47	1.807	0	5
	Total	45	2.58	1.815	0	7
Questioning	Low	15	.13	.352	0	1
	Middle	15	.13	.352	0	1
	High	15	.60	.910	0	3
	Total	45	.29	.626	0	3
Confirming/ Disconfirming	Low	15	.13	.352	0	1
	Middle	15	.13	.516	0	2
	High	15	.13	.352	0	1
	Total	45	.13	.405	0	2

Integrating Information	Low	15	.07	.258	0	1
	Middle	15	.27	.594	0	2
	High	15	.33	.724	0	2
	Total	45	.22	.560	0	2
Invoking Prior Knowledge	Low	15	.73	1.033	0	3
	Middle	15	1.00	1.069	0	3
	High	15	.40	.632	0	2
	Total	45	.71	.944	0	3
Monitoring	Low	15	5.20	3.144	0	8
	Middle	15	4.13	2.532	0	8
	High	15	3.53	2.532	0	8
	Total	45	4.29	2.777	0	8
Evaluating	Low	15	.73	1.907	0	7
	Middle	15	.07	.258	0	1
	High	15	.67	.900	0	3
	Total	45	.49	1.236	0	7
Searching for Cognates	Low	15	4.00	2.619	0	7
	Middle	15	4.07	2.052	0	8
	High	15	1.93	1.624	0	5
	Total	45	3.33	2.316	0	8
Translating	Low	15	6.40	3.158	0	8
	Middle	15	7.13	2.134	0	8
	High	15	5.87	3.399	0	8
	Total	45	6.47	2.928	0	8
Code-switching	Low	15	.33	1.291	0	5
	Middle	15	.07	.258	0	1
	High	15	.13	.352	0	1
	Total	45	.18	.777	0	5
Transferring	Low	15	0.00	0.000	0	0
	Middle	15	.07	.258	0	1
	High	15	.67	2.059	0	8
	Total	45	.24	1.209	0	8
Demonstrating Awareness	Low	15	.20	.414	0	1
	Middle	15	.07	.258	0	1
	High	15	.07	.258	0	1
	Total	45	.11	.318	0	1
Noticing Novelty	Low	15	.07	.258	0	1
	Middle	15	0.00	0.000	0	0
	High	15	0.00	0.000	0	0
		45	.02	.149	0	1

Appendix B: ANOVA for Itemized Strategies Used

Strategy		df	SS	MS	F	*p*
Focusing on Vocabulary	Between Groups	2	13.644	6.822	1.264	.293
	Within Groups	42	226.667	5.397		
	Total	44	240.311			
Summarizing	Between Groups	2	.578	.289	.883	.421
	Within Groups	42	13.733	.327		
	Total	44	14.311			
Rereading	Between Groups	2	.311	.156	.127	.881
	Within Groups	42	51.467	1.225		
	Total	44	51.778			
Paraphrasing	Between Groups	2	5.511	2.756	.807	.453
	Within Groups	42	143.467	3.416		
	Total	44	148.978			
Using Context Clues	Between Groups	2	.178	.089	2.154	.129
	Within Groups	42	1.733	.041		
	Total	44	1.911			
Decoding	Between Groups	2	53.511	26.756	4.786	.013
	Within Groups	42	234.800	5.590		
	Total	44	288.311			
Inferencing	Between Groups	2	4.311	2.156	.644	.530
	Within Groups	42	140.667	3.349		
	Total	44	144.978			
Questioning	Between Groups	2	2.178	1.089	3.035	.059
	Within Groups	42	15.067	.359		
	Total	44	17.244			
Confirming/ Disconfirming	Between Groups	2	0.000	0.000	0.000	1.000
	Within Groups	42	7.200	.171		
	Total	44	7.200			
Integrating Information	Between Groups	2	.578	.289	.919	.407
	Within Groups	42	13.200	.314		
	Total	44	13.778			
Invoking Prior Knowledge	Between Groups	2	2.711	1.356	1.558	.222
	Within Groups	42	36.533	.870		
	Total	44	39.244			

Monitoring	Between Groups	2	21.378	10.689	1.412	.255
	Within Groups	42	317.867	7.568		
	Total	44	339.244			
Evaluating	Between Groups	2	4.044	2.022	1.344	.272
	Within Groups	42	63.200	1.505		
	Total	44	67.244			
Searching for Cognates	Between Groups	2	44.133	22.067	4.830	.013
	Within Groups	42	191.867	4.568		
	Total	44	236.000			
Translating	Between Groups	2	12.133	6.067	.698	.503
	Within Groups	42	365.067	8.692		
	Total	44	377.200			
Code-switching	Between Groups	2	.578	.289	.467	.630
	Within Groups	42	26.000	.619		
	Total	44	26.578			
Transferring	Between Groups	2	4.044	2.022	1.409	.256
	Within Groups	42	60.267	1.435		
	Total	44	64.311			
Demonstrating Awareness	Between Groups	2	.178	.089	.875	.424
	Within Groups	42	4.267	.102		
	Total	44	4.444			
Noticing Novelty	Between Groups	2	.044	.022	1.000	.376
	Within Groups	42	.933	.022		
		44	.978			