

English Vocabulary Size of Indonesian High School Graduates: Curriculum Expectation and Reality

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Abstract:

Vocabulary is most important in learning a language, and thus it should be taught before teaching other language skills. Teachers need to plan which words to teach to make students learn vocabulary easier; however, Indonesian high school curriculum does not specify which vocabulary to teach. Therefore, this research was aimed at finding out the list of vocabulary required by the curriculum of junior and senior high schools in Indonesia and whether they have learned those words after graduating high school levels. Vocabulary used in texts in the national examinations is interpreted as the curriculum-expected vocabulary; therefore, the data for curriculum expectation were collected from previous national examinations. The vocabulary was classified based on most-frequently used vocabulary provided by Nation (2006) with 14,000 word-families categorized into 14 levels. Only the first 5 levels (1st - 5th 1,000) were used in this research. Later, 1,775 high school fresh graduates were tested with this vocabulary to predict the percentage of the vocabulary they have learned. The results showed that the expected vocabulary size of junior high school graduates was the 1st 2,000 words and the 1st 3,000 words for senior high school graduates. Compared to the graduate predicted vocabulary size, they only had 72% vocabulary in the 1st 1,000, 54% in the 2nd 1,000, 49% in the 3rd. These results suggest that the graduate vocabulary size has not satisfied the curriculum expectation; therefore, Indonesian high school students should be taught all words in the first 3,000 list to be able to comprehend texts in the national examination.

Keywords: *expected vocabulary, Indonesian high school curriculum, Indonesian high school students, vocabulary size, vocabulary test*

1. Introduction

There is a consensus that vocabulary is the first component to be introduced in language learning so that further teaching and learning processes become easier (Blasco, 2015, p. 70). Teaching vocabulary combines speaking, listening, reading and writing into what we call language proficiency (Nemati & Maleki, 2014, p. 1340; Vela & Rushidi, 2016, p. 202). Wang and Treffers-Daller (2017) studied several possible factors influencing listening difficulties and found that vocabulary ranks first. Classic language teaching methods such as the reading method place focus on vocabulary (American Classical League, 1933, p. 2), and this practice continues to present day.

The vocabulary size required for communication varies according to the level of intended communication. For survival as a tourist, only the 120 most frequently used words are required, including numbers and question words (Schmitt, 2000, p. 142). For more general communication purposes, Brezina and Gablasova (2015) suggest 2,500 words known as the New-General Service List, an updated version of General Service List proposed by West (1953). To be able to understand authentic spoken English, one needs the vocabulary size of 8,000 words (Nation & Beglar, 2007, p. 9). Most research studies on vocabulary size were correlated to reading comprehension (Nation, 2013; Nation & Mara, 2002; Nation & Waring, 1997; Pellicer-Sánchez, 2013; Primativo, Rinaldi, O'Brien, Paizi, Arduino, & Burani, 2013; Sen & Kuleli, 2015; Wasik, Hindman, & Snell, 2016). The success of learning a language, including the vocabulary of the language, is very frequently measured by the extent of reading comprehension.

EFL teachers have been working hard to improve students' vocabulary (Vela & Rushidi, 2016, p. 201). There have been many techniques experimented in teaching vocabulary (Dilek & Yürük, 2013; Gorjian, 2012; Nemati & Maleki, 2014; Tosun, 2015). Many also proposed teaching vocabulary by using context cues (Çiftçi & Üster, 2009; Demircioğlu, 2010; Harmer, 2007; Inal & Cakir, 2014). In addition, various media have also been suggested (Bal-Gezegin, 2014; Katwibun, 2014; Rusanganwa, 2013). Therefore, teachers have many alternative methods and techniques, as well as media, in increasing students' vocabulary size and enhancing their vocabulary knowledge.

In Indonesia, reading is the focus in English language teaching. The high school national examination for the subject of English includes only two skills, listening and reading, and reading constitutes 70% of the test. Therefore, vocabulary is even more essential for high school students in the Indonesian context. Regardless of its importance, the curriculum does not reveal what vocabulary should be taught to either junior high school nor senior high school students. Therefore, teaching vocabulary is based more on textbooks rather than institutional curriculum planning. Some are based on the reading provided by teachers, and others rely on teachers' judgment. Okamoto (2015, p. 2) states that vocabulary selection for teaching should actually be well considered and planned. However, no study has addressed the selection of vocabulary for either junior high school nor senior high school students in Indonesia. Consequently, vocabulary size expected by the curriculum and the extent to which students have learned that

vocabulary both remain unclear. Therefore, this research endeavor investigated the students' expected vocabulary size along with their vocabulary size after completing both high school levels.

2. Literature Review

Vocabulary is a list of words stored in lexicon of a speaker (Kamil & Hiebert, 2005, p. 3). Some words are acquired through accidental learning (Laufer, 2001) and the others are learned deliberately (Nation, 2013, p. 3). Both ways result in vocabulary which is memorized and can be used in productive skills such as speaking and writing. Such vocabulary is known as active or productive vocabulary, while the vocabulary which language users do not use in productive skills but can recognize when they hear or read is known as passive or receptive vocabulary (Abdullah, Puteh, Azizan, Hamdan, & Saude, 2013, p. 353; McCarthy, 1990, pp. 43–44). The best way to ensure that a certain language program can successfully reach the goal is by prescribing what vocabulary level students need to achieve at the end of the program through a controlled vocabulary focus.

2.1 Controlled Vocabulary

Initially, the term *controlled vocabulary* is used in the field of information and technology to refer to a technique of search indexing used for information retrieval in databases (Fidel, 1991; Muddamalle, 1998). However, in pedagogy, it has two possible definitions. In a language test, students are provided with a vocabulary test in which certain part or parts of the word has been provided (Laufer & Nation, 1999, p. 37). For example:

How do you def _ _ _ the term *controlled vocabulary* in pedagogy?

For the test in the above example, students would be offered some alternative words to fill in the blank such as *write, interpret, describe, define*, etc. However, only *define* is considered correct.

In language teaching, controlled vocabulary is the teaching of a certain vocabulary in order to achieve the goal of teaching and learning objectives (Pellicer-Sánchez, 2013, p. 5). A program might have an objective to improve students' vocabulary and to ensure that by the end of the program, students have obtained the first 3,000 most frequently used words. Therefore, the teaching and learning process should limit exposure to certain vocabulary (Schmitt, 2000, p. 15). This vocabulary teaching approach has been now implemented in semi-accidental vocabulary learning through graded reading materials (Nation, 2014, p. 11), such as *Oxford Bookworms*, *Penguin Readers*, *Leveled Readers*, etc. These books are stratified into several proficiency levels, which determine the number of headwords given.

2.2 Most Frequently-used Vocabulary

Most frequently used words are classified into 1,000 word-families for every level. Nation (2006, p. 62) developed 14 levels of most frequently used vocabulary from British National Corpus (BNC). The 1st and the 2nd 1,000 words are words used in everyday conversation, while the last

level, 14th, are rarely found even in authentic specialized texts. Table 1 shows how much coverage is offered by each level of vocabulary size.

Table 1: Average written coverage of vocabulary level (Nation, 2006, p. 79)

No	Levels	Coverage
1	1 st 1,000	78% - 81%
2	2 nd 1,000	8% - 9%
3	3 rd 1,000	3% - 5%
4	4 th - 5 th 1,000	3%
5	6 th - 9 th 1,000	2%
6	10 th - 14 th 1,000	<1%

The table above excludes proper nouns which are found between 2% and 3% in written texts (Nation, 2006, p. 79).

2.3 New General Service List

General Service List (GSL) contains vocabulary commonly used for all-purpose English usage. The list was created by West (1953) based on a written corpus of 5 million words. The result was a short list of 4,100 lemmas. Since it was published in 1953, it is now “somewhat outdated” (Lessard-Clouston, 2013, p. 288). The list does not yet include words which have become very common in today’s English such as *internet* or *email*. There are also some words in the list which do not maintain their common use today such as *gay* (to mean *happy*), *cart*, *shilling*, *servant*, *footman*, *milk-maid*, and *telegraph* (Brezina & Gablasova, 2015, p. 2). Therefore, Brezina and Gablasova (2015) developed a new list, i.e. New General Service List (New-GSL). It was developed by analyzing 4 corpora, totaling 12 billion words, more than twice as many as analyzed by West (1953). This resulted in the total number of 2,494 lemmas.

2.4 Academic Word List

It is not possible to assess the real vocabulary size of a person because of practical and temporal limitations. Consequently, Nation and Beglar (2007) developed a multiple-choice vocabulary size test to predict vocabulary size of a learner. The test is based on the 14-levels of Most Frequently Used Words developed by Nation (2006, p. 62). “Each item was put in a non-defining context” (Nation & Beglar, 2007, p. 12). Each level, consisting of 1,000 word-families, is represented by 10 randomly selected words. Therefore, to interpret the result, the number of correct answers is multiplied by 100. This test is available at www.vuw.ac.nz/lals/staff/paul-nation/nation.aspx.

2.5 The Teaching English in Indonesia

The teaching of English has been started in Indonesia since the era of Dutch colonialization, i.e. prior to 1941 (Tsuchiya, 1975). The changes of Ministry of Education were almost always accompanied by the turn of a curriculum. The most current curriculum is the Curriculum 2013 (known as K13). The curriculum was launched in July 2013 by the Indonesian Ministry of

Education (Ariza & Munir, 2014). The curriculum emphasizes on using the scientific approach as the primary steps of teaching and learning process (Mustafa, 2018, p. 51). There are five general steps prescribed by the approach, i.e. observation, questioning, exploring and experimenting, associating, and communicating. In observation, the students are presented with videos, pictures, demonstration, or explanation of the key concept related to topics they will learn (Carey, 2011, p. 3). Based on the observation, students ask questions to peers or to teachers, which allow a better understanding of the underlying concept previously presented (Mustafa, 2018, p. 52). In the next steps, students collect information related to the topic based on the teacher instruction. The students then discuss their finding with peers of small group and devise a shared comprehension of the collected information (Athiyah, 2015; Indonesian Ministry of Education and Culture, 2014). In the last step, the group reported their conclusion to the class and other groups and teacher give feedback (Indonesian Ministry of Education and Culture, 2013, p. 3).

Although the steps in the curriculum have been proven effective in language teaching (Zaim, 2017), their success in Indonesia was deterred by lack of training to prepare teachers to implement the curriculum (Jaedun, Hariyanto, & Nuryadin, 2014, p. 18). Government-supported training could rarely provide qualified trainers (Sundayana, 2015) and often less comprehensive. In addition, the books provided by the Ministry of Education still focus on low order thinking skills, while Curriculum 2013 emphasizes on high order thinking skills (Putri & Komariah, 2018).

3. Research Methodology

As the objectives of this research are to find out the vocabulary size expected from high school graduates and their real vocabulary size, this research employed two stages of data collection.

3.1 Population and Sample

Texts in the national final examinations of 2015 and 2016 were used to analyze the expected vocabulary size. Only reading comprehension with 50 questions is tested in the junior high school examination in 2015 and 2016. For senior high school level, the examinations consist of listening and reading tests. The total number of questions for each examination is 50 questions, 15 questions for listening and the other 35 questions for reading. For the purpose of this research, all texts in the reading test were used, along with options in vocabulary questions. However, for junior high school examinations, which consist of shorter texts than those in senior high school, some texts comprising less than 40 words were excluded from the analysis. There were 14 texts selected from each examination.

The students' vocabulary size was obtained by conducting an online vocabulary test of fresh graduates of three-year senior high schools in Indonesia who have just started their university education. They completed a three-year junior high school level before starting the senior high school level. The test was sent to 4,300 potential participants, and 2,231 of them responded. 456 participants were considered outliers due to suspected guessing (321 participants) and skipping

of questions (135 participants), resulting in the total sample of 1,775 participants – 41% of the potential participants.

3.2 Instruments

The vocabulary test used for this research was provided by Nation and Beglar (2007). The test covers the 1st 1,000 words until the 14th 1,000 words, but only the 1st – the 5th 1,000 words were used because the participants are basic and intermediate students and their vocabulary size is not expected to exceed that range. The test options were translated into Bahasa Indonesia because a bilingual test has been proven more representative compared to its monolingual counterpart (Daller, Milton, & Treffers-Daller, 2007, p. 41). In addition, one more option was added to each question, i.e. *I don't know*. The participants were instructed to choose the option instead of guessing when they do not know the answer. The participants who did not select any *I don't know* option were excluded from the analysis on the assumption that they would have made guesses in answering some questions.

3.2 Data Analysis Procedures

To obtain the expected vocabulary size, after listing all words used in the text, they were converted into word families (by base form) and duplicated words were removed. The 2015 exam yielded 783 word-families in junior high school and 712 word-families in senior high school. The 2016 exam yielded 535 word-families in junior high school and 692 in senior high school. When combined, 292 word-families (junior high school) and 278 (senior high school) overlapped and were deleted, thus the total numbers of word families are estimated at 1,026 in junior high school exam and 1,126 in that of senior high school. The words used in each text were also analyzed separately to have a clear picture of vocabulary distribution in each text. Those words were stratified by comparison to vocabulary levels provided by (Nation, 2004). The words in each level were counted and expressed as a percentage.

To obtain the actual vocabulary size, the results of the vocabulary size test were categorized into five vocabulary levels, i.e. 1st 1,000, 2nd 1,000, ... , 5th 1,000. All correct answers in each level were combined to calculate the percentage of correct answers in each level by using the following formula.

$$\frac{\text{all combined correct answers by 1,775 students}}{\text{number of questions in each level} \times 1,775 \text{ students}} \times 100\%$$

Since the number of questions for each level was ten questions, the formula can be simplified below.

$$\frac{\text{all combined correct answers by 1775 students}}{17,750} \times 100\%$$

The test results showed the percentage of words participants knew in each of the first five 1,000 most frequently used words and are presented in the chart in the following section.

4. Findings

For systematic data presentation, this section presents each stage of data analysis separately. The analysis results are followed by discussion in the form of data interpretation.

4.1 Vocabulary size expected by Indonesian junior high school curriculum

The distribution of vocabulary across Most Frequently Used Words provided by Nation (2004) as found in the reading test of the junior high school National Final Examination in 2015 and 2016, and in combined form, where duplicate words resulting from overlap have been removed, are presented in Figure 1.

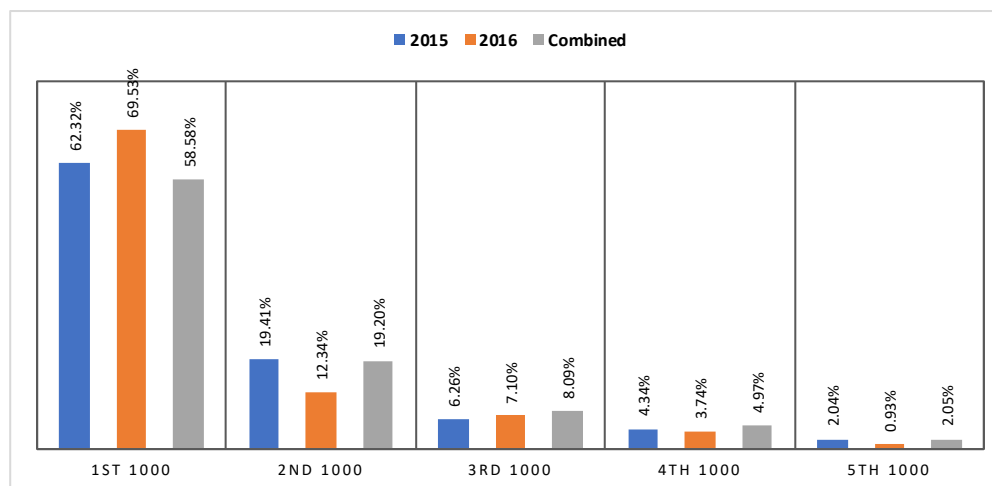


Figure 1. Percentage of words in the junior high exam compared to vocabulary levels

Figure 1 demonstrates that the first 1000 word-families are more than 100% more dominant compares to the second 1000. All 5,000 most frequently-used word families are found in the junior high school exam. However, the levels lower than 2,000 were very rarely found in the exam. For more detail description, Figure 2 shows the distribution of vocabulary in each text of junior high school exam.

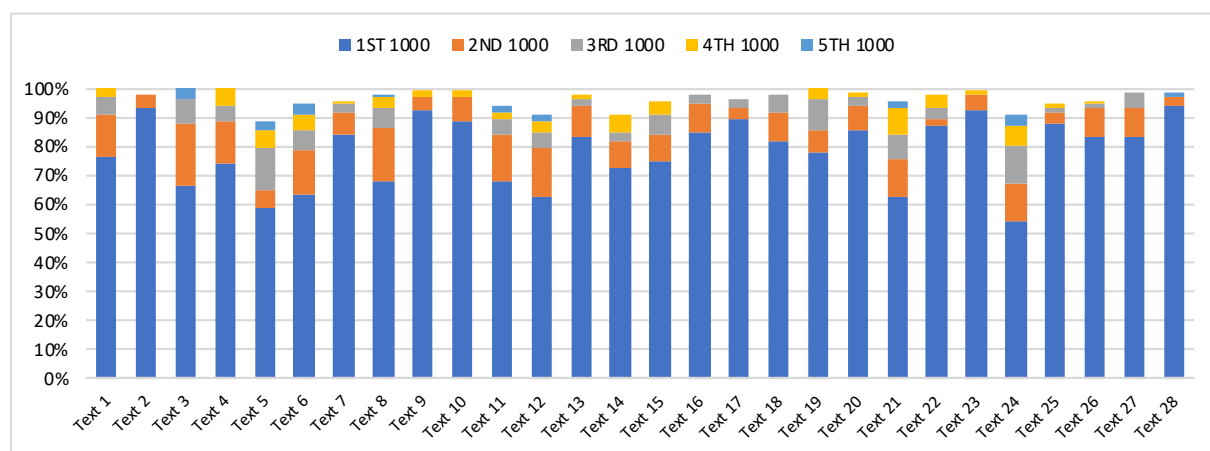


Figure 2. Percentage of words in each text in junior high exams based on vocabulary level

Figure 2 shows that the 1st 1,000 word-families dominate texts in 2015 and 2016 exams. The 2nd 1,000 most frequently used word was found in all texts although the distribution is varied, with less than 20% in almost all texts.

4.2 Vocabulary size expected by Indonesian senior high school curriculum

The distributions of vocabulary found in the reading test of the senior high school National Final Examination in 2015 and 2016, and in combined form, are presented in Figure 3.

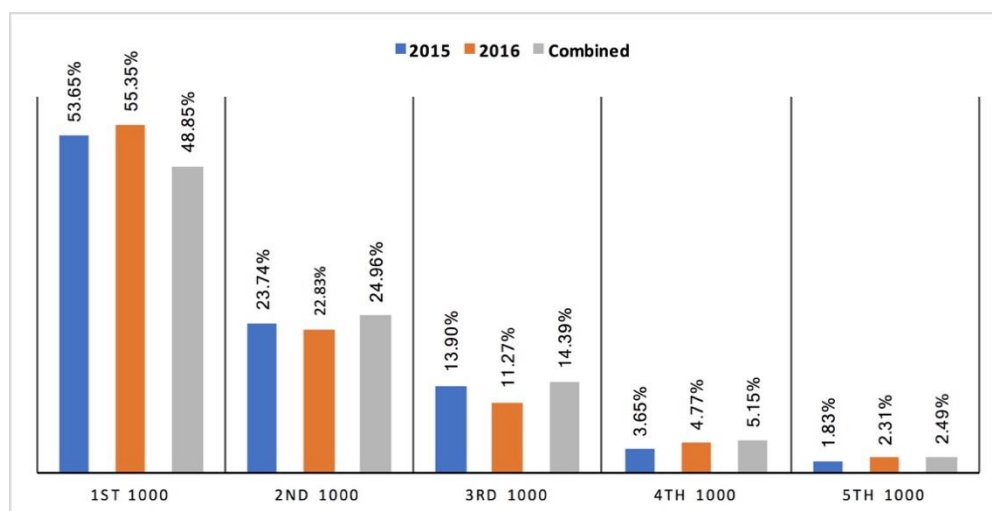


Figure 3. Percentage of words in the senior high exam compared to vocabulary levels

The percentages for every level of vocabulary show higher level of consistency between both tests, and thus the combined version does not show many gaps. The first 3,000 words are found often in the tests, with the 1st 1000 words to dominate test materials. More detail overview of vocabulary used in each text is presented in Figure 4.

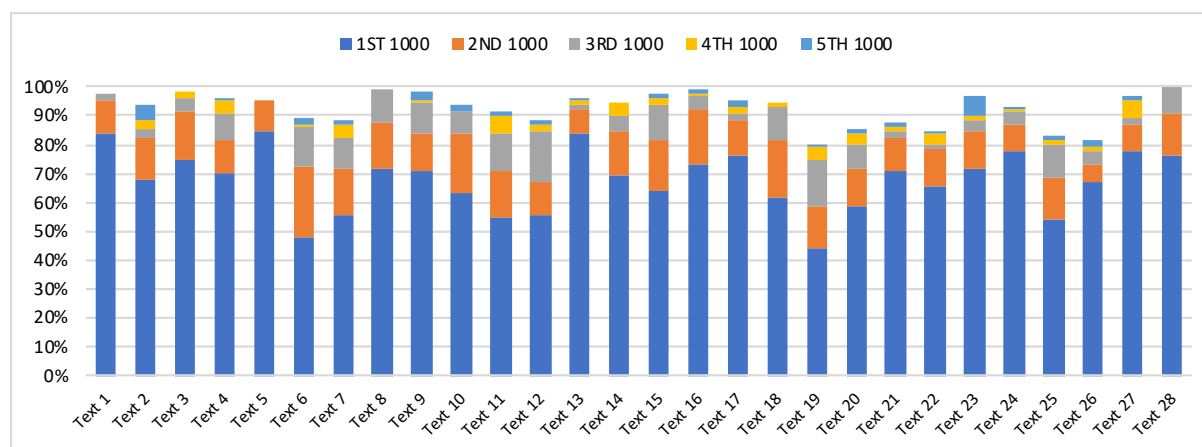


Figure 4. Percentage of words in each text in senior high exams based on vocabulary level

Figure 4 summarizes the vocabulary used in each text of the 2015 and 2016 national exam tests in Indonesia. The 1st 1000 words dominate all the texts with the addition of the 2nd and 3rd 1000

words. The 1st 1000 words were used up to 85% in the texts, while 25% and 17% for the 2nd and 3rd 1000 words respectively.

4.3 The predicted vocabulary size of Indonesian high school graduates

The data for real estimated vocabulary size of high school graduates were obtained from the vocabulary test results. Figure 5 shows the percentage of respondents' estimated vocabulary size in each 1,000 word level of most frequently used words.

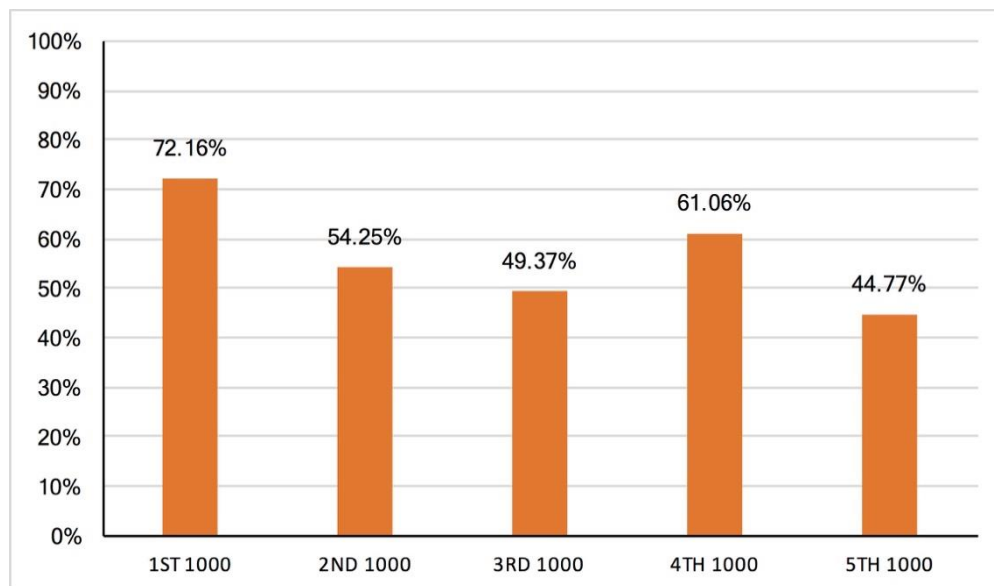


Figure 5. Respondents' estimated vocabulary size

Figure 5 above illustrates that the respondents' vocabulary size is distributed across all levels, with between 45% and 72% in each 1,000-word level. The results show that the expected vocabulary can be concluded based on the consistency of percentage in every level of vocabulary. This result gives us an understanding of what vocabulary size is expected from high school graduates.

5. Discussion

The aim of this research was to find out the vocabulary size expected by the curriculum in Indonesia for high school graduates and to investigate to what extent they meet this expectation. To find out the expected vocabulary size, words used in reading tests from two high school national final examinations were compared to five levels of most frequently used words provided by Nation (2004). To assess student learning, the results of a test participated by 1,775 high school fresh graduates were compared to the Nation's list.

The findings show that reading texts in national final examination contains more than 60% of the 1st 1000 words, i.e. 62% in 2015 exam and 70% in that of 2016. The 1st 1000 word-families found in the junior high school level were fewer than what Nation (2006, p. 79) found in most general written texts. In addition, those percentages are not adequate to understand texts

according to Laufer (1989, p. 319). Therefore, the 2nd 1000 most frequently words are also required. The addition of those words increases the vocabulary content into 82% for both exams. Similar trends are also shown in the distribution of vocabulary content in each text when analyzed separately. Stæhr (2008, p. 149) also suggests that basic English learners be taught the 1st 2000 words because it has been proven that students with that amount of vocabulary performed adequately in listening, structure, and reading tests. Therefore, this finding suggests that teachers should focus on the 1st 2000 words in teaching English to junior high school students. Since vocabulary level might be less familiar with teachers, the curriculum should provide the list of the 1st 2000 words and guarantee success in national final examination should students have the all vocabulary in the list. Thus, teachers will be more motivated in introducing those words to the students.

For texts in senior high school final exam, the findings show the 1st 3,000 most frequently used words are dominant, where the percentage was higher in the 1st 1,000, reducing by approximately half every next level until the 3rd 1,000 words. Only 5% of the words in the exams were in the 4th 1,000, and the remaining 2.5% in the 5th 1,000. Separate analysis for each text also resulted in the similar distribution. These results suggest that the 1st 3,000 constitutes 88% of the vocabulary coverage in the national final examination. The percentage shows that the vocabulary level in the exam is lower than that of authentic texts, which require the vocabulary level approaching the 1st 5,000 words in order to achieve 88% coverage. Although 95% coverage is necessary for adequate understanding of a text, and 93% coverage allows good guessing of unknown words in the text, Zhang and Anual (2008) found that 3000 words are adequate for completing short answer tasks based on a text, as in national final examination in Indonesia. Therefore, in the second level high school teachers should make sure that the students master the 1st 3000 most frequent vocabulary. To find out where to start with, upon admission in senior high school, students can be given a vocabulary test, such as asking them to provide the L1-equivalents for the 1st 3,000 words, which can be completed in four to five meetings. Thus, the teachers can focus on the level which students lack the most.

To find out whether the students actually reached the vocabulary level required by the curriculum, i.e. the 1st 3000 most-frequently used words, a vocabulary test was administered. The test result shows that Indonesian high school graduates scored 72% in the 1st 1,000, and the scores were even much lower in the 2nd and 3rd 1000 next levels, i.e. 54% and 49% respectively. These vocabulary sizes are not adequate for comprehension. The most striking result to emerge from the data is that the students scored above 40% in the next two levels. This indicates that students learned words randomly during high school teaching and learning process. It implies that the words taught to students were not controlled. The students might have accidentally picked up less frequent words from authentic materials provided by the teachers or materials available in the textbooks. Laufer (2001, p. 50) believes that desperate vocabulary learning gives a better result than learning vocabulary by accident. In addition, Cobb (2007, p. 38) doubts that

incidental learning gives a significant contribution to improving vocabulary size. This explains why students only have only some words in every level.

The results of the current study are subject to some limitation. The vocabulary size test used in this research, which is based on Nation and Beglar (2007), does not test all words in the list, but 1000 words are represented by ten randomly selected words. Thus, the test result did not show the real vocabulary size of a student but only the predicted vocabulary size. Future research can include all words in the list of the 1st 5000 vocabulary level and administer the test gradually. Another limitation is that the vocabulary test was given only after the students have completed both high school levels. A vocabulary test after the students graduate from the junior high school level can show the students vocabulary level before admission to senior high school, which is recommended for further wide-scale research. In addition, the vocabulary size test was administered online where the researcher did not have any control over how the students completed the test. They might have used a dictionary or other kinds of help when completing the test. To ensure the authenticity of the test result, future research can conduct a test in a supervised test room, either a paper-based test or online-delivered computer-based test. Finally, the study did not investigate how students were actually taught vocabulary in teaching and learning process, but the author only implied it based on their test result. Future research can interview both students and teachers or observe the classrooms for a better picture of how vocabulary is actually taught.

As pedagogical implications, the current research provides teachers with an understanding of which vocabulary they need to teach students to meet the curriculum expectations. Because high schools are divided into two levels - junior high school and senior high school - each of which is three years, the vocabulary learning can be made less difficult. After giving a vocabulary test, teachers can list all words which students still need to learn. The most urgent words to teach depend on the percentage of students who do not know the words. The fewer students know a word, the more urgent it needs to be taught. Then, teachers can devise a three-year teaching plan, which can make the vocabulary learning more controlled and thus more successful. Based on the result of vocabulary test in this research, less efforts are required for the 1st 1000 words since students will be able to learn approximately 70% of words in the list without any innovative intervention. They will be able to pick the rest of the words in the list while the next levels are being taught. In addition, teachers should teach vocabulary knowledge such as affixation and derivation so that students can have more vocabulary depth. This vocabulary control is more efficient compared to the current teaching practice.

6. Conclusion

This study was designed to investigate the English vocabulary level expected by high school curricula in Indonesia. By analyzing texts in the 2015 and 2016 national final examinations of junior and senior high school levels, it was found that the 1st 2000 most-frequently used words dominated the texts in junior high school exams, and the 1st 3000 were found to dominate those

of senior high school. Similar trends were also found when the vocabulary used in each text was analyzed separately, both in junior high school and senior high school exams.

A vocabulary level test provided by Nation and Beglar (2007), with Indonesian translated choices, was administered and the result shows that students did not meet the curriculum expectation after completing both high school levels. Although students have some words in every level, the estimated percentages were lower than 60% in most levels, with 72% only for the 1st 1000 level.

References

- Abdullah, K. I., Puteh, F., Azizan, A. R., Hamdan, N. N., & Saude, S. (2013). Validation of a controlled productive Vocabulary Levels Test below the 2000-word level. *System*, 41(2), 352–364. <http://doi.org/10.1016/j.system.2013.03.005>
- American Classical League. (1933). Methods in teaching Latin. *Natin Notes*, 10(5), 2–3.
- Ariza, W. F., & Munir, A. (2014). Focus on form in 2013 junior high school curriculum. *Retain*, 1, 1–6.
- Athiyah, C. N. U. (2015). Pendekatan saintifik pada pembelajaran Bahasa Inggris Madrasah Tsanawiyah [Scientific approach in teaching English at Islamic junior high school]. Retrieved March 26, 2017, from <http://pta.kemenag.go.id/index.php/frontend/news/index/245>
- Bal-Gezegin, B. (2014). An investigation of using video vs. audio for teaching vocabulary. *Procedia - Social and Behavioral Sciences*, 143, 450–457. <http://doi.org/10.1016/j.sbspro.2014.07.516>
- Blasco, M. E. (2015). A cognitive linguistic analysis of the cooking domain and its implementation in the EFL classroom as a way of enhancing effective vocabulary teaching. *Procedia - Social and Behavioral Sciences*, 178, 70–77. <http://doi.org/10.1016/j.sbspro.2015.03.149>
- Brezina, V., & Gablasova, D. (2015). Is there a core general vocabulary? Introducing the new general service list. *Applied Linguistics*, 36(1), 1–22. <http://doi.org/10.1093/applin/amt018>
- Carey, S. S. (2011). *A beginner's guide to scientific method* (4th editio). Wadsworth: Cengage Learning.
- Çiftçi, H., & Üster, S. (2009). A comparative analysis of teaching vocabulary in context and by definition. *Procedia - Social and Behavioral Sciences*, 1(1), 1568–1572. <http://doi.org/10.1016/j.sbspro.2009.01.275>
- Cobb, T. (2007). Computing the vocabulary demands of L2 reading. *Language Learning & Technology*, 11(3), 38–63.
- Daller, H., Milton, J., & Treffers-Daller, J. (2007). *Modelling and assessing vocabulary knowledge*. Cambridge: Cambridge University Press.
- Demircioğlu, Ş. (2010). Teaching English vocabulary to young learners via drama. *Procedia - Social and Behavioral Sciences*, 2(2), 439–443. <http://doi.org/10.1016/j.sbspro.2010.03.039>

- Dilek, Y., & Yürük, N. (2013). Using semantic mapping technique in vocabulary teaching at pre-intermediate level. *Procedia - Social and Behavioral Sciences*, 70, 1531–1544. <http://doi.org/10.1016/j.sbspro.2013.01.221>
- Fidel, R. (1991). Searchers' selection of search keys: III. Searching styles. *Journal of the American Society for Information Science*, 42(7), 515–527. [http://doi.org/10.1002/\(SICI\)1097-4571\(199108\)42:7<515::AID-ASI6>3.0.CO;2-F](http://doi.org/10.1002/(SICI)1097-4571(199108)42:7<515::AID-ASI6>3.0.CO;2-F)
- Gorjian, B. (2012). Teaching vocabulary through web-based language learning (WBLL) approach. *Procedia Technology*, 1, 334–339. <http://doi.org/10.1016/j.protcy.2012.02.070>
- Harmer, J. (2007). *The practice of English language teaching* (4th ed.). Harlow: Pearson Longman.
- Inal, H., & Cakir, A. (2014). Story-based vocabulary teaching. *Procedia - Social and Behavioral Sciences*, 98, 675–679. <http://doi.org/10.1016/j.sbspro.2014.03.467>
- Indonesian Ministry of Education and Culture. Decree of Indonesian Ministry of Education and Culture, Pub. L. No. 65 of 2013 (2013). Indonesia.
- Indonesian Ministry of Education and Culture. (2014). *Materi pelatihan guru implementasi kurikulum 2013 tahun ajaran 2014/2015 [Teaching material on the implementation of Curriculum 2013 for teachers in the academic year of 2014/2015]*. Jakarta: Indonesian Ministry of Education and Culture.
- Jaedun, A., Hariyanto, V. L., & Nuryadin. (2014). An evaluation of the implementation of Curriculum 2013 at the building construction department of vocational high schools in Yogyakarta. *Journal of Education*, 7(1), 14–22.
- Kamil, M. L., & Hiebert, E. H. (2005). Teaching and learning vocabulary: Perspectives and persistent issues. In E. H. Hiebert & M. L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice*. New Jersey: Lawrence Erlbaum Associates. [http://doi.org/10.1016/0346-251X\(94\)90065-5](http://doi.org/10.1016/0346-251X(94)90065-5)
- Katwibun, H. (2014). Using an interactive whiteboard in vocabulary teaching. *Procedia - Social and Behavioral Sciences*, 116(2005), 674–678. <http://doi.org/10.1016/j.sbspro.2014.01.278>
- Laufer, B. (1989). What percentage of text-lexis is essential for comprehension? In C. Laurén & M. Nordman (Eds.), *Special Language: From Humans to Thinking Machines* (pp. 316–323). Clevedon: Multilingual Matters\.
- Laufer, B. (2001). Reading , word-focused activities and incidental vocabulary acquisition in a second language. *Prospect*, 16(3), 44–54.
- Laufer, B., & Nation, P. (1999). A vocabulary-size test of controlled productive ability. *Language Testing*, 16(1), 33–51.
- Lessard-Clouston, M. (2013). Word lists for vocabulary learning and teaching. *The CATESOL Journal*, 24(1), 287–304.
- McCarthy, M. (1990). *Vocabulary*. Oxford: Oxford University Press.
- Muddamalle, M. R. (1998). Natural language versus controlled vocabulary in information retrieval: A case study in soil mechanics. *Journal of the American Society for Information Science*, 49(10), 881–887. [http://doi.org/10.1002/\(SICI\)1097-4571\(199808\)49:10<881::AID-](http://doi.org/10.1002/(SICI)1097-4571(199808)49:10<881::AID-)

ASI4>3.0.CO;2-M

- Mustafa, F. (2018). How much do high schools contribute to improving students' English proficiency? Seeking alumni's perception in Indonesia. *Asian EFL Journal*, 20(2), 49–61.
- Nation, I. S. P. (2014). How much input do you need to learn the most frequent 9,000 words? *Reading in a Foreign Language*, 26(2), 1–16. Retrieved from <http://nflrc.hawaii.edu/rfl/October2014/>
- Nation, P. (2004). A study of the most frequent word families in the British National Corpus. In P. Bogaards & B. Laufer (Eds.), *Vocabulary in a Second Language: Selection, Acquisition and Testing* (pp. 3–13). Amsterdam: John Benjamins.
- Nation, P. (2006). How large a vocabulary is needed for reading and listening? *The Canadian Modern Language Review*, 63(1), 59–82. <http://doi.org/10.3138/cmlr.63.1.59>
- Nation, P. (2013). Vocabulary size in a second language. In *The Encyclopedia of Applied Linguistics* (pp. 6674–6677). Wiley-Blackwell. <http://doi.org/10.1002/9781405198431.wbeal1270>
- Nation, P., & Beglar, D. (2007). A vocabulary size test. *The Language Teacher*, 31(7), 9–13.
- Nation, P., & Mara, P. (2002). Vocabulary. In N. Schmitt (Ed.), *An Introduction to Applied Linguistics* (pp. 35–54). New York: Routledge.
- Nation, P., & Waring, R. (1997). Vocabulary size, text coverage and word lists. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition and pedagogy* (pp. 6–20). Cambridge: Cambridge University Press.
- Nemati, A., & Maleki, E. (2014). The effect of teaching vocabulary through the diglot –weave technique on vocabulary learning of Iranian high school students. *Procedia - Social and Behavioral Sciences*, 98, 1340–1345. <http://doi.org/10.1016/j.sbspro.2014.03.551>
- Okamoto, M. (2015). Is corpus word frequency a good yardstick for selecting words to teach? Threshold levels for vocabulary selection. *System*, 51, 1–10. <http://doi.org/10.1016/j.system.2015.03.004>
- Pellicer-Sánchez, A. (2013). Vocabulary and reading. In *The Encyclopedia of Applied Linguistics*. Oxford: Wiley-Blackwell. <http://doi.org/10.1002/9781405198431.wbeal1267>
- Primativo, S., Rinaldi, P., O'Brien, S., Paizi, D., Arduino, L. S., & Burani, C. (2013). Bilingual vocabulary size and lexical reading in Italian. *Acta Psychologica*, 144(3), 554–562. <http://doi.org/10.1016/j.actpsy.2013.09.011>
- Putri, M. A., & Komariah, E. (2018). A content analysis of activities in English textbook “When English Rings a Bell.” *Research in English and Education*, 3(2), 147–153. <http://doi.org/10.2298/JAS1403255T>
- Rusanganwa, J. (2013). Multimedia as a means to enhance teaching technical vocabulary to physics undergraduates in Rwanda. *English for Specific Purposes*, 32(1), 36–44. <http://doi.org/10.1016/j.esp.2012.07.002>
- Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge: Cambridge University Press.
- Sen, Y., & Kuleli, M. (2015). The Effect of Vocabulary Size and Vocabulary Depth on Reading in EFL Context. *Procedia - Social and Behavioral Sciences*, 199, 555–562.

- <http://doi.org/10.1016/j.sbspro.2015.07.546>
- Stæhr, L. S. (2008). Vocabulary size and the skills of listening, reading and writing. *Language Learning Journal*, 36(2), 139–152. <http://doi.org/10.1080/09571730802389975>
- Sundayana, W. (2015). Readiness and competence of senior high school English teachers to implement Curriculum 2013. *Indonesian Journal of Applied Linguistics*, 5(1), 29–36.
- Tosun, S. (2015). The effects of blended learning on EFL students' vocabulary enhancement. *Procedia - Social and Behavioral Sciences*, 199, 641–647. <http://doi.org/10.1016/j.sbspro.2015.07.592>
- Tsuchiya, K. (1975). The Taman Siswa Movement: Its early eight years and Javanese background. *Journal of Southeast Asian Studies*, 6(1), 61–86. <http://doi.org/10.2307/20070134>
- Vela, V., & Rushidi, J. (2016). The effect of keeping vocabulary notebooks on vocabulary acquisition and learner autonomy. *Procedia -Social and Behavioral Sciences*, 232, 201–208. <http://doi.org/10.1016/j.sbspro.2016.10.046>
- Wang, Y., & Treffers-Daller, J. (2017). Explaining listening comprehension among L2 learners of English: The contribution of general language proficiency, vocabulary knowledge and metacognitive awareness. *System*, 65, 139–150. <http://doi.org/10.1016/j.system.2016.12.013>
- Wasik, B. A., Hindman, A. H., & Snell, E. K. (2016). Book reading and vocabulary development: A systematic review. *Early Childhood Research Quarterly*, 37, 39–57. <http://doi.org/10.1016/j.ecresq.2016.04.003>
- West, M. P. (1953). *A general service list of English words: with semantic frequencies and a supplementary word-list for the writing of popular science and technology*. Longmans, Green. Retrieved from <https://books.google.co.id/books?id=1MJZAAAAMAAJ>
- Zaim, M. (2017). Implementing scientific approach to teach English at senior high school in Indonesia. *Asian Social Science*, 13(2), 33–40. <http://doi.org/10.5539/ass.v13n2p33>
- Zhang, L. J., & Anual, S. Bin. (2008). The role of vocabulary in reading comprehension: The case of secondary school students learning English in Singapore. *RELC Journal*, 39(1), 51–76. <http://doi.org/10.1177/0033688208091140>