Relationship Between Vocabulary, Syntactic Awareness and Reading Comprehension in Low- and High-Level Korean High School EFL Students

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This present study sought to investigate the relative contribution of vocabulary knowledge and grammar awareness for L2 reading comprehension (RC) for Korean high school EFL learners. 74 eleventh grade students attending a Korean high school were asked to take a vocabulary test, a grammar awareness test, and a reading comprehension test. Vocabulary knowledge was measured using the Korean version of the Vocabulary Levels Test and syntactic awareness was estimated with a subset of the Grammaticality Judgement Test (20 items). RC items were adopted from the Korean College Scholastic Ability Test (GSAT) Mock Test. The results showed a significant correlation between vocabulary and RC. However, grammar awareness and RC showed a no significant correlation. This study also found that for high-level students there was a significant correlation between vocabulary and RC especially for words taken from the 3,000-word family level. In contrast, for low-level students, there was a significant correlation between vocabulary size and RC but for words taken from the 5,000-word family level. Furthermore, there was not a significant correlation between syntactic awareness and RC for either low or high-level students. Therefore, vocabulary knowledge predicts both low and high-level students RC, whereas syntactic awareness does not predict the students' RC.

1. INTRODUCTION

Reading ability is recognized as a key skill that underlies academic success for both first and second language learners (Catherine, Snow, Burns, &
Griffin, 1998; Rosenfeld, Leung, & Oltman, 2001; Sherwood, 1977). Reading ability is also related to a large set of skills and knowledge, but it has been shown that vocabulary knowledge is of particular importance in predicting reading comprehension ability (Laufer, 1992; Nation 2001; Qian, 1999; Ulijn & Strother, 1990). Schmitt (2000) argued that “lexical knowledge is central to communicative competence and to the acquisition of a second language” (p. 55). This is an argument that is especially important for second language readers who rely strongly on vocabulary knowledge. It has been suggested that a limited vocabulary is the most significant barrier for second language readers (Huckin & Bloch, 1993). Hence, it is essential to ensure that second language learners have enough vocabulary to read well (Grabe, 2009; Hudson, 2007; Koda, 2005;). Laufer's (1992) study reported that readers needed to be familiar with the 3000 most common word families to read academic material with little difficulty (Hudson, 2007). Hirsh and Nation (1992) found that in order for readers to comprehend complicated novels they should have a vocabulary size of about 5,000-word families. Nevertheless, there are other factors that also influence an individual's ability to comprehend a text. A knowledge of syntax is also vital if a person is to understand what they are reading. Therefore, in addition to vocabulary knowledge, grammar knowledge is a important factor in assisting reading comprehension (Kirajima, 1997; Verhoeve, 1990).

Syntactic awareness refers to "the ability to manipulate and reflect on the grammatical structure of language" (Cain, 2007). This ability enables an individual to appreciate word-order and grammatical structure. Recent studies have provided support for the importance of syntactic awareness as a critical linguistic skill. Research has shown that syntactic awareness is positively related to the process of language acquisition (Jia, Aaronson, & Wu, 2002) and reading skills involving word recognition (Gaux & Gombert, 1999), reading fluency (Mokhtari & Thompson, 2006), and reading comprehension (Katz, 2004; Nation & Snowling, 2000). Syntactic awareness extends beyond simple grammar knowledge; a test of syntactic awareness the knowledge of linguistic structure as well as aptitude in manipulating this knowledge based on task demands. Therefore, many researchers have considered the relationship between syntactic awareness and reading comprehension. For
example, syntactic awareness and reading comprehension are correlated for children aged between 6 and 10 years old (Bowey, 1986; Bowey & Patel, 1988). However, the nature of this relationship remains unclear. A number of researchers who investigated the relationship between syntactic awareness and reading skill have shown a direct relationship between syntactic awareness and either reading comprehension or word reading skill, while other studies indicated that the relationship is mediated by other language abilities (Cain, 2007). There are many possible explanations for these inconsistent results such as the range of ages of the participants and the L2 environment. This study investigated the extent to which vocabulary knowledge and syntactic awareness, each predict Korean high school EFL students’ reading comprehension. In contrast to previous research which focused on either children or adults. The present study concentrated on high school students. It also explored which word families within different frequency levels predict reading comprehension for Korean EFL high school students.

II. LITERATURE REVIEW

1. Vocabulary and Reading Comprehension

Reading comprehension has many components such as language proficiency (e.g., decoding and familiarity with letter names), the text type (e.g., level of difficulty in text and topic), and individual differences (e.g., motivation, interest in topic, and purpose for reading) (Ahn, 2010; Droop & Verhoeven, 2003; Grabe, 2009; Lee & Hwang 2017; Nam, 2012; Gelderen et al., 2004; Gelderen, Schoonen, Stoel, de Glopper, & Hulstijn 2007; Yim & Kang 2015). However, vocabulary knowledge has been shown to be the key factor in predicting reading comprehension ability. Laufer (1992) claimed that "no text comprehension is possible, either in one's native language or in a foreign language, without understanding the text's vocabulary" (p. 20). This is supported by empirical studies that have demonstrated a strong correlation between vocabulary knowledge and reading comprehension (Nation, 2001; Qian 1999, 2002). Koda (1990) investigated 24 students, who were learning...
Japanese as a foreign language in college. It was found that there were strong correlations between a self-made vocabulary test and two reading tests (a cloze test and a paragraph comprehension test). The strength of the correlation between the cloze test and vocabulary test was 0.69 and the strength of the correlation between the paragraph comprehension test and vocabulary test was 0.74.

However, there are many dimensions of vocabulary knowledge such as decoding, letter naming, orthography, breadth (size) and depth (knowledge) (Nation, 2001; Schmitt, 2000). Breadth estimates how many words a reader should know at a certain level, while depth measures how much a reader knows about a particular word. According to Liu (2016), when learners try to comprehend a text, the learners' vocabulary size predicts their comprehension ability. Therefore, vocabulary breadth is crucial for second language learners. In addition, Meara (1996) found that learners with a greater knowledge of vocabulary are more proficient in using language than learners with a limited knowledge of vocabulary.

There are many word lists for assessing vocabulary size such as A General Service List of English Words (West, 1953), The Academic Word List (AWL) (Coxhead, 2000), and A University Word List (Xue & Nation 1984). These lists represent a variety of frequency levels and word families (McLean, Hogg, & Kramer, 2014). The Vocabulary Size Test (VST) and Vocabulary Levels Test (VLT) are used to measure a learners' vocabulary size. The VST (Nation, 2006) was developed to assess receptive vocabulary of English as a second language. The VLT (Nation, 1983) has been used primarily to evaluate English vocabulary knowledge based on frequencies of word–families 2000, 3000, 5000, and 10,000; and the Academic Word List (Elgort, 2012). The VLT (Nation, 2001) has been proven to be a reliable and valid test, which provides a good estimate of a language learners' receptive vocabulary knowledge at particular lexical levels. Hence, these tests may be used to determine the vocabulary size of students at different levels.

Laufer (1992) showed that L1 readers with a knowledge of at least 3,000 word families can comprehend academic material well and with a knowledge of 8,000 word families can read most texts with little difficulty. On the other
hand, Hirsh and Nation (1990) found that 5,000 word families are needed to read complicated novels for pleasure (Thom, 2007). Furthermore, many studies (e.g. Baleghizadeh & Golbin, 2010; Ji & Shin, 2017; Koda, 1990; Laufer, 1992; Qian, 1999) have used scores on a vocabulary size test to predict levels of reading comprehension. For instance, according to Baleghizadeh and Golbin (2010), 83 Iranian EFL learners who were in the first year of university took a Vocabulary Levels Test (Nation, 1990) and a reading comprehension test (TOEFL, version 2004). The result showed that there was a significant correlation (.84) between vocabulary knowledge and reading comprehension. Moreover, Ji and Shin (2017) found a significant correlation between L2 learners' vocabulary size and reading comprehension test scores. In their study with 50 Korean university students, whose major varied from Engineering to Economics the size of the correlation between vocabulary size and reading comprehension test scores was .59.

Thus, a variety of studies have shown that vocabulary knowledge and reading comprehension are highly correlated. However, unlike previous studies, the present study investigated how much vocabulary knowledge contributes to L2 reading comprehension. Furthermore, since most studies have concentrated on the study of adult learners', this study sought to examine the performance of Korean high school EFL students.

2. Syntactic Awareness and Reading Comprehension

In addition to vocabulary knowledge, many studies have found that grammatical awareness plays an important role in reading comprehension (Kirajima 1997; Verhoeve 1990). Syntactic awareness refers to 'the ability to understand the grammatical structures of language within the sentence' (Tunmer & Hoover, 1992). Syntactic (or grammatical) awareness assesses an individual's ability to complete a word-order correction task and a grammatical correction task (Cain, 2007). There is evidence that there is a relationship between syntactic awareness and reading comprehension for young learners. In the area of L1 reading studies, it has been shown that syntactic awareness is a statistically significant predictor of students' reading comprehension ability and ongoing reading comprehension (Bowey, 1986;
Dreher & Zenge, 1990). Tunmer et al. (1987) found that with 30 second-grade children and 30 fourth grade children, good readers scored considerably higher than poor readers across two measures of syntactic awareness. This included an oral cloze test and an oral correction task. These results demonstrated the connection between grammatical awareness and learning to read. Furthermore, with adults, Gottardo, Stanovich, and Siegel (1996) found a relationship between syntactic awareness and reading comprehension. Their study involved a judgement task and a correction task, each of which involved an orally produced sentence. It was reported that a correlation of .69 was found between syntactic awareness and reading comprehension.

Moreover, there have been a number of studies involving second language learners and the relationship between syntactic awareness and reading comprehension. Rabia and Siegel (2002) reported a correlation of .57 with 56 bilingual Arab–Canadian children who were aged 9 to 14. Verhoeven (1990) also found that with second grade students, grammatical awareness of second language learners strongly predicted their second-language reading comprehension. In 2003 study, Gelderen et al investigated 397 Dutch students who were in grade 8 and found a strong correlation of .78 between syntactic awareness and English reading comprehension.

However, from the above studies it can be seen that for both L1 and L2 learners the extent of the correlation depended mainly on the three factors: syntactic awareness, control of verbal intelligence, and the age of the participants. Among the tests, there are two primary test formats for measurement of syntactic awareness. One is a written test and the other is an oral test. A limitation on the validity of the written tests is the difference in the decoding abilities of poor and good readers. (Ying, 2008).

Nevertheless, many studies indicated that there is a correlation between syntactic awareness and reading comprehension. Hence, this research aimed at investigating the relationship between syntactic knowledge and reading comprehension for EFL learners who were in grade 11 at a Korean high school. This study addresses three research questions:

1. Does L2 proficiency, measured by vocabulary size and syntactic awareness, predict Korean high school EFL students' reading
comprehension in English?
2. What component is most significantly correlated with Korean EFL high school students' reading comprehension in English?
3. What word families predict Korean EFL learners' English reading comprehension for low- and high-level high school students respectively?

III. METHOD

1. Participants

A total of 74 students participated in this study. They were all eleventh graders (16-years-old) from a men's private high school in Seoul, Korea. Among them, five students had lived in an English-speaking country more than one year, 11 students had been to English speaking country to attend an English camp. 43 of the students had received private English lessons through tutoring and academy classes. The remaining students had not received any private lessons. All students at the school receive 50 minutes of regular English instruction 5 times a week.

Their students' English proficiency was measured by the College Scholastic Ability Test (CSAT) Mock Test (March, 8, 2018 version) provided by the Korean Institute for the Curriculum and Evaluation (KICE). Based on their grade from the test, participants were divided into two groups: 50 high-level students and 24 low-level students.

2. Materials

1) Vocabulary Levels Test (VLT)

Vocabulary knowledge was estimated with the revised version of Nation's Vocabulary Levels Test (Schmitt et al., 2001). The test consists of five different levels: 2000, 3000, 5000, 10,000 word level and academic words. VLT consists of 30 items per word level. It also shows the participants' general vocabulary knowledge irrespective of their learning background.
In this present study, as in Schmitt et al's (2001) version of the test, the test consists of 16 questions with three-item clusters instead of 30 questions per frequency level due to time constraints. The total number of the questions is 48: six questions from 2000-word level, six questions from 3000-word level and four questions from 5000-word level. Students were not tested at the 10,000-word level or on their knowledge of academic words as it would be unlikely that students would know many difficult words. Each correct answer received a mark of one point, out of a total possible score of 48 points. The students were asked to match three out of six words with three corresponding definitions. (Refer to the Appendix 1 for sample test items). The test was undertaken over two consecutive days. On the first day, students answered questions at the 2000-word level and 3000-word level. On the second day, they were asked to complete questions at the 3000-word level and the 5000-word level. The reliability of the Vocabulary Level Test has been confirmed by a number of researchers (e.g., Read, 1998; Schmitt et al., 2001) and it also has been used by many researchers (e.g., Luafer and Paribackht, 1998) to assess the vocabulary size of English language learners (Cronbach's Alpha was .88).

2) Grammaticality Judgement Test (GJT)

The grammaticality judgement test has been used in a variety of fields of research. For example, Snow and Hoefnagel-Hohle (1978) adopted this test to confirm the prediction that the critical-period hypothesis could be applied to L2 acquisition. Bialystok (1979) used the test to explore how L2 learners use formal explicit and intuitive implicit knowledge. The tasks in the test incorporate both formal and intuitive information (Schachter, Tyson, & Diffley, 1976).

DeKeyser (2000), Johnson and Newport (1989), Linebarger, Schwartz, and Saffran (1983) tested participants' knowledge of English syntax by asking participants to complete a task involving the voicing of a sentence, using either correct or incorrect grammatical forms. Johnson and Newport (1989) used 12 rule types for the task, Linebarger et al. (1983) used 10 rule types,
and DeKeyser (2000) used 11 rule types. In the present study, the different rule types were combined and revised slightly. This led to the development of 20 items, grouped in five categories, with each category including four random questions: past tense, plural, third-person singular, determiner, and word order (Refer to the Appendix 2 for sample test items). The five categories were chosen because there was high a frequency of errors in the grammar (Lee & Chung, 2010). Due to the time restriction and students' fatigue, the number of questions was reduced. The questions were divided into two parts, with ungrammatical and grammatical sentences randomly assigned to one of the two parts. Then the sentences were mixed together. Students needed to indicate if each of the presented sentences was correct or incorrect. There was a total possible score of 20, with each question receiving one point. Cronbach's Alpha was calculated to be .63, after excluding two questions as the determiner.

3) Reading Comprehension Test

The College Scholastic Ability Test (CSAT), which is administered by the Korea Institute for the Curriculum and Evaluation (KICE) is a multiple-choice test compromised of 17 listening comprehension questions and 28 reading comprehension questions. In this study, only the reading comprehension task of the Korean CSAT Mock Test (June, 1st, 2017) was included. The test consists of 25 passages, with a total of 28 items. For each correct answer, one point was given, with a total possible score of 28 points.

IV. RESULT

1. Relationship Between Vocabulary, Syntactic Awareness and Reading Comprehension

<table>
<thead>
<tr>
<th>Variable</th>
<th>VLT</th>
<th>GJT</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLT</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>GJT</td>
<td>.501**</td>
<td>---</td>
</tr>
<tr>
<td>RC test</td>
<td>.522**</td>
<td>.302**</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
The results showed that vocabulary and grammar knowledge were positively correlated with the reading comprehension test score (see Table 1 for details). Scores on the VLT and RC test were significantly correlated with each other \((r = .52, p < 0.01)\). In other words, the students who had a high score on the vocabulary test, also had a high score on the reading comprehension test. Besides, the results indicated that the students’ syntactic awareness and their reading comprehension abilities were correlated with one another \((r = .30, p < 0.01)\). The correlation coefficient between the GJT and RC test was .302. The correlation between syntactic awareness and reading comprehension test scores was statically significant. Hence, students' reading comprehension was associated with their syntactic awareness.

<table>
<thead>
<tr>
<th>Table 2. RC Test Related to VLT and GJT</th>
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</thead>
<tbody>
<tr>
<td>Model</td>
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<tr>
<td></td>
</tr>
<tr>
<td>RC test</td>
</tr>
<tr>
<td>VLT</td>
</tr>
<tr>
<td>GJT</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

According to Table 2, there is a highly significant correlation between reading comprehension and vocabulary knowledge \((p = .000)\). The correlation between grammar and reading comprehension was not significant. This is because vocabulary obtained a larger beta weight \((\beta = .494, p = .000)\) than the grammar test \((\beta = .055, p = .638)\). Therefore, reading comprehension test scores were the best predictor of vocabulary knowledge \((p = .000, p < 0.01)\).

2. Low and High-level Students’ Correlation & Regression Between Vocabulary, Grammar and RC

The results showed that both the low- and high-level student groups displayed a significant relationship between vocabulary size and reading comprehension scores \((r = .377, r = .605, respectively)\) (see below Tables...
3 & 4). On the other hand, for both groups the correlation between syntactic awareness and reading comprehension was not statistically significant. Vocabulary knowledge and grammar test scores for the low- and high-level groups had a correlation of \( r = .519 \) and \( r = .430 \), respectively. However, grammar knowledge was not a significant predictor of reading comprehension for both groups of students. Therefore, for both low- and high-level students have a correlation between vocabulary size and reading comprehension scores.

### Table 3. Low-level Students' Correlation Between VLT, GJT, and RC Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>VLT</th>
<th>GJT</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLT</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>GJT</td>
<td>.519**</td>
<td>----</td>
</tr>
<tr>
<td>RC test</td>
<td>.605**</td>
<td>.228</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

### Table 4. High-level Students' Correlation Between VLT, GJT, and RC Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>VLT</th>
<th>GJT</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLT</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>GJT</td>
<td>.430**</td>
<td>----</td>
</tr>
<tr>
<td>RC test</td>
<td>.377**</td>
<td>.244</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

Besides, in Table 5, vocabulary and grammar together explained 37% of the reading score variance in the low-level group. In contrast, according to Table 6, in the high-level group, vocabulary and grammar together only explained 15% of the reading score. It showed both vocabulary and grammar still predict reading comprehension but it implied in both low- and high-level groups there are more significant correlations with vocabulary size compared to grammatical awareness. Hence, vocabulary knowledge could be more important than grammatical awareness for reading comprehension. (see below Tables 5 & 6, for details)
<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC test</td>
<td>B 1.538</td>
<td>SE 4.939</td>
<td></td>
<td>.311</td>
</tr>
<tr>
<td>VLT</td>
<td>.477</td>
<td>.145</td>
<td>3.302</td>
<td>.003</td>
</tr>
<tr>
<td>GJT</td>
<td>-.248</td>
<td>.424</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>= .366</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Model</th>
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<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC test</td>
<td>B 6.470</td>
<td>SE 4.317</td>
<td>1.499</td>
<td>.141</td>
</tr>
<tr>
<td>VLT</td>
<td>.224</td>
<td>.100</td>
<td>2.244</td>
<td>.030</td>
</tr>
<tr>
<td>GJT</td>
<td>.215</td>
<td>.320</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>= .150</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC test</td>
<td>B 0.047</td>
<td>SE 5.012</td>
<td></td>
<td>.009</td>
</tr>
<tr>
<td>2000 level</td>
<td>.628</td>
<td>.525</td>
<td>1.197</td>
<td>.245</td>
</tr>
<tr>
<td>3000 level</td>
<td>-.269</td>
<td>.386</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5000 level</td>
<td>1.329</td>
<td>.383</td>
<td>3.467</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>= .536</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC test</td>
<td>B 12.047</td>
<td>SE 4.520</td>
<td>2.665</td>
<td>.011</td>
</tr>
<tr>
<td>2000 level</td>
<td>-.192</td>
<td>.341</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3000 level</td>
<td>.610</td>
<td>.245</td>
<td>2.493</td>
<td>.016</td>
</tr>
<tr>
<td>5000 level</td>
<td>.078</td>
<td>.277</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>= .194</td>
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</tr>
</tbody>
</table>
3. Predictive Power of Vocabulary for Reading Comprehension

To investigate the predictive power of vocabulary size for reading comprehension of the students, regression analyses was conducted. The results showed that for the low-level group vocabulary knowledge was statistically significant ($p = .002$, see Table 7), demonstrating that reading comprehension scores can be predicted by the 5000-level word families. On the other hand, for high-level students, reading comprehension scores can be predicted by the 3000 level word families ($p = .016$, see Table 8). This implies that more words the students know, the better the RC test score will be. Therefore, the findings display the importance of studying vocabulary in both low- and high-level students' group.

V. DISCUSSION

The aim of this study was to explore the relative significance of vocabulary and syntactic awareness in reading comprehension. The first research question was "Does L2 proficiency, measured by vocabulary size and syntactic awareness, predict Korean high school EFL students' reading comprehension in English?" The results showed that both vocabulary and syntactic awareness were positively correlated to reading comprehension. However, according to the multiple regression analysis, vocabulary was a better predictor of L2 reading than grammar test scores. Similarly, both low-level and high-level student groups' reading comprehension scores could be predicted by vocabulary knowledge. The findings are consistent with other correlation-based studies (Baleghizadeh & Golbin, 2010; Laufer, 1992). The results from this study indicated that the regression weight of vocabulary was larger than that of syntactic awareness. The second research question was "what component is most significantly correlated with Korean EFL high school students' reading comprehension in English?" In other words, vocabulary size and reading comprehension have a critical correlation compared to syntactic awareness in this study. The last question was "what word families predict Korean EFL learners' English reading comprehension for low and high-level high school students respectively?" The result showed
that there was a significant correlation between reading comprehension scores and the 3000-word level in the high-level student group. According to Laufer (1992), readers should have a good knowledge of at least the 3,000-word level in order to read a book. Therefore, the result expressed similar to Laufer's (1992) study. In contrast, for the low-level group, the 5000-word level was correlated to reading comprehension scores. Although both the low- and high-level students took the Vocabulary Level Test over two days, the low-level students appeared to be more focused on the test during the second day. This is possibly because on the first day they did not have any experience with tests like the VLT, so they lacked interest in the test. In contrast, on the second day, the students appeared to gain confidence in their abilities to complete the VLT as they had already gained practice taking the test. This implies that in a further study, the VLT test should be taken by students who fully understand how they take the test so that both groups of students could put their effort into taking the test.

VI. CONCLUSION

In this present study, the relationships between vocabulary, grammar, and reading comprehension were examined for 74 Korean EFL high school students. Results were analysed for the students as a whole, and for differences between high and low English proficiency levels. According to the results, there was a significant correlation between vocabulary size and reading comprehension for both groups. In contrast, the results showed a minor correlation between both the low- and high-level group's syntactic awareness and reading comprehension scores. One possible cause of the minor correlation between syntactic awareness and reading comprehension in both groups of students is that there was no measure for grammar knowledge because syntactic awareness usually assesses grammar structure (e.g., word-order and correction), so there is a need for further research to determine if the inclusion of a grammar knowledge test would predict the results. Therefore, it can be concluded that although syntactic awareness has a minor correlation with reading comprehension, it seems that it does still predict L2 reading comprehension. In addition to syntactic awareness,
vocabulary knowledge significantly predicts L2 reading comprehension, so it suggested that increasing student’s vocabulary may lead to better understanding of an English reading comprehension. Besides, this study explored the relationship between word level families and reading comprehension ability. It showed each group relied upon different word levels for reading comprehension. For the low-level group, the 5,000-word level predicts their reading comprehension. In the case of the high-level group, the 3000-word level was critical for reading comprehension. The study also demonstrates that vocabulary has great significance both high- and low-level groups; however, there is also a need for further research on why lower level students were so dependent on 5,000-word level families to help in reading comprehension.

The findings of this present research certainly have implications for L2 reading theories and pedagogies. First of all, the role of vocabulary has a significant correlation in both low- and high-level students, but it had a higher correlation for the high-level group than for the low-level group. Hence, the more words learners know, the better learners understand an L2 reading text. (Meara, 1996). However, a relationship between syntactic awareness and reading comprehension showed minor correlation both low- and high-level groups. The test used to evaluate grammar awareness such as involved word-order and grammar correction. Therefore, further research should have both a syntactic awareness test and a grammar knowledge test to see grammar knowledge still predicts L2 reading comprehension.

Second, from a pedagogical point of view, although the present study only shows a correlation between vocabulary knowledge and reading comprehension, it does not show that reading comprehension leads to greater vocabulary knowledge or grammar knowledge. Nevertheless, it is possible that extensive reading could lead to learn both vocabulary and grammar through the book and they also could choose the book they like so it makes them motivated to read e-books in English. According to Ahn’s (2010) study, "In learning motivation, the higher integrative and instrumental motivation were, the higher reading proficiency was" (p. 59). Therefore reading extensive books with motivation in a classroom or at home could develop both of them (Alshamrani, 2003).
The present study had several limitations. First, due to the time restriction, the participants could not take three complete tests, so the number of questions had to be reduced from the original test. Moreover, although there was explanation for learners before the test, the test procedure was unclear for some students. Further research should ensure that all participants fully understand the test procedure. Lastly, this study used only syntactic awareness test for grammar so it proposed that having both a syntactic awareness test and a grammar knowledge test could clarify the correlation between grammar and reading comprehension.

REFERENCES


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APPENDIX

1. Sample items for Vocabulary Level Test (VLT)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>clerk</td>
<td>frame</td>
<td>noise</td>
</tr>
<tr>
<td>respect</td>
<td>theater</td>
<td>wine</td>
</tr>
</tbody>
</table>

(1) _________ a drink  
(2) _________ office worker  
(3) _________ unwanted sound

2. Sample items for Grammaticality Judgement Test (GJT)

Q. Read the sentence below and choose either correct or incorrect.  
1. Mrs. Johnson went to the library yesterday. (correct / incorrect)  
2. The girl the movie likes. (correct / incorrect)  
3. The beauty is something that lasts forever. (correct / incorrect)

Examples in: English  
Applicable Languages: English  
Applicable Levels: Secondary  
Keywords: vocabulary size, syntactic awareness, grammar, L2 reading comprehension, VLT, GJT, Korean, 독해, 문법, 어휘, 고등학생

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