# ASSESSING THE VOCABULARY SIZE OF THE INTERNATIONAL CLASS STUDENTS

**Vinindita Citrayasa[1], Maria Setyaningsih Nernere[2]**
[1]vinindita.citrayasa@uajy.ac.id
[1]Universitas Atma Jaya Yogyakarta
[2]maria.setyaningsih@uajy.ac.id
[2]Universitas Atma Jaya Yogyakarta

## ABSTRACT

As the important component of language acquisition and language learning affecting language skill mastery, vocabulary has been the concern of the language expertise. Many of them focus a lot on how to enrich the learners' vocabulary. In fact, vocabulary development is not only about increasing the quantity but also on its quality. Knowing this fact, it is needed to find out how qualified the vocabulary development nowadays. Therefore, the quantitative study is done to identify and analyze the vocabulary size developmental pattern across the levels. It is a cross sectional survey research. The data was taken by doing vocabulary test to the international students who deal a lot with English exposure in their learning. Three batches consisting of freshmen, sophomore, and junior in the International classes were assessed to see their developmental pattern. Vocabulary size test developed by Paul Nation becomes the best option as the test measuring the vocabulary size of the students. As a result, the hypothesis was accepted. It is found that there is a difference in the vocabulary size from the three batches with a surprising finding too due to the pattern. This result is then useful for a means of reflection and evaluation for the students and the institution.

*Keywords:* Vocabulary size, Development pattern, Assessment, International class

## 1. INTRODUCTION

Vocabulary is the important part of language acquisition and language learning since it gives effect on the other language skills mastery. Since words are one of important components in language and communication, both second and foreign language learners are required to enrich themselves with the numbers of vocabulary so that they empower themselves to communicate well. As long as the learners are exposed to more input, they will get more chances to learn words, to memorize words, and to use the words. There must be some indicators that show and reflect the change of the vocabulary size that they own. It may show the increasing pattern, or it may show the decreasing pattern as well.

Understanding the vocabulary knowledge and its development process contributes to the understanding of how second language (L2) learners process and produce the language (Zhong, 2011). Therefore, the vocabulary assessment is supposed to be a priority to be conducted so that the progress of vocabulary learning can be observed (Eyckmans, 2004). It will help the learners and the teachers to evaluate the progress of learning which is not only on the vocabulary but also on other areas or skills since the vocabulary measure has the close connection with reading, writing, listening, and speaking skills (Milton, 2013). First, Laufen & Aviad-Levitzky (2017) find that vocabulary recognition is a good predictor for language proficiency level, so they recommend vocabulary size to be a consideration for proposing reading programs and giving appropriate assignment for different proficiency level. Second, for writing, Tamura (2011) obtains that vocabulary size has a close relation to the students' writing performance. Then, Teng (2014) confirms that vocabulary size has impact on how the listening skill mastery develops. Meanwhile, in the case of speaking skill, Uchihara & Clenton (2020) find that vocabulary size affects the speaking skill mastery through implications for L2 vocabulary assessment in classroom teaching contexts. These findings indicate the importance of assessing vocabulary size for the language skills development.

In the context of English as foreign language, acquiring English vocabulary happens in the specific situation such as English classroom or international seminar. However, nowadays it is found that English is not used only in the English subject class but also in the international class. Those students are taught using English. Besides, they are given Academic English and English for Specific Purpose class as well within the semesters. Therefore, a vocabulary assessment is considered to be conducted so the students and the lecturers get the clues of the students' English learning progress. In Indonesia, several studies in assessing vocabulary have been made both in a group of students in the same level (e.g. Sudarman & Chinokul (2018)) and assessing the developmental of its vocabulary size in the groups of students from different level (e.g. Tsuraya & Atmowardoyo (2018)). Mostly, the participants are from regular class who were being exposed to English not too often. According to Krashen's theory on language exposure, the higher the language exposure is, the better the vocabulary acquisition will be. Thus, this study aims to identify and analyze the developmental pattern of vocabulary size in International class of which the students have been exposed to English vocabulary often. Then, this study formulates a hypothesis which states that the students' vocabulary sizes

are different across the levels or semesters. Hopefully, this finding can give both theoretical and practical benefits to several related parties.

*Second Language Vocabulary Acquisition*

Ellis (2008) states that there is no agreed terminal stage for knowledge of a word. Therefore, there is no agreement on how to characterize lexical development. He argues that lexical acquisition takes place through the process of segmentation when learners come to see the formulaic sequences are made up of separate words as they acquire additional formulas (for example: I don't understand), identify recurring elements and establish where the process by which a word is acquired. It may not be so different from the process by which a word is acquired and may not be so different from the process by which grammar is developed.

Researchers (Nation 1990, 2001; Richards 1976; Ringbom 1987) in Zhong (2011) propose that knowing a word involves knowing the knowledge of the spoken and written form, morphological knowledge, knowledge of word meaning, collocational and grammatical knowledge, connotative and associational knowledge, and the knowledge of social or other constraints in use. The vocabulary knowledge acquisition is considered a multi-dimensional construct (Zhong, 2011). It has a certain continuum ranging from knowing to comprehending.

Laufer (1998) in Zhong (2011) states that the continuum of progression approach considers that vocabulary knowledge is not an 'all-or nothing' phenomenon. Zhong (2011) summarizes three dimensions to look at vocabulary knowledge proposed by Henriksen (1999, p. 304). They are (i) a partial-to-precise knowledge dimension (ii) a depth-of-knowledge dimension, and (iii) a receptive-productive dimension. The first two dimensions are related to comprehension of word knowledge while the third dimension is associated with the ability to access and use a word. It shows that the knowledge moves from recognition to vague understanding of the meaning and later to the mastery of a precise comprehension. This dimension is related to the quantity of vocabulary knowledge which concerns the learners' vocabulary size and their knowledge of the words in different frequency threshold.

*Vocabulary Size*

The number of words that a learner knows is referred as vocabulary size (Read, 2000). Another reference states that vocabulary size is the number of words a learner has in mental lexicon. The number of words that learner need to know the words in range of

around 2,000 to 3,000word level (Nation, 1990). If the learners' vocabulary is in that range, they are considered able to use English effectively. They will be able to comprehend the English texts they read or listen, and they will be able to produce words in English both spoken and written. Related to the reading comprehension, the learners are required to be in the 3,000 word level (Laufer, 1997). She states that the 3,000 word level is equal to the text coverage of between 90% and 95%. There are some reports of how many words required by the learners of foreign language at the certain level should acquire. Different countries report the different standard of vocabulary size level. As stated by Eyckmans (2004), Japanese high school students are in 5,000 words, Japanese university students should be in 10,000 words level, Russian high School students is in 9,000 words, Russian university students is in 15,000 words level, and Dutch university students is required in 10,000 word level (Hazenburg, Allen, 1983). The progress of language learning is often represented by the increasing numbers of words the learners know (Laufer, 1998). Therefore, conduction the vocabulary size test can be used as one way to give the teachers and learners the clue of defining their potential language skills and the progress of language learning.

There are types of vocabulary size tests developed by Nation and the multiple-choice format is still the mostly used procedure in standardized vocabulary testing. Anderson and Freebody (1981) pointed out that the distracters in a multiple-choice format cannot avoid constraining the participant's response.

Considering the validity and the reliability, vocabulary size tests must consist of many items therefore the instruments should be discrete and context independent in nature (Read 2000). One example of the instruments that suits the requirements is Vocabulary Levels Test by Nation (1983, 1990) which test types range from the 2,000, 3,000, 5,000 and 10,000-word frequency levels, and from an academic registers known as the University Word List. The form of the test is the multiple-choice form. Every question provides four options and the test takers are required to choose the option which has the closest meaning to the question.

Beglar (2010) propose the characteristics or features of a good vocabulary test. He examined the 140 item Vocabulary Size Test. The test has several criteria such as: 1) it can be used with learners with a very wide range of proficiency levels, 2) it measures what it is supposed to measure and does not measure other things, 3) it behaves in ways that we would expect it to behave, distinguishing between learners of different proficiency levels

and clearly distinguishing several different levels of vocabulary knowledge so that learners' vocabulary growth over time could be measured, 4) it performs consistently and reliably, even though circumstances change, 5) it is easy to score and interpret the scores that the items in the test are clear and unambiguous, and 6) it can be administered in efficient ways with learners sitting only five words per 1000 word level.

As mentioned above, previous studies have researched on vocabulary size assessment. Concerning the Krashen theory in language exposure, this study aims to obtain the developmental pattern of vocabulary size in the groups of students who are exposed to English vocabulary in a high frequency compared to the regular ones obtained by the previous studies.

## 2. RESEARCH METHOD

The research design is cross sectional survey research. This is a quantitative research in which the investigation procedure in this research was done through a survey to a sample of the population. The cross-sectional design itself is one-point time research design (Wiersma, 1995; Cresswell, 2012). This research method in this study was done to the different level or semester directly at one time. In this case, the research was done to different semester or level namely freshmen, sophomore, and junior. The reflected difference got from this study to those different levels represents the changes that take place in a large defined population.

The setting of the research was at one of universities in Yogyakarta. The participants of this research were the students of the international program in Industrial Engineering, Civil Engineering, Business Management and Financial Accounting. There were four different international program's students from three different batches (2016-2018) chosen for this study. There were 63 students from batch 2018 (freshmen), 73 students from batch 2017 (sophomore), and 45 students from batch 2016 (junior). The participants joining the study were 181 students.

The instrument used for this study was vocabulary size test developed by Paul Nation. This provides a reliable, accurate, and comprehensive measure of second language English learners' written receptive vocabulary size from the first 1000 to the fourteenth 1000-word families of English (Nation & Beglar, 2007). The test is available at http://www.vuw.ac.nz/lals/staff/paul-nation/nation.aspx. The test is in the multiple-choice format of the VST. It allows for a wide range of content to be sampled efficiently and it

indicates that the participant's answers are sufficient to be effective showing his or her knowledge of that word. On each question, the test takers are asked to choose one option among four available options which has the closest meaning to the word being asked.

The vocabulary size test was conducted in a session providing 45 minutes for the test takers to finish answering 100 questions. The first turn was given to the freshman, sophomores and junior on each study program. It lasted for two months. Only the correct answers were counted as their final scores and their final scores were computed in order to get the mean scores for each level.

## 3. RESULTS AND ANALYSIS

The study had been done to measure the differences of vocabulary size obtained by students in international classes. The data sets were taken from four international classes from faculties of Business and Economics (FBE), Industrial Technology (TIKI), and Civil Engineering. The results show that there are differences in the vocabulary size across the levels or semesters among the students of International classes at the university. There are varied results describing the amount of vocabularies mastered by students from semester 2 (freshmen) to semester 4 (sophomore) and to semester 6 (junior) in all International programs.

There were 117 respondents participating in the vocabulary test consisting of 59 FBE students, 18 TIKI students, and 40 Civil Engineering students. Table 1 below shows the complete results of the vocabulary size test taken by the international students.

Table 1. Scores and Means Results of Vocabulary Size Test

| FACULTY | 2 (freshmen) | | | 4 (sophomore) | | | 6 (junior) | | |
|---|---|---|---|---|---|---|---|---|---|
| | min | max | mean | min | max | mean | min | max | mean |
| FBE | 45 | 74 | 58.43 | 40 | 73 | 52.44 | 44 | 69 | 55.25 |
| TIKI | 25 | 58 | 41.50 | 50 | 64 | 54.60 | 32 | 65 | 50.22 |
| Civil Engineering | 37 | 79 | 55.62 | 20 | 79 | 54 | 27 | 58 | 46.29 |

As seen on Table 1, the lowest score is from a 4 semester student of Civil Engineering and the highest one is reached by a 2 semester student and a 4 semester student of Civil Engineer. In FBE, the mean score for semester 2 is 58.43. It gets lower as in semester 4 that the mean score is 52.44. Yet, the mean score in semester 6 is better which hits point of 55.25. The significant difference happens between semester 2 and semester 4. The lowest

score lies in semester 4 and highest score is gained in semester 2. In short, there is a difference in the vocabulary size across the semesters in FBE. Yet, it is neither an increasing nor decreasing pattern of the vocabulary size in FBE as the mean score is fluctuating.

Meanwhile, the mean score resulted from TIKI students is developing from 41.50 in semester 2 to 54.60 in semester 4. Unfortunately, the mean score is decreasing in semester 6 into 50.22. Compared to the mean score difference existing in semester 2 and 6 and also 4 and 6, the biggest significant difference is drawn between mean score in semester 2 and 4. Yet, it is twice as big as the mean difference existing in FBE. According to the table of the mean score, the lowest score is in semester 2 and the highest one lies in semester 6.

The pattern of mean score in FBE and TIKI is very different from what is in Civil Engineering. This faculty draws a decreasing pattern in the mean score of the vocabulary size. The mean score in semester 2 decreases slightly from 55.62 in semester 2 to 54 in semester 4 and it is getting lower in semester 6 into 46.29. It is clearly seen that the difference is bigger happening between semester 2 and 6 compared to difference happening between semester 2 and 4. Though there is a difference, it is not as big as the significant difference existing in FBE and TIKI.

The research questions proposed in this study concerned the vocabulary sizes of international class students and vocabulary size difference across the levels of freshmen, sophomore, and junior. This study formulates a hypothesis which states that the students' vocabulary sizes are different across the levels or semesters. Based on the results of the vocabulary size test conducted in three different level of international class students of Faculty of Business and Economics, Industrial Engineering, and Civil Engineering, it is found that there is different vocabulary size across the level. The freshmen (2nd semester students) from Faculty of Industrial Engineering gained 41.50 for the means score. It indicates that they master 4150-word families followed by freshmen from Faculty of Civil Engineering got 55.62 indicating that they master 5562-word families. Then, the highest means score gained by freshmen from Faculty of Business and Economics in 58.43 referring that they master around 5843-word families.

At the same time, the sophomore gained different means scores. Sophomores from Civil Engineering and Faculty of Business and Economics master lower word families compared to the freshmen which are 5460 and 5244 respectively. It is different from

sophomores from Faculty of Industrial Engineering who reached higher word families compared to its freshmen as their means score is 54.60. Different means scores are also resulted from the junior. Juniors from Civil Engineering gained 46.29 as the means score indicating that they master around 4629-word families. Meanwhile, juniors from Faculty of Industrial Engineering and Business and Economics gain higher means score referring that they master for about 5022- and 5525-word families respectively. In conclusion, the International class students of all semesters from Faculty of Business and Economics, Industrial Engineering and Civil Engineering are in the level of mid-frequency since their average of word families are in the range of 3000-9000 word family lists.

Obtained from the data above, there is a vocabulary size development in the three different batches of International class in the three different faculty. The development happens although the development range of vocabulary size obtained in the three different faculty is in different ratio. This finding strengthens the cross section research to 216 students across the batch at the English Department of Universitas Negeri Surabaya done by Ramadhani & Kusumarasdyati, (2018).  They find that there is a vocabulary size development.  The finding of this study also shows the same condition obtained by Tsuraya & Atmowardoyo (2018) in which at some point, the freshmen has better vocabulary size compared to the sophomore and junior.  All of these findings indicate that there should be an investigation in the future on these different developmental patterns especially the factors affecting the development pattern of the vocabulary size.

## 4.  CONCLUSION

Based on the results of the vocabulary size test conducted in three different semesters or level of international class students, it is found that there is different vocabulary size across the level. The International class students of all semesters from Faculty of Business and Economics, Industrial Engineering and Civil Engineering are in the level of mid-frequency since their average of word families are in the range of 3000-9000 word family lists.

This study can contribute as an evaluation that leads to an effort in developing materials for increasing students' vocabulary acquisition. Since this study only focuses on the development vocabulary size relates with word family achieved by students, a further study needs to be conducted such as an exploratory study to trace the factors same affecting the patterns across the departments and semesters.

## ACKNOWLEDGEMENTS

## REFERENCES

Anderson, J.P. and Freebody, P. (1981). Vocabulary knowledge. In J.T. Guthrie, (ed) *Comprehension and Teaching: Research Reviews*. Newark: International Reading Association.

Beglar, D. (2010) A Rasch-based validation of the vocabulary size test. Language testing, 27(1), 101-118.

Channel, J. (1988) Psycholinguistic consideration in the study of L2 vocabulary acquisition. In R. Carter and M. McCarthy, (eds) Vocabulary and Language Teaching.London: Longman.

Cresswell, J. W. (2012). Educational research. Boston: Pearson Education.

Du Hui. 2004. Reflections on vocabulary size of chinese university students. *International Education Journal,* 5(4), 2004. Retrieved fromhttp://iej.cjb.net  571// on April 13, 2014.

Ellis, R. (2008). *The study of second language acquisition*. Oxford: Oxford University Press.

Eyckmans, J. (2004). Measuring receptive vocabulary size. Retrieved from *http://www.lotpublications.nl/publish/articles/000793/bookpart.pdf//* on May 25, 2014.

Ibrahim, E. H. E., Othman, K.,  Sarudin, I., & Muhamad, A. J. (2013). Measuring the vocabulary size of muslim pre-university students. *World Applied Sciences Journal* 21 (Special Issue of Studies in Language Teaching and Learning) (44-49). Retrieved from *http: //10.5829/idosi.wasj.2013.21.sltl.2136*// on March 28, 2014.

Kozhevnikova, E., (2019). The impact of language exposure and artificial linguistic environment on students` vocabulary acquisition. *PEOPLE: International Journal of Social Sciences*, 5(1), 430-439.

Laufer, B & Paribakht, S. (1998). The relationship between passive and active vocabularies: Effects of Language Learning Contexts. *Language Learning,* 48 (3), 365–391. https://doi.org/10.1111/0023-8333.00046.

Laufer, B., & Aviad-Levitzky, T. (2017). What type of vocabulary knowledge predicts reading comprehension: Word meaning recall or word meaning recognition? *The Modern Language Journal*, 101(4), 729-741.

Meara, P. (1996). The dimensions of lexical competence in G.Brown, K. Malmkjær, &J.Williams, (Eds.), Competence and Performance in Language learning (pp. 35–53). New York: Cambridge University Press.

Milton, J. (2013). Measuring the contribution of vocabulary knowledge to proficiency in the four skills. In C. Bardel, C. Lindqvist, & B. Laufer (Eds.), L2 vocabulary acquisition, knowledge and use. New perspectives on assessment and corpus analysis (pp. 57-78). Eurosla Monographs Series 2. Amsterdam: Eurosla.

Nation, I.S.P. (1990). *Teaching and learning vocabulary*. Rowley, MA: Newbury House.

Nation, I.S.P. (1993). Using dictionaries to estimate vocabulary size: Essential, but rarely followed procedures. Language Testing, 10, 27–40.

Nation, I.S.P. (2001). *Learning vocabulary in another language*. New York:Cambridge University Press.

Ramadhani, F. & Kusumarasdyati. (2018). Vocabulary development of EFL undergraduates: A cross-sectional study. *Proceeding of Conference on English Teaching in Indonesia,* 1(1). Retrieved from http://research-report.umm.ac.id/index.php/COETIN/article/view/2497on August 10, 2020.

Read, J., (2000). *Assessing vocabulary.* Cambridge: Cambridge University Press.

Sudarman & Chinokul, S. (2018). The English vocabulary size and level of English Department Students at Kutai Kartanegara University. *ETERNAL: English, Teaching, Learning and Research Journal* vol 4 (1) 2018.

Tamura, F. (2011). The relationship between vocabulary size and writing. *ARELE: Annual Review of English Language Education in Japan* 22, 281-296

Teng, F. (2014). Assessing the depth and breadth of vocabulary knowledge with listening Comprehension. *PASAA* Vol. 48, 29-56 (July - December 2014)

Tsuraya, A.S. & Atmowardoyo, H. (2018). A cross-sectional study on vocabulary size among different levels of the university students. ELT Worldwide: *Journal of English Language Teaching,* 5(1)

Uchihara, T., & Clenton, J. (2020). Investigating the role of vocabulary size in second language speaking ability. *Language Teaching Research*, 24(4), 540–556. *https://doi.org/10.1177/136216881879937.1*

Wiersma, W. (1995). Research *methods in education: An Introduction 6ᵗʰ Edition*. Massachusetts: A Simon and Schuster Company.

Zareva, A., Schwanenflugel, P. & Nikolova, Y. (2005). *Relationship between lexical competence and language proficiency*. Cambridge: Cambridge University Press.

`

Zhong, H. (2011). Learning a word: From receptive to productive vocabulary use. *The Asian Conference on Language Learning Official Conference Proceedings*. Retrieved from *http://iafor.org/acll_proceedings.html//* on April 13, 2014.

**BIOGRAPHIES OF AUTHORS**

Vinindita Citrayasa and Maria Setyaningsih Nernere are English lecturers at Universitas Atma Jaya Yogyakarta. Vinindita is from Faculty of Industrial Engineering. Her interests are on English Education, English Education Technology and Learning Material Development. Meanwhile, Maria is working in Faculty of Business and Economics. She is interested in English Education and English for Specific Purpose as her research focus.