



## Measuring English Vocabulary Size of First and Last Semester Students of Foundation University

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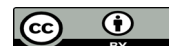


### Abstract

*This study compares the English vocabulary knowledge of first-semester and final-semester students at Foundation University to examine the extent of vocabulary development during undergraduate education. The primary objective of the research is to determine whether students' language proficiency, specifically vocabulary size, increases over the course of their university studies. The sample consists of one hundred undergraduate students drawn from various academic disciplines. Data were collected using TestYourVocab.com, an online vocabulary assessment tool. A descriptive and comparative research design was employed to analyze and compare the vocabulary sizes of the two groups. The findings indicate that final-semester students possess a larger English vocabulary than first-semester students, suggesting that vocabulary growth does occur over time in a university setting. However, the relatively modest difference between the two groups implies that vocabulary development may not occur naturally or sufficiently without deliberate instructional support. This finding highlights the limitations of incidental vocabulary acquisition in EFL contexts and underscores the need for structured and systematic vocabulary instruction. The study emphasizes the importance of continuous, vocabulary-focused teaching strategies in undergraduate English language programs. It also offers practical implications for English language teachers, curriculum developers, and academic institutions, suggesting that targeted vocabulary instruction can play a crucial role in enhancing students' overall language proficiency and academic success.*

### Keywords:

*English Vocabulary, Vocabulary Development, EFL Learners, Undergraduate Students, First-Semester and Final-Semester Comparison, Language Proficiency, TestYourVocab, Descriptive Research, Comparative Study, Vocabulary Instruction.*



## **Introduction**

Vocabulary is widely recognized as a fundamental component of English language proficiency (Nation, 2012; Kirana & Basthomi, 2022). It plays a crucial role in students' ability to comprehend academic texts, participate in classroom discussions, and communicate effectively (Manzoor, Shahid Kazi, Naeem, Inayat, & Muhammad, 2016; Alfatile, 2016). Learners with a strong vocabulary base demonstrate better reading comprehension, writing ability, and overall academic performance (Read & Dang, 2022; Agustin & Sari, 2022).

Due to its importance, measuring vocabulary size has become a key area of research in applied linguistics (Ha, 2022; Saksittanupab, 2022). Traditional vocabulary assessment tools such as the Vocabulary Size Test and Vocabulary Levels Test, although reliable, are often time-consuming and difficult to administer (Nation, 2012; Tan Ha, 2022). As a result, researchers are increasingly turning to online assessment tools that offer efficiency, accessibility, and automatic scoring (Xia et al., 2022; Tian et al., 2022).

Testyourvocab.com is an online adaptive vocabulary test that estimates receptive vocabulary size by adjusting word difficulty based on learner responses (Tian et al., 2022; Kurniawan, 2022). Despite its popularity, limited research has examined its use in comparing vocabulary development across different academic semesters within the same institution (Rafique et al., 2022; Lee, 2022). This study addresses this gap by comparing first and last semester students at Foundation University.

### **Research Objectives:**

- **H1.** To measure the English vocabulary size of first semester students.
- **H2.** To measure the English vocabulary size of last semester students.
- **H3.** To compare the vocabulary size of first and last semester students.

### **Research Questions:**

- **Q1.** What is the vocabulary size of first semester students?
- **Q2.** What is the vocabulary size of last semester students?
- **Q3.** How does the vocabulary size of first semester students differ from that of last semester students?

### **Research Gap:**

Although vocabulary size has been widely studied (Nation, 2012; Xia, Chen, Parsaei, & Qiu, 2024; Alfatile, 2016), very few studies have used an online vocabulary assessment tool to compare first and last semester undergraduate students within the same university (Talpur et al., 2024; Rafique et al., 2022; Saksittanupab, 2022). This study fills this gap by providing a descriptive and comparative analysis of vocabulary growth across academic semesters at Foundation University.

### **Literature Review:**

It is often known that expanding one's vocabulary is essential to learning a second language and a major factor in determining one's level of overall language competency. Vocabulary size and learners' capacity to understand texts, generate written discourse, and function well in academic settings are strongly correlated, according to a considerable body of research (Nation, 2012; Read & Dang, 2022). Vocabulary size is frequently seen as a more accurate indicator of language proficiency in English as a Foreign Language (EFL) context than grammatical knowledge alone because, even in cases when learners have syntactic awareness, low lexical resources can significantly impede comprehension and expression. Word lists, translation-based activities, and discrete-item tests were the main focusses of early vocabulary study. But starting in the 1970s, advances in corpus linguistics and psycholinguistics produced more methodical and empirically supported methods for evaluating vocabulary (Nation, 2012; Daskalovska, 2024). These advancements made it clear how crucial it is to quantify vocabulary size in order to comprehend how lexical knowledge changes throughout the course of language learning. Because of this, measuring vocabulary size has

emerged as a key topic of study in practical linguistics and second language research. Receptive and productive vocabulary are two important differences that are often emphasised in vocabulary studies. While productive vocabulary comprises words that students can actively utilise in speaking or writing, receptive vocabulary refers to terms that students can recognise and comprehend when met in reading or listening (Yilmaz & Kavanoz, 2020; Xia et al., 2020). Studies regularly show that receptive vocabulary grows earlier in the learning process and is significantly greater than productive vocabulary (Basim, 2016; Ha, 2020). Receptive vocabulary measures are therefore frequently employed in extensive research, especially at the university level where effective and trustworthy evaluation instruments are needed. Vocabulary knowledge often rises with years of academic exposure, according to numerous worldwide studies that have looked at university students' vocabulary sizes. According to Lee (2022), students at higher academic levels showed noticeably more vocabulary since they were exposed to more English-medium instruction and engaged with academic materials over time. In a similar vein, Al-Momani (2022) found that advanced semester undergraduate students had better vocabulary scores than those in earlier degrees. These results imply that extended academic experience has an impact on vocabulary acquisition in addition to formal training. But vocabulary growth is not always consistent or linear among students. Daskalovska (2024) showed that although vocabulary size tends to rise throughout language development stages, the rate of expansion varies according to learner motivation, instructional strategies, and language exposure possibilities. Saud and Kailali Multiple Campus (2022) also noted that individual factors including reading habits, disciplinary focus, and extra curricular language use play a key impact in shaping vocabulary results, therefore academic advancement alone does not ensure large vocabulary development. Research has shown that university students in South Asian and Pakistani environments continue to have difficulties with vocabulary acquisition. According to Manzoor et al. (2016), a large number of Pakistani undergraduates mostly rely on rote memorisation and exam-oriented learning techniques, which restrict their ability to acquire meaningful language. In a similar vein, Talpur, Umrani, and Umrani (2024) observed that even after years of exposure to English, pupils' vocabulary increase frequently falls short of scholastic requirements. Rafique, Waqas, and Shahid (2022) discovered a favourable link between vocabulary knowledge and English language ability among undergraduate students, stressing the necessity of explicit vocabulary instruction in higher education.

The practicality, effectiveness, and accessibility of online vocabulary assessment tools have drawn a lot of attention in recent years. Traditional tools such as the Vocabulary Size Test and Vocabulary Levels Test, while reliable, are typically time-consuming and complex to administer to large groups (Nation, 2012). Online tools, on the other hand, offer adaptive testing and automated scoring, which makes them especially appropriate for research at the university level (Kurniawan, 2022; Saksittanupab, 2022).

One such online adaptive assessment tool is Testyourvocab.com, which modifies word difficulty according to learners' replies to measure the quantity of their receptive vocabulary (Tian et al., 2022; Xia et al., 2022). Its validity and reliability for adult and college students have been confirmed by earlier research, which also noted that it provides a useful substitute for conventional paper-based exams (Nation, 2012; Daskalovska, 2024). It has thus been extensively used in vocabulary study in a variety of educational contexts. Relatively few studies have used online vocabulary exams to perform semester-wise comparisons within a single university, despite their growing popularity. The majority of current research concentrates on cross-sectional comparisons between institutions, national settings, or proficiency levels (Agustin & Sari, 2022; Gao, 2022).

Even though these studies offer insightful information about broad patterns of vocabulary growth, they frequently ignore institution-specific dynamics and the effects of

academic advancement within the same learning environment. Vocabulary increase during university education tends to be gradual rather than dramatic, according to studies that compare students across academic semesters.

According to Saud and Basthomi (2022), advanced students' vocabulary sizes increased somewhat, highlighting the possibility that exposure alone might not be enough to result in significant improvements. In a similar vein, Gao (2022) contended that language acquisition outcomes are greatly influenced by individual characteristics, learning styles, and instructional quality.

These results make it evident that context-specific, comparative studies that look at vocabulary development across academic levels within a single institution are desperately needed. These research can offer more detailed information about how a university education affects vocabulary growth and if current teaching methods adequately promote lexical development. The current study fills this gap and adds actual data to both domestic and global vocabulary studies by comparing first and final semester students at Foundation University using an online receptive vocabulary evaluation instrument.

### **Methodology Research Design:**

The English vocabulary size of Foundation University undergraduate students enrolled in their first and final semesters was examined and compared using a quantitative descriptive-comparative research design (Daskalovska, 2024; Alfatle, 2016). Because it makes it easier to compare two independent groups at various academic stages and allows for the systematic testing of vocabulary knowledge, this approach was deemed appropriate. Because they enable objective analysis of numerical data and produce accurate estimations of learners' lexical knowledge, quantitative methods are especially well suited for vocabulary study.

While the comparison component of the design made it possible to identify variations between students in their first and last semesters, the descriptive component was utilised to ascertain the average vocabulary size of each group. The study sought to give a thorough picture of vocabulary growth over academic semesters within the same institutional setting by integrating these two methods.

### **Participants and Sampling Technique:**

One hundred undergraduate students from Foundation University participated in the study. Of them, forty-eight were from the previous semester and fifty-two were from the first. A meaningful comparison of vocabulary size at the start and finish of undergraduate study was made possible by the inclusion of both entry-level and exit-level students.

Because individuals were willing and able to participate in the study, a convenience sample strategy was used. In educational research, where random sampling is limited by institutional access and time constraints, this sampling technique is frequently employed (Manzoor et al., 2016; Talpur et al., 2024). Participants were chosen from a variety of academic fields to increase representativeness, guaranteeing diversity in educational background and exposure to English.

### **Research Instrument:**

Testyourvocab.com, an online adaptive vocabulary assessment instrument intended to gauge students' receptive vocabulary size, was used to gather data (Nation, 2012; Xia et al., 2024). In order to administer the test, words of varying difficulty are presented, and item selection is modified in response to participant replies. This adaptive process makes it possible to quickly and effectively estimate vocabulary size. Testyourvocab.com was chosen for this study because it is useful, simple to administer, and has been used in prior vocabulary studies (Tian et al., 2022; Kurniawan, 2022). A maximum range of 20,000 word families is used by the tool to estimate vocabulary size, making it appropriate for learners at the university and adult levels.

### **Validity and Reliability of the Instrument:**

Numerous research have shown the authenticity and reliability of Testyourvocab.com. Online vocabulary size tests based on frequency levels offer fairly accurate estimations of learners' receptive vocabulary, according to Nation (2012). According to Tian et al. (2022), adaptive vocabulary testing techniques produce accurate results on par with conventional paper-based tools.

Additionally, because the difficulty level is modified based on participant replies, using an online adaptive tool lessens test weariness and guesswork. Testyourvocab.com is appropriate for assessing receptive vocabulary among college students in EFL contexts, according to earlier studies (Daskalovska, 2024; Saksittanupab, 2022). As a result, the tool was judged suitable for accomplishing the goals of the current investigation.

### **Data Collection Procedure:**

There were multiple steps involved in the data collection procedure. The goal of the study and the nature of the vocabulary test were first explained to the participants. Before any data was collected, all participants gave their informed consent. Participants were reassured that their involvement was entirely optional and that they could leave at any moment without incurring any fees. After that, pupils received information on how to access and finish the Testyourvocab.com test. Because the test was given one-on-one, participants could finish it at their own speed in a distraction-free setting.

This strategy guaranteed more accurate answers while reducing outside effects. Vocabulary size scores were produced automatically by the system when the test was finished. Participant anonymity was preserved while these scores were collected for additional analysis.

### **Ethical Considerations:**

Throughout the whole research process, ethical guidelines were adhered to. There were no incentives provided that could sway participants' answers, and participation in the study was completely voluntary. All information was utilised only for study, and participant identities were kept private.

Instead of utilising participants' names, the study used numerical codes to preserve anonymity. Furthermore, the researcher was the only one with access to the safely stored data. These actions were carried out in compliance with accepted ethical standards for educational research.

### **Data Analysis Techniques:**

Descriptive statistical methods were used to examine the gathered data. Based on the maximum vocabulary size of 20,000 words, vocabulary size scores from Testyourvocab.com were transformed into percentage scores (Rafique et al., 2022; Yilmaz & Kavanoz, 2024). Students' mean vocabulary scores for the first and final semesters were determined independently.

The two groups were compared by looking at how their mean vocabulary scores differed. This method made it possible to clearly identify patterns in vocabulary growth throughout academic semesters. To make comprehension and comparison easier, the results were subsequently displayed in tabular form.



**Results/Findings:**

Semester	No. of Students	Mean Vocabulary Score	Mean Percentage
First Semester	52	6,100	30.5%
Last Semester	48	6,400	32%

**Summary of Methodological Approach:**

In conclusion, the approach used in this study offered a methodical and trustworthy foundation for calculating and contrasting the English vocabulary size of Foundation University first and final semester students. The validity and reliability of the results were guaranteed by the use of a quantitative descriptive-comparative design, a recognised online assessment instrument, and ethical data gathering practices.

**Discussion:**

According to the study's findings, Foundation University undergraduate students in their final semester had a somewhat greater vocabulary in English than those in their first semester. The basic hypothesis that language knowledge grows progressively as students advance through higher education is supported by this finding. The fact that last semester students had a higher mean vocabulary score indicates that vocabulary growth over time is facilitated by prolonged contact with academic discourse, increased engagement with English-language materials, and sustained academic exposure.

These results are in line with earlier research showing favourable correlations between vocabulary size and academic advancement. Al-Momani (2022) discovered that advanced-year undergraduates had greater language knowledge than those in earlier study phases. In a similar vein, Rafique, Waqas, and Shahid (2022) found a strong correlation between university students' total English language competency and vocabulary size, suggesting that students continue to pick up new vocabulary as they progress academically. These findings are supported in the particular setting of Foundation University by the current investigation.

The vocabulary size difference between students in the first and last semesters was quite small, despite the noted progress. This implies that vocabulary expansion may be slower than anticipated throughout college studies. This result is consistent with study by Saud and Basthomi (2022), who contended that significant vocabulary development cannot be ensured by academic exposure alone.

Additionally, Gao (2022) stressed that the rate of vocabulary acquisition is greatly influenced by individual characteristics, learning methodologies, and instructional approaches.

As a result, even if advancing through college helps increase vocabulary, it could not be enough without focused teaching assistance. The low vocabulary growth seen in this study could be explained by a number of variables. Exam-oriented learning and rote memorisation techniques, which are prevalent in many EFL environments, including Pakistan, could be one explanation (Manzoor et al., 2016; Talpur et al., 2024). These methods frequently place more emphasis on short-term memory than on long-term lexical retention and meaningful word use. Vocabulary development may also be hampered by a lack of significant reading and a lack of exposure to real English input outside of the classroom. Additionally, using

Testyourvocab.com as an assessment tool offers valuable insights into the development of receptive vocabulary.

The slight increase in receptive vocabulary indicates that productive vocabulary growth may be even more constrained because receptive vocabulary often develops earlier and is greater than productive vocabulary (Yilmaz & Kavanoz, 2020; Basim, 2016). This emphasises the necessity of teaching strategies that promote vocabulary recognition as well as active vocabulary use in speaking and writing assignments.

The study's conclusions have significant pedagogical ramifications for university-level English language instruction. Vocabulary education shouldn't be limited to foundation or early semesters due to the gradual nature of vocabulary increase. Rather, vocabulary development ought to be methodically incorporated into undergraduate education at every level. Students' lexical development may be accelerated by incorporating vocabulary-focused activities like intensive reading programs, contextualised vocabulary drill, and explicit instruction of academic word lists.

The findings also imply that instructors and curriculum designers should prioritise learner autonomy and strategic vocabulary acquisition. Students' vocabulary may continue to expand outside of the classroom if they are encouraged to use efficient vocabulary-learning techniques including keeping vocabulary diaries, utilising digital learning resources, and reading independently.

Overall, the conversation shows that although vocabulary development is aided by academic advancement, the growth that is shown is still constrained in the absence of intentional pedagogical intervention. The results highlight the value of ongoing, clear vocabulary instruction to help students satisfy the lexical requirements of higher education.

#### **Conclusion and Recommendations:**

The study concludes that English vocabulary size improves modestly from the first to the last semester at Foundation University. To support vocabulary development, it is recommended that vocabulary instruction be integrated across all semesters, students be encouraged to read extensively in English, and opportunities for regular language practice be provided both inside and outside the classroom.

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