

EXAMINING THE RELATIONSHIP BETWEEN RECEPTIVE VOCABULARY SIZE AND WRITTEN SKILLS OF PRIMARY SCHOOL LEARNERS

M^a Pilar Agustín Llach
Universidad de La Rioja
maria-del-pilar.agustin@unirioja.es

Melania Terrazas Gallego
Universidad de La Rioja
melania.terrazas@unirioja.es

Receptive vocabulary size is an important component of lexical competence and has been observed to be instrumental for both reading and writing. The central purpose of this paper is two-fold: first, to assess the receptive vocabulary of 274 primary school Spanish learners of EFL after a total of 629 hours of instruction; second, to determine the extent to which measures of receptive vocabulary size are related to the quality of written compositions and reading comprehension skills. The study was carried out by administering two vocabulary size tests (1kWT and 2k VLT), a timed composition and a Reading Comprehension Test. The findings from this study prove that the receptive vocabulary size of Spanish primary school EFL learners is satisfactory. The correlation between receptive vocabulary size and essay quality is not very high, yet it is significant. Finally, results reflect the importance of receptive vocabulary size in reading comprehension.

Keywords: vocabulary size; VLT; quality; written skills; EFL; primary school

EXAMEN DE LA RELACIÓN ENTRE EL CONOCIMIENTO DE VOCABULARIO RECEPTIVO Y LAS DESTREZAS ESCRITAS DE LOS ALUMNOS DE PRIMARIA

El tamaño de vocabulario receptivo es un componente importante de la competencia léxica que resulta ser instrumental en la lectura y la escritura. El propósito central de este trabajo tiene dos vertientes. Primero queremos examinar el tamaño de vocabulario de 274 alumnos de primaria que aprenden inglés como lengua extranjera después de 629 horas de instrucción formal. En segundo lugar queremos determinar la naturaleza de la relación entre el tamaño de vocabulario receptivo y la destreza de comprensión lectora y la calidad de la escritura. Para ello administramos dos pruebas de tamaño de vocabulario receptivo, una composición y un ejercicio de comprensión lectora. Los resultados demuestran que el tamaño de vocabulario receptivo de los participantes es satisfactorio. La correlación entre tamaño de vocabulario receptivo y calidad de la escritura no es muy alta, pero significativa. Nuestros resultados reflejan la importancia del tamaño de vocabulario receptivo en la comprensión lectora.

Palabras clave: vocabulario; VLT; calidad; redacción; Inglés como Lengua Extranjera; escuela primaria

1. Introduction

Studies devoted to lexis in second or foreign language acquisition have pointed out the importance of determining the receptive and productive vocabulary size of L2 learners in primary, secondary and university contexts. Vocabulary size refers to the number of words a learner knows and uses. This is a decisive parameter for evaluation, classroom intervention and instructor development as well as having tremendous implications for researchers, textbooks designers and language teachers. Furthermore, previous research has demonstrated a close relationship between vocabulary size and reading comprehension, and a clear interconnection between lexical quality and writing quality. However, this increasing attention to vocabulary size and its crucial relevance for both reading and writing in secondary and university education contrasts with the very few studies carried out with L2 learners of EFL in primary education. The present paper attempts to fill this gap by (a) surveying the receptive vocabulary size of EFL learners at the end of primary education in Spain, (b) analysing the relationship between receptive vocabulary size and written production of these learners, and (c) determining the relationship between receptive vocabulary size and the reading comprehension of these learners.¹

2. Review of the literature

Previous studies have proved that knowing a large number of words in a language, regardless of depth of knowledge, is an extremely important factor in L2 learning (Nation 1990; Meara 1996; Laufer 1989, 1998; Read 1988). However, when L2 teachers intend to assess the number of words students know at different stages of their learning process in order to monitor progress, various conceptual and methodological problems arise. As researchers (Bauer and Nation 1993; Nation 1990; Meara 1996) have suggested, it is very difficult to define what knowing a word entails. Nation (1990: 31), for example, suggests an eight-item list of the different kinds of word knowledge that someone must master in order to know a word: namely the frequency of the word, the written form of the word, the spoken form of the word, the collocations of the word, etc. For her part, Laufer (2005) also comments on a number of aspects learners need to bear in mind when stating that they have mastery of a word: form, word structure, grammatical features, verb patterns, different meaning types, etc. The various facets of knowing a word call attention to the impracticality of testing students on all aspects of word knowledge. As Read (1988) suggests, it is important to realize what areas of lexical competence we, as researchers and language teachers, want to test.

A number of tests are frequently used to measure knowledge of specific words. First, there are receptive vocabulary size tests like the *Vocabulary Levels Test* (Nation 1983,

¹ This study was carried out under the auspices of a research project funded by the Spanish 'Ministerio de Ciencia y Tecnología' and FEDER, Grant nº HUM2006-09775-Co2-02/FILO. The preliminary version of this investigation was presented at the *Tenth Biennial University of Seville Conference on Applied Linguistics (ELIA)*, 15 March 2007.

1990), *The Yes/No Vocabulary Test* (Meara and Buxton 1987; Meara and Jones 1990), *The Revised Edition of the Vocabulary Level Test* (Schmitt, Schmitt and Clapham 2001) and *ADELEX Levels Vocabulary Test (ALVT)* (López Mezquita 2003, 2005) that are valid. Second, research has also designed productive vocabulary size tests like *The Productive Vocabulary Levels Test* (Laufer and Nation 1999), the *LFP-Lexical Frequency Profile* (Laufer and Nation 1995, 1999) and *Lex30* (Meara and Fitzpatrick 2000) which have also proved to be extremely reliable for assessing students' use of vocabulary. Critics agree on the usefulness of all these vocabulary size tests for placement and research aims, yet they also acknowledge their limitations; they test only one aspect of knowledge, that is, size. The present study describes the validity of one of these tests, that is, the receptive version of the Vocabulary Levels Test to profile the size of young Spanish learners of EFL at the end of their primary education.

The VLT measures learners' vocabulary size at five levels of frequency: 2000, 3000, 5000, the University Word List, and 10000 words. Students are asked to match three definitions to six words of similar meaning in ten blocks of six. The basis of this test is that the first 1000 most frequent words in a language, selected from graded frequency lists from Thorndike and Lorge (1944), Kucera and Francis (1967) and West (1953) will be the first to be learned, then the second 1000 most frequent words, and so on up to 10000 words. If students know some uncommon words, this means that they master the most frequent words first but not the other way round. In this study, we administered the VLT because it has frequent use and reference in the literature and therefore comparisons with data from other researchers and studies will be straightforward. In fact, as Jiménez and Terrazas (in press) explain:

The VLT has been used for different purposes in a number of studies (Laufer 1997, 1998; Schmitt and Meara 1997; Cobb 1999, 2001). Research has also been devoted to the validation of this test (Read, 1988), the assessment of its adequacy for secondary school learners of English as an additional language (Cameron 2002), and the elaboration of new test versions (Schmitt 1993; Schmitt, Schmitt and Clapham 2001).

Many studies have been devoted either to measuring the vocabulary size of L2 learners through use of the VLT or to qualifying the VLT's appropriateness for all types of learners. Most studies using the VLT have analysed the vocabulary size of secondary school students (Quinn 1968; Nurweni and Read 1999; Cobb and Horst 1999; Pérez 2005) and university students (Takala 1985; Cameron 2002; and López Mezquita 2005), yet only very recently have scholars estimated the vocabulary size of primary school learners and checked its reliability. After reviewing all this literature, Jiménez and Terrazas (in press) conclude:

Surprisingly, the results obtained coincide in showing a rather low vocabulary knowledge on the part of the English learners investigated. Results speak of 1,000 words (Quinn 1968), about 1,200 words (Nurweni and Read 1999), 1,500 words (Takala 1985), the 2,000 most basic word families of English (Cobb and Horst 1999), and gaps and problems in the comprehension of the most frequent words in English (Cameron 2002). Within the context of Spanish secondary education, López-Mezquita (2005) reports an average of 941 words in 4^o ESO (4th form), 1,582 words in 1^o *Bachillerato* (5th form), and 1,855 in 2^o *Bachillerato* (6th form). She also reports 3,174 words for first year university students of English Philology and English Translation studies. The figures reported in vocabulary size

studies are low if we bear in mind that they have been produced after six or seven years of extensive study of English in high-school, and even, as in the case of Cameron's study, after 10 years of education through English.

Jimenez and Terrazas' research reports a receptive profile of 737 words after a total of 419 hours of instruction from a highly homogeneous sample of 270 10-year-old Spanish EFL learners in their 4th year. In doing so, Jiménez and Terrazas (in press) prove that the VLT is a quick, practical and reliable way of profiling the receptive vocabulary size of young learners, corroborating Cameron's (2002: 167) findings that the Levels test may be widely applicable for use with school-age subjects at young ages, or to show development over time in this way. The present study attempts to complete their results by estimating the receptive vocabulary size of the same sample assessed by Jiménez and Terrazas (in press) at the end of the examinees' primary education, and to further this investigation by analysing the vocabulary size of these students in correlation with their written skills.² In the remainder of the section we will review the studies that have analysed such correlations; we will then deal with their characteristics and main results.

Vocabulary size has been found to play an important role in writing. In this sense, vocabulary has been proved to be an important predictor of essay quality in the foreign language. Different measures of lexical richness contribute to enhancing the quality of the writing. High positive correlations are reported between essay score and essay length, i.e. total number of words (Jarvis *et al.* 2003), lexical diversity, i.e. ratio of different words over total number of words (Engber 1995; Mutta 1999; Grant and Ginther 2000, Jarvis *et al.* 2003; Lee 2003; Cumming *et al.* 2005; de Haan and van Esch 2005), lexical sophistication, i.e. use of low frequency words (Laufer and Nation 1995; Mutta 1999; Lee 2003); lexical originality, i.e. number of words not present in other peers' essays (Mutta 1999), lexical variation including and excluding errors (Engber 1995), lexical density, ratio of lexical words over total number of words (Mutta 1999), and general vocabulary size (Saville-Troike 1984; Laufer 1997).

In sum, lexical richness is often taken to be a reliable measure to assess the quality of a written text, because lexical knowledge is presumably the strongest predictor of writing quality (Santos 1988; Bacha 2001; Weigle 2002: 69). The richer and more varied the vocabulary used in composition, the higher the quality of the writing.

Furthermore, learners have repeatedly mentioned the relevance of vocabulary in writing so as to rank it as the most important factor in academic writing (Leki and Carson 1994), to consider it as a crucial aspect in writing (Polio and Glew 1996), and to acknowledge the difficulties students have when writing about a topic for which they lack sufficient vocabulary (Tercanlioglu 2004).

Many studies have concentrated on examining the number of words necessary for the comprehension of written texts because vocabulary knowledge is instrumental to reading comprehension, and the higher the vocabulary size of the learner, the better will be his/her reading comprehension skills (Hirsh and Nation 1992; Laufer 1989, 1992,

² For further reference on Spanish primary school EFL learners' productive vocabulary size profiles, see Jiménez and Moreno (2005); Jiménez and Moreno (2007); Jiménez and Moreno (in press); Jiménez and Ojeda (2008).

1996, 1997; Coady 1997; Grabe and Stoller 1997; Qian 1999, 2002; Qian and Schedl 2004). Thus Laufer (1997) believes that a threshold vocabulary of 3000 word families, i.e. 5000 words, is necessary for general text comprehension. Learners with vocabularies below that size will have great problems in understanding written texts, since reading comprehension will be hampered by lack of word knowledge. Even highly skilled L1 readers cannot achieve the threshold of 70% reading comprehension if they do not have a solid lexical foundation and master a minimum of 5000 words (Laufer 1997).

Several studies have found important correlations between vocabulary size and reading comprehension. Laufer (1992) measured the receptive vocabulary size of Hebrew and Arabic students using the VLT, and correlated this measure with reading comprehension, obtaining a significant correlation coefficient of $r = 0.5$ ($p < 0.0001$). In 1996, she repeated the experiment with respect to the relationship between receptive vocabulary size as measured by the VLT and reading comprehension of Israeli students. The correlation coefficient was still significant and somewhat higher ($r = 0.71$, $p < 0.0001$). Qian (2002) was also interested in examining the way in which the vocabulary size (VLT) and reading comprehension of his Korean and Chinese students related to each other. He obtained high correlations between these two measures ($r = 0.78$, $p < 0.05$). Cameron (2002: 151) reported that vocabulary test results have long been found to correlate with reading comprehension test results.

These studies point to vocabulary as a facilitating factor in reading comprehension. According to Laufer “it has been consistently demonstrated that reading comprehension is strongly related to vocabulary knowledge, more strongly than to the other components of reading” (1996: 55).

With these considerations in mind, in the present study we profile the vocabulary size of Spanish learners at the end of primary education and explore how their word knowledge relates to their written skills (reading and writing). Here we try to answer the following research questions.

3. Research questions

- a. How many words do EFL 6th graders in Spain know as measured by the 1000 Word Test and the 2000 frequency band of the VLT?³
- b. Is there any correlation between EFL receptive vocabulary size and the writing production of these learners?
- c. Are receptive vocabulary size and reading comprehension scores correlated?

³ See section 4.2.

4. Methodology

4.1. Participants

A total of 274 learners of EFL participated in the study. They were attending 6th grade of primary school. The learners attended 11 intact classes of four primary schools in Logroño. They averaged 12.39 years and were all learners of English as a Foreign Language whose mother tongue was Spanish. The sample was homogeneous concerning students' L1, social profile and type of instruction. They were middle-class, the type of teaching method used was communicative and most of the input they received came from formal instruction. By the time of data collection, the students had taken 629 hours of English courses.

4.2. Data gathering instruments

Students' vocabulary size and written skills were assessed by administering four language tests: the 1000 Word Test, the 2000 frequency-band of the VLT, a timed written Composition task and a Reading Comprehension Test. All these tests were selected bearing in mind the age and language level of the participants. In fact, all these tests have been proved to be within the grasp of young learners such as those found in primary and early secondary education. Furthermore, the four tests were pre-tested in a pilot study with learners of the same characteristics and they all turned out to be appropriate for their language competence.

To assess the receptive vocabulary size of our subjects we used the 1000 word test and the 2000 frequency-band of the VLT.⁴ These two tests consist of matching three definitions to six words of similar meaning in ten blocks of six. In the first test, participants had to match a target word with the corresponding Spanish translation. In the second test, the same format applied, but learners had to match the target word with its English definition. Students were given ten minutes to complete each receptive vocabulary level test. The maximum score candidates could achieve in each test was 30 points.

Students were given thirty minutes to complete an English composition task consisting of writing a letter to a prospective English host family in which they had to introduce themselves and talk about their family, home town, school, hobbies and main interests. They were free to write whatever they felt like, but it necessarily had to be related to the topic of the composition. We used this timed written composition for the study as an elicitation procedure to obtain real language from the subjects.

⁴ Paul Nation himself sent us the 1000 Word Test and various versions of the Vocabulary Levels Test and asked us to translate the target words into Spanish under his supervision. The 1000 Word Test is not a standardised test, yet Nation chose the 30 prompts that comprise it from the 1000 most frequent words list. The resulting 1000 Word Test is known to have been used in several studies since then. We are grateful to Prof. Nation for his time and generosity.

Finally, a reading comprehension test taken from the *Key English Test 1*, Cambridge UP 2003, was also used in this research in order to profile the proficiency level of our primary school EFL learners. They had ten minutes to read a text and answer seven reading comprehension questions of the multiple choice format with three options, but only one correct answer.

4.3. Procedures and analysis

Learners performed all four tests during class time three months before the end of their 6th year. Students were aware of the fact that these tests were not course exams. Before beginning each task, instructors gave students clear guidelines in Spanish orally and in written form, making sure that students understood what they were being asked to do. Data were collected through paper-and-pencil.

The 1000 Word Test, the 2000 frequency-band of the Vocabulary Level Test and the timed written Composition task were done in the same sitting, whereas the Reading Comprehension Test was taken one week later. All tests were marked by hand by all members of our research team. In the case of the written compositions, they also were entered on a computer, and then corrected by two different examiners using The ESL Composition Profile designed by Jacobs *et al.* (1981). The *Profile* consists of five rating scales, which distinguish four levels of mastery: *excellent to very good, good to average, fair to poor, and very poor* for five scales: *content, organization, vocabulary, language use and mechanics*. The maximum score students may achieve is 100 and the minimum 34. Each of the scales is made up of a series of descriptors that focus on different linguistic and compositional aspects for their assessment, e.g. knowledge of subject topic, fluent expression, sophisticated range of vocabulary, use of effective complex constructions and mastery of punctuation conventions (Jacobs *et al.* 1981; Read 2000: 216-17). Content accounts for 30%, organization and vocabulary for 20% each, language use for 25 % and mechanics for 5%.

Following Jacobs *et al.* (1981), compositions were read twice. In the first reading we tried to judge holistically whether the student's composition transmitted the message. In the second, analytic evaluation according to the descriptors took place. Each scale obtained a single score, all five scores were then added to give the final total score. This final score was used in the correlation analyses. Two members of our research team rated the compositions in order to guarantee the internal validity of the measure. When there was a disagreement of more than 10 points, a third rating was implemented, in which case the score of the controversial composition was decided based on the majority opinion.

Descriptive and inferential statistical analyses were carried out with our data. In particular, we performed a non-parametric test of means comparison (Wilcoxon signed ranks test) and non-parametric correlation analyses (Spearman-rho). We used the SPSS program version 14.0 to carry out statistical analyses.

5. Results

The present section examines the data obtained. Thus table 1 concentrates on students' overall test performance by looking at such measurements as the mean, the minimum and maximum scores, variance and standard deviation (S.D). Figure 1 shows mean scores for all three tests.

	1000 words	2000 words	Profile
N	274	274	274
Range	23	28	73.50
Min.	7	0	18.00
Max.	30	28	91.50
Mean	21.38	9.28	66.29
SD	3.52	4.90	9.66

Table 1. Descriptive statistics for the 1000 and 2000 word levels and the Composition Profile

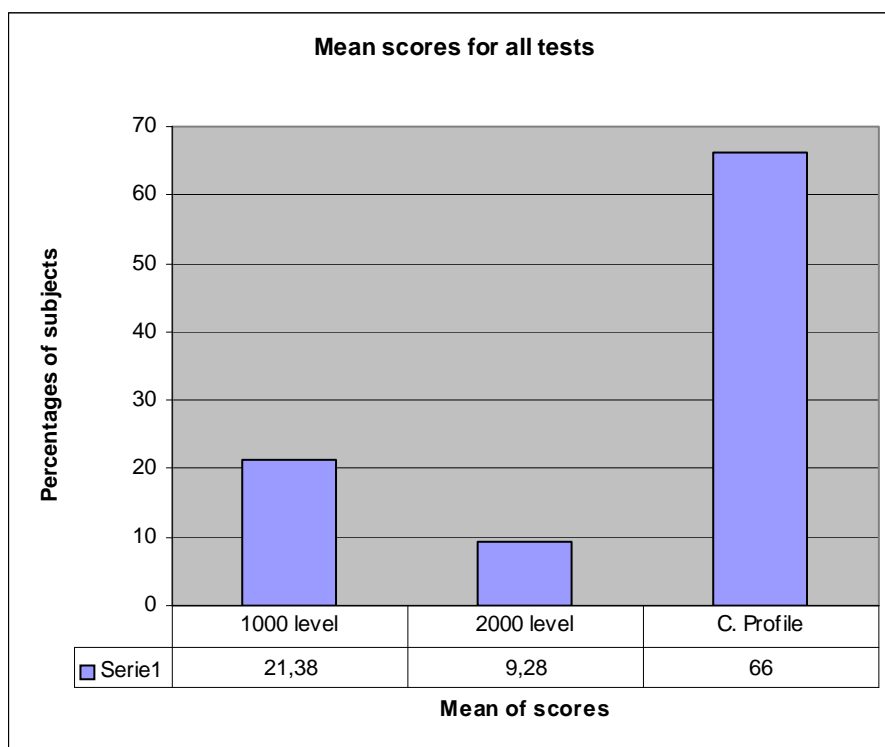


Figure 1. Mean scores for all three tests

As can be seen, for the 1000 word test we obtained lower range limits than for 2000 frequency band of the VLT. Maximum and minimum scores were higher for the 1000 frequency band of the VLT. Likewise, mean scores were higher for the 1000 word test than for the 2000 frequency band of the VLT. Concerning the Composition Profile, we

observed that learners scored a minimum of 18 points and a maximum of 91.50 points with a range of 73.50 and a mean of 66.29. As the words containing the first two tests are taken from the most frequent counts, results show that our students performed relatively high for the 1000 word test and slightly lower for the 2000 frequency band of the VLT.

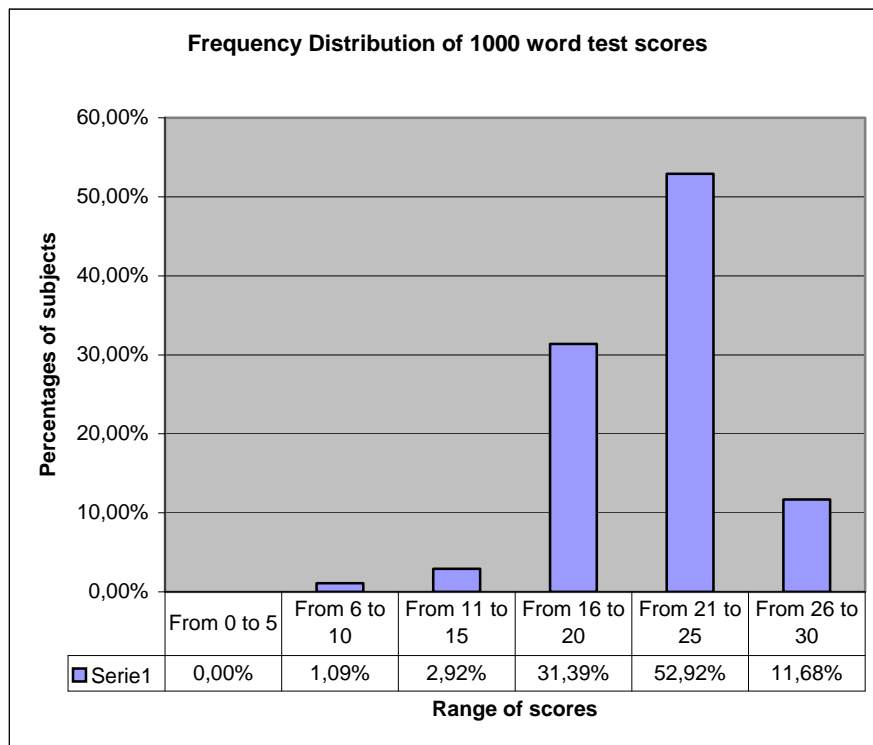


Figure 2. Frequency distribution of 1000 word test scores (n= 274)

Figures 2 and 3 show the rankings of percentages obtained by students in the 1000 word level test and the 2000 frequency-band of the Vocabulary Level Test. Students' profile indicates that the overall receptive vocabulary of 6th primary school students is higher than 1000 words. Regarding the 1000 most frequent words, the results show that about half the students (52.92%) scored between 21 and 25 points (out of 30), 2.92% of the students scored between 11 and 15, 11.68% of the students scored between 26 and 30, 1.09% of the students scored between 6 and 10 points, and no student got the lowest scores (0 to 5).

With regard to the 2000 most frequent words, the 6th Primary students' mean is 9.28. As can be observed in Figure 3, 21.90% of the students scored between 0 and 5 points, 38.32 % between 6 and 10, 29.93% between 11 and 15, and 7.66% between 16 and 20 points, 1.82% of the students scored between 21 and 25, and only 0.36% of the students achieved the highest scores (from 26 to 30). The low scores achieved indicate that 6th primary students know few English words from the 2000 frequency band.

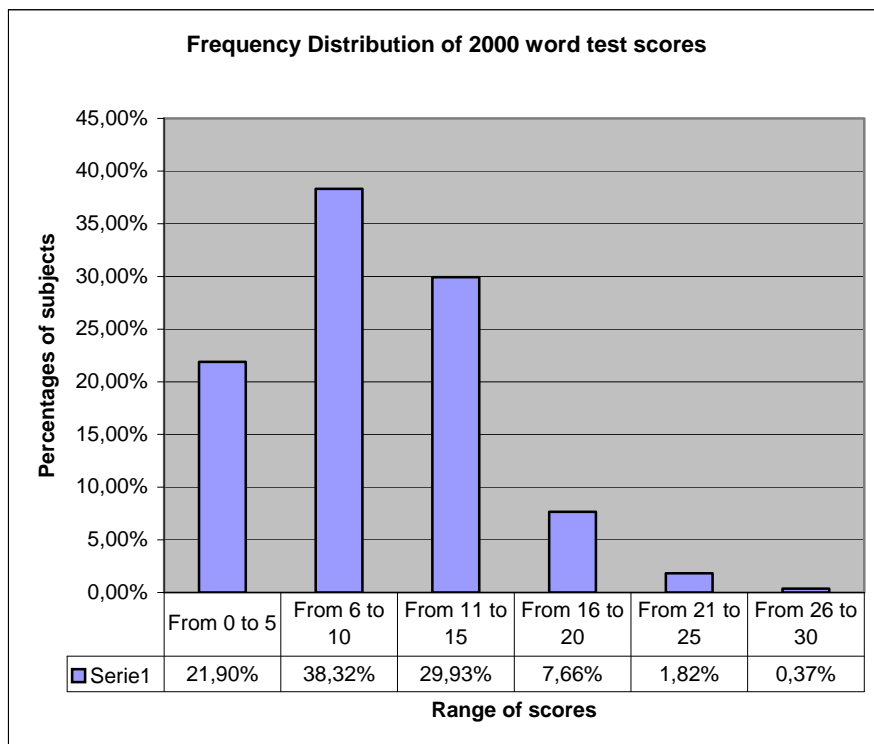


Figure 3. Frequency distribution of 2000 word test scores (n= 274)

A decrease is shown in the mean scores achieved by students in both levels. The mean of 21.38 points obtained in the 1000 frequency level drops to 9.28 at the 2000 level. Since the data were not normally distributed, we decided to perform a non-parametric test of means comparison (Wilcoxon signed ranks test). The results of the Wilcoxon signed ranks test applied to the means of each frequency level gave us the following values: $Z = -14.360$. This value is significant at the $p < .000$ level. It can be concluded that 6th Primary school students know considerably fewer words from the 2000 than from the 1000 frequency level.

The results confirmed that the average receptive vocabulary size of EFL learners at the end of primary education in Spain amounts to 1106 words.⁵ In other words, students know 713 words from the 1000 Word Test and 393 words from the 2000 frequency-band of the Vocabulary Level Test. These data imply that students know English words from the 2000 frequency-band of the Vocabulary Level Test.

Table 2 shows the correlation between EFL receptive vocabulary size of these learners and their writing production and their reading comprehension skills.

⁵ In order to calculate the pupils' receptive vocabulary size we applied Nation's formula (1990: 76), which reads as follows: Vocabulary size = N correct answers multiplied by total N words in dictionary (the relevant word list) divided by N items in test.

	Profile	Reading
1000 word level test	0.542**	0.155*
2000 frequency-band of the VLT	0.503**	0.156*

** Significant at 0.01.

* Significant at 0.05.

Table 2. Correlation coefficients for receptive vocabulary size (1K, 2K) and written skills

After calculating the correlation between the receptive vocabulary size and written production of these learners with a Spearman test applied to the means of each score, results reveal a significant correlation $r = .542$ for the 1000 Word Test and $r = .503$ for the 2000 VLT. These values are significant at $p < .01$ level.

The squared r 's reveal that the knowledge of the first 1000 words in English accounts for 29% of the variance of the total score of essay quality, and of the first 2000 words for 25%. This means that apart from receptive knowledge of the two thousand most frequent words in English, other factors are contributing to assessing essay quality (see Table 3).

The final correlation between receptive vocabulary size and the reading comprehension of these learners was also calculated with a Spearman test applied to the means of each score. The results show a significant positive correlation between the reading comprehension and the 1000 Word Test and the 2000 frequency level: $\rho = .155$, $\rho = .156$ at $p < .05$, respectively.

Knowledge of 713 words of the 1000 most frequent and 393 of second 1000 most frequent words accounts for only 2 per cent of reading comprehension (see Table 3).

	Profile	Reading
1000 word level test	0.29	0.25
2000 frequency-band of the VLT	0.02	0.02

Table 3. R squared of the correlation coefficients

6. Discussion

Our evaluation of the receptive vocabulary size of Spanish primary school EFL learners indicates that 6th graders know English words from the 2000 frequency-band of the Vocabulary Levels Test. In other words, learners demonstrated knowledge not only of words belonging to the first thousand most frequent in English, but also of some vocabulary words belonging to the level of the second most frequent. Knowledge of words from the second thousand most frequent was less than that of the first one thousand. A possible explanation pointed out by one of the anonymous reviewers refers to the difficulty in comparing scores of both tests, so the lower scores of the 2K test might simply reflect the greater demands made by the test task.

Compared with previous results, this is a satisfactory vocabulary size, especially, if one bears in mind that these students are still in primary education. Different studies which have examined the vocabulary sizes of learners with different language and

learning backgrounds found varied figures. For example, studies with university students from several countries found receptive vocabulary sizes ranging from 5500 words (Spain, Pérez Basanta 2005) through 4300-4500 (Chinese high intermediate, Cobb and Horst 1999), 2000-2300 (Japanese students after 800-1200 hours of instruction Barrow *et al.* 1999), 2000 (students from Oman after 1350 hours of instruction, Horst *et al.* 1988) to 1220 (Indonesian students after 900 hours of instruction, Nurweni and Read 1999). Studies conducted with high school learners showed similar results with averages from 7224 (Korean, Qian 2002) going through 6663 (Chinese learners, Qian 2002), 3500 (Israel after 1500 hours of instruction, Laufer 1998), 1680 (Greece, after 660 hours of instruction, Milton and Meara 1998), 1200 (German learners after 400 hours of instruction, Milton and Meara 1998) and 941 (Spanish learners in 4th ESO, i.e. 4th form, López Mezquita 2005) 1,582 (Spanish learners in 1st *Bachillerato*, i.e. 5th form, López Mezquita 2005) and 1,855 (Spanish learners in 2nd *Bachillerato*, i.e. 6th form, López Mezquita 2005) to 1000 (French students after 400 hours of instruction, Arnaud *et al.* 1985). To date, no studies that we know of provide figures for receptive vocabulary size of primary school learners (but cf. Jiménez and Terrazas *in press*).

The second research question sought to determine the relationship between receptive word knowledge and essay quality. Results revealed that receptive knowledge of words in the 1000 and 2000 frequency levels plays a role in assessing writing quality. In this sense, the more words a learner knows, the better the score his/her composition will receive. However, these correlations are not especially strong, which points to other factors influencing evaluation of writing quality such as errors/accuracy, fluency, syntactic structures, range of structures, mechanical aspects, content aspects, and so on. This result supports previous research which found that “the quality of a written text may depend less on the use of individual linguistic features than on how these features are used in tandem” (Jarvis *et al.* 2003: 399) (see also e.g. Grant and Ginther 2000; Morris and Cobb 2004).

Moreover, this result is in line with the type of writing assessment instrument used for the composition. The Profile measures writing ability from the scores obtained in a series of scales of which vocabulary is just one type. Other scales evaluate content, language use, mechanics and organization of the writing. Therefore, it is not surprising that vocabulary knowledge, although being a crucial factor in assessing writing, is not the only relevant aspect in establishing quality of composition.

Correlations are higher for the first 1000 words than for the second. These data may mean that learners use more of these words in their writing and that they are used more accurately. It seems plausible that apart from knowing more words from the 1000 most frequent, they also have a deeper knowledge of these words. In this sense, we may rather safely speculate that learners feel more comfortable with words belonging to the 1k level and use them more often in their essays. Hence the higher correlation coefficients.

Furthermore, and in relation to this, moderate correlations could also mean that in compositions learners use words from other frequency levels and, therefore, their receptive knowledge of those words is not reflected in the tests of vocabulary size. Thus the moderate correlations found here between receptive vocabulary knowledge and essay quality may be due to the fact that learners use other words in their compositions

apart from those of high frequency. We tentatively argue that it seems very reasonable and logical that our learners may be using low frequency words, in particular words from Latin origin. These are easier for our subjects and they are low frequency words in English. This interpretation finds support in Pérez Basanta (2005), who put forward that Spanish university learners were especially competent in recognising words from Latin origin.

Finally, we wanted to relate receptive word knowledge of the first 2000 most frequent words with reading comprehension. Results revealed a significant yet weak correlation between these two variables; this was surprising in light of previous research which found that vocabulary size was instrumental to reading, and strong correlations have been reported (see e.g. Laufer 1992, 1996; Grabe and Stoller 1997; Qian 2002).

Several explanations may account for these surprisingly low correlations. First, the reading comprehension test may have been very difficult for our learners containing very difficult words from other frequency levels, which prevented successful reading comprehension. The reading test was also performed last in sequence. Thus learners may have been tired, bored, or lacked motivation, and guessing may have taken place. Another reason for learners' low interest might have been that they knew that the reading test was not going to have any effect on their final scores. We may speculate that had the exercise been given the weight of an exam, pupils might have taken it more seriously and thus obtained better results. Moreover, to heavily reduce the chance of not answering or guessing wildly, students should have been told that blank and wrong answers would be penalized.

The second explanation is based on the low performance of subjects. Laufer (1996, 1997) contended that knowledge of 5000 words is the threshold level for successful reading; below this level reading is very much hampered by lack of vocabulary. More specifically, Laufer comments that "a rich vocabulary of 5000 words means a good reading result in L2 irrespective of L1 reading ability; at the 3000-4000 level, L2 reading may or may not be affected by L1 reading ability" (1996: 55). What is more, as she continues arguing "the knowledge of 3000 word families (5000 lexical items) is the lexical threshold of reading comprehension in L2".

Comparing these data to ours, we agree with Laufer "that until learners have reached this level, reading in L2 will be hampered by an insufficient knowledge of vocabulary" (1996: 55). Bearing in mind that our subjects are still within the 2000 frequency band, it seems reasonable to believe that their reading comprehension is unsatisfactory and is affected by lack of vocabulary knowledge.

Moreover, we may safely argue that low correlations between receptive word knowledge and reading comprehension in our data also point to other factors apart from word knowledge, which are influencing text understanding. Reading ability in the first language may be one of these factors. The young age of our subjects makes it reasonable to assume that they are not fully proficient in reading in their L1. Consequently, reading in the foreign language will be obstructed not only by lack of word knowledge, but also by lack of general reading skills.

Still another factor influencing reading in the foreign language and accounting for the low correlations found in the present study may be a limited depth of word knowledge, especially of the words for which a learner showed receptive knowledge.

Qian (1999: 299-300) believes that some aspects of depth of vocabulary knowledge such as collocations, core meaning and syntactical restrictions, may play a fundamental and substantial role in the relationship between vocabulary knowledge and reading comprehension. When knowledge of these aspects of words is deficient, reading comprehension will be hampered.

7. Conclusions

The purpose of the present investigation was to profile the receptive vocabulary size of Spanish EFL 6th graders and to explore its relationship with written skills. Although no known empirical study has dealt with these issues, we believe that an estimate of primary school students' receptive vocabulary size can provide a useful indication of their reading and writing ability.

The receptive version of the VLT has been shown to be a reliable and valid measure of vocabulary size for our young learners. The present paper has demonstrated that the Spanish EFL primary school students in our study know words from the 2000 frequency band of the receptive vocabulary size test. Moreover, our results have revealed that a positive significant correlation between receptive vocabulary size and essay quality, and a slightly lower, yet significant, correlation between receptive vocabulary size and reading comprehension. Several reasons have been suggested here to explain this low correlation, such as the late administration of the reading comprehension test or its multiple-choice answer format that allowed for guessing. Furthermore, one anonymous reviewer suggested that low correlations may be due to the fact that the reading test and the Composition Profile are not measuring these skills accurately.

In our view, these findings suggest that the testing of the receptive vocabulary size of EFL young learners using the 1000 word level test and the 2000 frequency band of the Vocabulary Levels Test is a fairly sensitive indicator of their language growth, which correlates relatively highly with their written skills. However, these results constitute only a small piece of a larger picture; further progress could be made if such vocabulary is assessed by using the aforementioned methods and if this is done in a consistent manner.

8. Pedagogical implications

The results of this study have wide pedagogical implications for the education of primary EFL students and the training of their teachers. As Laufer (1991, 1994) comments, it might be a good idea to teach vocabulary to these students in an explicit manner in the initial stages and beyond, since the effects of skilled intervention will be seen in vocabulary growth. Furthermore, as Coady *et al.* found "explicit learning of the 3000 most frequent words in English has a significant effect on reading comprehension because recognizing these words in a speedy and automatic manner provides more cognitive processing time" (1993, cited in Coady 1997: 283). Otherwise, learners might face the task of having to read in order to acquire the most basic words. However, for

effective acquisition to take place comprehension has to happen and this is only possible if learners master a threshold vocabulary of 5000 words. This is generally known as *the beginner's paradox* (e.g. Coady 1997: 284).

We may also try to practice and test vocabulary consistently and systematically, and insist on and reward lexical richness. Another valuable approach has been suggested by Cameron to "make sure through examples that students know how to choose answers and encourage them to work through to the end of the test without losing motivation" (2002: 167). Furthermore, if students learn a lot of receptive vocabulary, their productive vocabulary knowledge will no doubt increase. Thus we agree with Laufer and Paribakht (1998) that the more students practice non-frequent words, the more often their receptive vocabulary knowledge will be activated. A final implication for educators is suggested by Fan (2000: 118-19): instructors can also narrow the gap between their students' productive and receptive vocabulary knowledge by asking them to look up words in the dictionary, guess the meanings of words from context, play word games and make a repetitive use of words by writing sentences, saying words, writing them down, matching synonyms and so on. Therefore, we believe that this varied assessment might emerge as a crucial factor that could influence learners' performance.

9. Further research

We have not found any research that deals with the receptive vocabulary of a large sample of EFL young learners and the relationship between this variable and its influence on the quality of written compositions and reading comprehension skills. Consequently, the results of our study call for future research on: 1) Surveying the relationship between receptive vocabulary, written skills and individual differences such as gender, age and so on. 2) Examining the relationship between productive vocabulary knowledge and the quality of written compositions. 3) Exploring the relationship between receptive vocabulary knowledge and reading comprehension at higher proficiency levels and vocabulary size. 4) Analyzing the relationship between reading comprehension in the early foreign language learning of young students and their L1 reading skills. 5) Observing if writing quality improves with an increase in productive and receptive vocabulary size after systematic practice of words in the 2000 frequency band. 6) Comparing the receptive vocabulary score against the vocabulary component of the profile.⁶

⁶ We express our debt to Rosa M^a Jiménez Catalán for her cogent suggestions for the improvement of our study. We also thank the members of our research team for their help in the scoring of the tests. We also acknowledge the helpful suggestions of the editor and the anonymous reviewers who contributed to the improvement of this paper. Finally, we are grateful to Scott McDonald for checking the text. Any remaining errors are all ours.

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Received 3 January 2008

Revised version accepted 4 September 2008

María Pilar Agustín Llach (PhD in Applied Linguistics, La Rioja) is an assistant teacher at the Universidad de La Rioja. Her main research interests are second and foreign language acquisition, particularly vocabulary acquisition in a foreign language and the factors that influence this process. She has published in RESLA and Studia Linguistica.

Address: Universidad de La Rioja, Facultad de Letras y de la Educación, C/ San José de Calasanz s/n, 26004 Logroño (La Rioja), Spain. Tel. office: +34 941299435, Fax: +34: 941 299419.

Melania Terrazas Gallego (PhD La Rioja) is lecturer at the U. of La Rioja. Her research interests cover Language Learning and Acquisition (vocabulary knowledge, size, gender), ESP; Early and Late Modernism, Satire in Contemporary American and English Literature, Comparative Literature, Cultural Studies, Gender Studies and Irish Literature. Her recent publications include Melania Terrazas Gallego. 2007. 'Intricate Models of Conflict in Wyndham Lewis's fiction' in Cunchillos Jaime, Carmelo (ed.) *Wyndham Lewis the Radical: Essays on Literature and Modernity*. Bern: Peter Lang. (109-136); Jiménez Catalán, Rosa M^a & Melania Terrazas Gallego (in press) 'The Receptive Vocabulary of EFL Young Learners: data from Spanish Primary Schools' *Journal of English Studies* 5, volume dedicated to Carmelo Cunchillos Jaime. Logroño: Servicio de publicaciones de la Universidad de La Rioja.

Address: as above. Tel.office +34 941299420, Fax +34 941 299419.