



A Systematic Literature Review: The Effectiveness of Vocabulary Size Tests on Students English Vocabulary and Writing Skills

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Abstract

This research aims to examine the benefits of integrating vocabulary size test in the context of learning English learners as well as the relationship between vocabulary and writing skills. Using the systematic literature review (SLR) method, this research analyzed 18 selected articles published between 2019-2024. The results of the research show that the web-based vocabulary measurement is proven to be effective and efficient in measuring the Vocabulary of English students. Its advantages include accessibility, time efficiency and ease of use. In addition, a strong positive correlation was found between vocabulary and students' writing skills at various levels of education. The integration of this technology not only increases student learning motivation but also has the potential to strengthen students' writing skills. In conclusion, developing a vocabulary size test website is an important strategy in modern English language learning since it facilitates increased mastery of vocabulary which ultimately supports the development of students' writing skills.

Keywords: English Language Learning, Vocabulary Size Test Website, Writing Skills

1. Introduction

Education plays a pivotal role in enhancing human quality of life. In this era of globalization, education does not only focus on theoretical knowledge but also concerns to the students' ability to develop skills and soft skills needed in various fields (Keng, 2024). Moreover, Kumar et al., (2022) also point out that the importance of having adequate skills is not only limited to the academic environment, but also very much needed in the world of professional setting and everyday life. Having a good skill will help someone to deal with the challenges and demands in today's era. In education, especially in learning English, there are four skills that must be mastered by the students such as listening skills, speaking skills, reading skills and writing skills. Listening and speaking are very important for communicating with other people in orally, while reading and writing skills are also very important for written communication. Among these four skills, writing is considered one of the most challenging, as it requires not only a deep understanding of grammar and structure but also the ability to effectively organize thoughts and ideas. Additionally, writing demands a rich vocabulary to express complex concepts clearly and accurately. Therefore, expanding and assessing vocabulary size is crucial, making the challenge of vocabulary development a significant factor in writing skills (Ramzan et al., 2023). And what is the most needed is an authentic learning media for students, so they can improve the main skills of English (Putra & Santosa, 2020). Since writing plays a crucial role in English learning it must always be developed to achieve success in English learning.

Moreover, strong writing skills can certainly empower students to articulate their ideas they have in term of writing. Nunan (2003) defines writing as both physical and mental activity, involving the act of putting pen to paper while organizing thoughts to ensure clarity for the reader. This theory underscores the critical role of writing skills in learning English, facilitating the development of students language skills, and abilities to organize ideas effectively and convey the ideas clearly (Bhowmik, 2021). Good writing skills will help students communicate the ideas and thoughts they have to others in writing more easily and effectively. Furthermore, writing skills hold immense importance in both academic and professional contexts. In an academic context, writing is important to crafting reports, papers, and theses. Meanwhile, in the professional fields, writing skills are needed when applying for a job and making CV, drafting letters, or various other important documents.

Writing skills are closely linked to vocabulary. Santosa et al., (2020) pointed out that vocabulary mastery is an essential foundation for building good English language skills, including writing. If vocabulary mastery is low, the writing score will likely be low too. Tri Harli et al., (2024) found that the result of their research showed that most of the students got high scores in the vocabulary test so that their writing skills also showed a high result too. This suggests that vocabulary is very important in improving writing skills. Several studies have shown that vocabulary is positively related with writing skills. This positive connection between vocabulary and students' writing skills has been observed at junior high school, senior high school and university levels. (Barus & Panjaitan, 2022; Mahmudah, 2014; Wiguna et al., 2021; Yuliastiani et al., 2021). Additionally, Susanto, (2017) added that the more vocabulary students know, the easier it will be for them to express ideas in writing. Conversely, someone with limited vocabulary might struggle to express their thoughts in writing. Precisely, learning vocabulary is not easy, especially since English is not the first language for many students. When learning English students face several challenges such as low motivation to learn vocabulary, lack of self-confidence because the students do not know where their current vocabulary level and difficulties in measuring vocabulary due to limited ability to carry out vocabulary test (Husnanissa, 2020). Therefore, it is crucial for students to continuously develop their vocabulary and find effective strategies in learning through the integration of technology in teaching and learning activities (Putri et al., 2023). One way to overcome these challenges is to measure vocabulary size periodically. Particularly the measurement tool is valuable to help students find out their current level of vocabulary, allow them to set improvement targets and enabling teachers or instructors to monitor the students' progress more effectively (Asyiah, 2017). Apart from that, the test results will be a guidance for students to be more motivated in learning new vocabulary, as evidenced by the positive impact on students' motivation and attitudes after being told about the results of the test (Tanaka, 2018). This shows that the significance of measuring vocabulary to enhance their motivation when getting the test result.

Regarding the previous explanation, the use of online platforms, applications and other digital tools can significantly support the learning process, particularly in providing effective measurement tools. The availability of sophisticated technology-based measurement tools, such as online vocabulary size tests can accurately and efficiently assess students' vocabulary in L2 learners contexts (Xia et al., 2023). A vocabulary size test website is designed to measure an individual vocabulary. These tests are aimed at providing predictions about someone vocabulary in both general and academic in English language learning (Nation, 2012 as cited in Tsuraya et al., 2018). By utilizing an online-based vocabulary size test, students can easily assess the extent of their current vocabulary. The

results of this test can serve as a reference for students to continue and improve their vocabulary based on their needs and desired targets. Additionally, online tests offer benefits such as flexibility in time and place, as well as ease to access and managing the data. Therefore, it is important to promote the wider use of this technology in the learning process to significantly improve students' vocabulary learning outcomes

Based on the literature review matrix, several studies have shown the effectiveness of vocabulary size test websites in measuring students' vocabulary as well as establishing a positive correlation between vocabulary and writing skills. The research findings indicate that implementing a website-based vocabulary size test can boost students' motivation to learn vocabulary and increase students' self-efficacy. Furthermore, vocabulary is also proven to be positively correlated to writing skills. The use of online platforms or application can support the learning process such as providing measurements tool accurately and effectively, as well as the characteristics can also be developed for students of various levels of proficiency. Students generally perceive these tools as a beneficial one. Besides, they are also more suitable in today's technological developments (Chen et al., 2024; Endarto & Subekti, 2020; Safriyani, 2019; Wulansari et al., 2023; Xia et al., 2023). Thus, as previously mentioned, measuring vocabulary can facilitate vocabulary the learning related to writing, several studies (Puspitasari et al., 2024; Tri Harli et al., 2024; Troia et al., 2023; Wiguna et al., 2021; Yasmini et al., 2022) have also found that vocabulary positively correlated with writing skills. Overall, the present study summarizes previous research between 2019-2024 regarding use of the vocabulary size test website and the relationship between vocabulary and writing skills in the context of English Language Learners, aiming to evaluate the effectiveness of vocabulary size tests on students' English vocabulary and writing skills.

1.1 Research question

- 1). What is the relationship between vocabulary and students' writing skills in English learners?
- 2). What is the benefit of integrating vocabulary size test website to English learners?

2. Method

This research used the Systematic Literature Review (SLR) method. Systematic literature review is a method used to interpret and evaluate the results of previous research related to a topic, to achieve certain goals. Research data and information were obtained from journal articles published from 2019 to 2024. All sources of information from journal articles were then collected and sorted using the PRISMA (Preferred Reporting Items of Systematic Review and Meta Analyses) to outline the process of searching for articles and eliminating the to match with topic interest. The PRISMA model was applied to search for the indicators that met requirements, article search process, article details, and article results.

2.1 Data collection technique

This research used Harzing's Publish or Perish software connected to Google Scholar as the main database. Searches are carried out by entering keywords related to the topic researched. The key phrases used are Vocabulary Size Test Website, Writing Skills, and English language Learning, with publication year limits between 2019-2024. Data collection follows the three stages of the PRISMA methodology: Identification, Filtering and Data Recording. Initially, 400 results were obtained from the databases. To ensure only

relevant data were included in the systematic review, inclusion and exclusion criteria were applied.

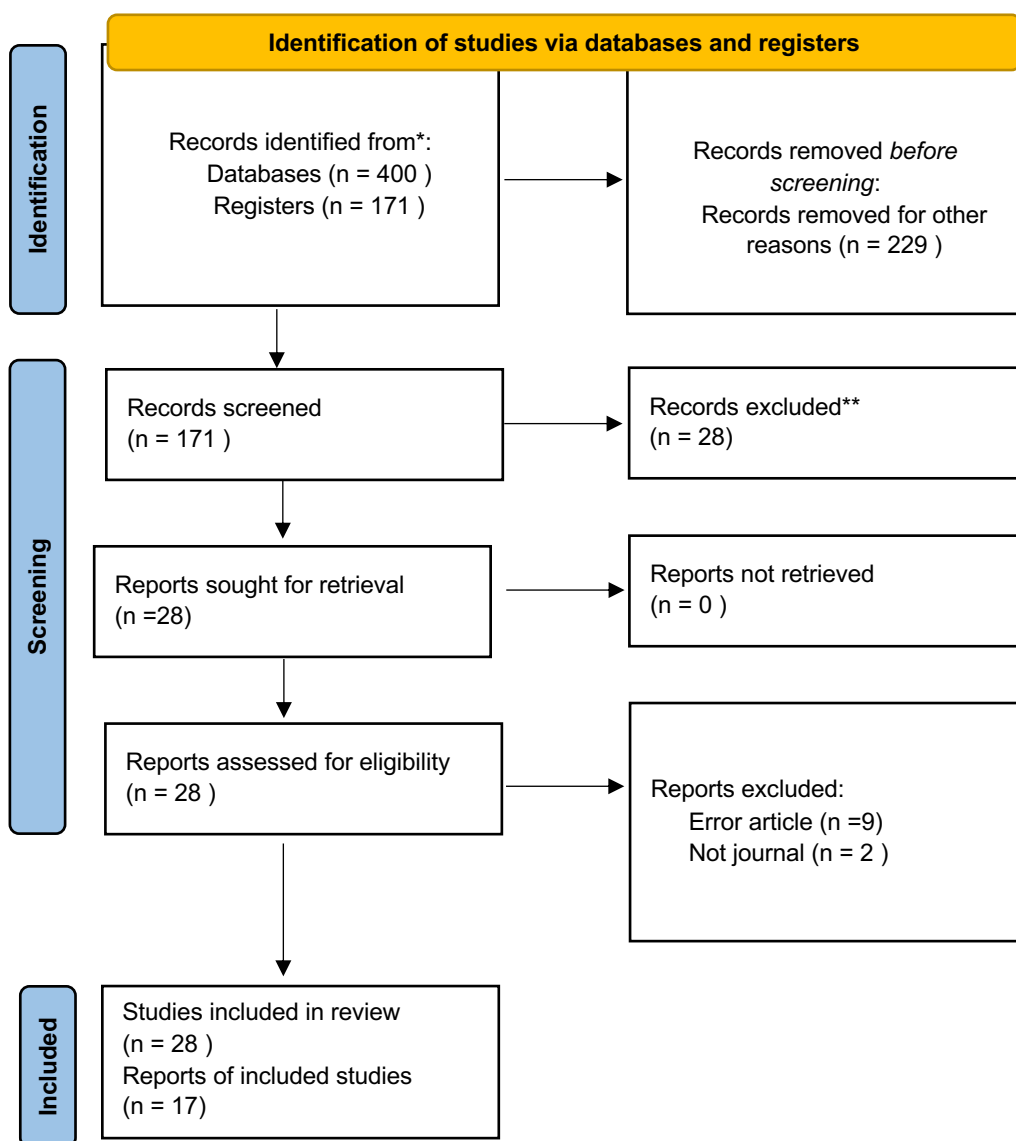


Figure 1. The PRISMA Model

To select relevant articles for this study, the researcher applied specific inclusion and exclusion criteria. These criteria help focus the review on the most relevant studies.

Table 1. Inclusion and Exclusion Criteria

Inclusion	Exclusion
The use of vocabulary size test website	Not using vocabulary size test website
Research on the online tool vocabulary test	Not research on the online tool vocabulary size test
Research on the correlation between students' vocabulary and writing skills	Not research on the correlation between vocabulary and students writing skills

The use of scientific method including quantitative, qualitative or mix method	Not using scientific method including quantitative, qualitative or mix method
Publication year 2019-2024	Not publish from 2019-2024
Using English Language	Not using English language

3. Results

In this session, the researcher will present the results and discussion of the systematic review that has been carried out regarding the relationship between vocabulary and students writing skills in English learner context and the benefits of integrating vocabulary size test website to students in English learner context?

3.1. Findings

The selected articles have been discussed the development of technology, particularly online-based vocabulary measurement to measure the size of students' English vocabulary. Several studies have been conducted exploring the use of online Vocabulary size tests, specifically to measure the size of students' English vocabulary. Previous research studies have highlighted the development of online vocabulary size tests in various countries. In this case, the focus of this research includes two important aspects: exploring the relationship between students' vocabulary and students' writing abilities as well as, developing an online vocabulary size test to measure the size of students' English vocabulary more effectively and efficiently. The results of the research show that there is a positive correlation between vocabulary and students' writing skills. Also, the development of an online-based vocabulary size test has great potential to provide significant benefits in improving students' vocabulary size through measuring the size of students' English vocabulary more effectively and efficiently. Further information about the findings from previous research can be found in Table 2, which presents more details regarding the research results.

Table 2. The Overview of Related Study

No	Author	Location	Result	Findings
1.	(Endarto & Subekti, 2020)	Indonesia	Effective	Vocabulary Size Test Website can be an efficient tools to measure students EFL Vocabulary Size.
2.	(Xia et al., 2023)	Asia	Effective	The development of artificial vocabulary measures has proven capable of solving problems and designing intelligent tests that can be adapted to the learner population
3.	(Winardi, 2023)	Banten, Indonesia	Effective	OAS.WEB.ID can easily and very quickly create online vocabulary quizzes and users can immediately get quiz results after taking the test.
4.	(Chen et al., 2024)	Asia	Effective	Proven to be effective in use because it takes 4 to 5 minutes to

5.	(Wulansari et al., 2023)	et Ponorogo, Indonesia	Effective	access and is easier and more accurate to use The use of this measurement tool has proven to be effective and efficient in terms of measuring the size of English vocabulary more accurately, adapting to the participants' abilities, and being more efficient in terms of time as well.
6.	(Safriyani, 2019)	et Surabaya, Indonesia	Effective	Students feel that the use of this vocabulary measuring tool is good to develop to measure students' vocabulary effectively and is also more practical to use.
7.	(Tri Harli et al., 2024)	et Sumatera, Indonesia	Have positive correlation	It was found a positive correlation between vocabulary mastery and writing skills, because the students who got a good score on vocabulary test also got a good score too at writing.
8.	(Wiguna et al., 2021)	et Bali, Indonesia	Have positive correlation	There are positive correlation between vocabulary size and also writing skills, because the data index show a very high correlation
9.	(Yasmini et al., 2022)	et Bali, Indonesia	Have a high, positive and serious relationship	There is a high, positive and serious relationship between students vocabulary knowledge and student's writing skills in context write a descriptive paragraphs
10.	(Puspitasari et al., 2024)	Bali, Indonesia	Have positive correlation	Provide a valuable role for understanding the factors that can influence students' writing skills, especially in the context of the correlation between vocabulary mastery and motivation.
11.	(Dwijanatha et al., 2022)	Bali, Indonesia	Have positive correlation	At SMAN 1 Kuta Selatan, it was found that vocabulary mastery and descriptive writing skills are closely related.
12.	(M Elvina et al., 2022)	et Palembang, Indonesia	Have a significant relationship	The data result shows that there is a very significant relationship with vocabulary mastery and descriptive writing skills in junior high school students in Palembang.

13.	(Gs et al., 2020)	Bandung, Indonesia	Have positive correlation	The data presented leads to the conclusion that in class 2 students at Tunas Baru Cipray Middle School, there is a positive correlation between the two, namely vocabulary mastery and writing skills.
14.	(Rizka Novitri et al., 2021)	Jawa tengah, Indonesia	Have positive correlation	Vocabulary mastery and writing scores are classified as good so it can be concluded that there is a positive correlation between the two at SMP 2 Pringapus
15.	(Yulastiani et al., 2021)	Lampung, Indonesia	Have a significant positive relationship	There is a significant positive relationship between vocabulary mastery which contributes 23.329% to writing ability
16.	(Limbong et al., 2020)	Sumatera Utara, Indonesia	Have a strong relationship	The results showed a low value of their vocabulary which was followed by writing skills which were also low. Based on this three studies in Senior high school it can be said that there is a very strong relationship between these two things
17.	(Syartika et al., 2020)	Sumatera, Indonesia	Have positive correlation	In 96 students at STKIP PGRI Sumatera show the significance value is 0.05, which means there is a positive relationship between descriptive writing skills and vocabulary mastery

3.2. Discussion

The first research question addressed, the relationship between vocabulary size and students writing skills in English learner context. The researcher found 11 articles that fit to the selection criteria through a systematic review. Table 2 is information about the articles included in the study about the relationship between vocabulary and students' writing skills in an English learner context. Based on the research that has been reviewed, it shows that there is a strong positive correlation between vocabulary and students' writing skills in the English learner context at various levels of education in Indonesia. However, it is important to understand that this relationship is mutually reinforcing.

On the one hand, at the junior high school level the large vocabulary allows students to express their ideas clearly in writing (Tri Harli et al., 2024). Mastery of a broad vocabulary gives students access to choose the right words to convey their ideas, thereby improving the quality and effectiveness of their writing. (Gs et al., 2020; M Elvina et al., 2022; Puspitasari et al., 2024; Rizka Novitri et al., 2021; Wiguna et al., 2021; Yasmini et al., 2022; Yulistiani et al., 2021). On the other hand, at the senior high school level, the writing activity itself also contributes to increase students' vocabulary. When students are involved in the

writing process, they will be exposed to new vocabulary and encouraged to learn and use these rich words in meaningful contexts (Limbong et al., 2020). The more students write, the more vocabulary they discover (Barus & Panjaitan, 2022; Dwijanatha et al., 2022). Apart from that, several studies also reveal that the relationship between vocabulary and writing ability in university level can be moderated by other factors such as learning motivation, effective vocabulary learning strategies, and the teaching methods used by teachers (Haerazi & Kazemian, 2021; Syartika et al., 2020)

By considering these factors, the teachers can design learning more effectively to increase students' vocabulary and writing skills simultaneously. Furthermore, in the English learner context, vocabulary is an important foundation for building good English language skills, including writing skills (Santosa et al., 2020). Therefore, systematic vocabulary teaching and the development of effective vocabulary learning strategies need to be a priority in English language teaching, so that students do not only have a large vocabulary, but also the ability to apply it in good writing skills. All these studies highlight the importance of vocabulary in the context of English learners. Some of the main findings reveal that vocabulary is positively related to students' writing skills. The implications suggest prioritizing vocabulary learning for students as the first step in improving students writing skills in the context of English language learners.

The second research question focuses on the benefits of integrating vocabulary size test website to students in English learning context. The researcher found 7 articles that met the selection criteria. Table 2 is the articles included in the study about the use of vocabulary size test websites for English language learners. Based on the findings of previous research that has been reviewed, the vocabulary size test website is defined as a tool that can be used to measure the extent to which someone has mastered vocabulary (Nation, 2012 as cited in Tsuraya et al., 2018). As explained define the online vocabulary size test can make it easier for students to take the test and is easy to access (Endarto & Subekti, 2020; Winardi, 2023). The online vocabulary size test is an effective and efficient vocabulary measurement tool in terms of time. Apart from that, previous research highlights the development of an online vocabulary size test for assessing students' vocabulary. The integration of technology, particularly smartphones into education has demonstrated a positive impact on academic achievement. In addition, in the current learning era, technology has become a crucial tool in teaching and learning process (Alam & Forhad, 2023; Juniantini et al., 2024). Other research finding also emphasizes that online platforms can significantly support the learning process such as providing measurement tools. The existence of measurement tools such as online vocabulary size test can accurately and effectively measure student's vocabulary in the L2 Learner context (Xia et al., 2023).

(Endarto et al., 2020) underline the importance vocabulary size test website because of its characteristics that can be developed for students of various levels of proficiency, the consistency in measuring vocabulary, easy to access and most importantly the score results are very easy to interpret. Apart from that, the results demonstrate that this website test have successfully measured the learners' English vocabulary in Indonesia. (Wulansari et al., (2023) examined an online-based vocabulary measurement tool specifically for students in Ponorogo, Indonesia, the research finding confirmed that this tool was effective in measuring the English vocabulary accurately adapting to the participants' abilities and optimizing time usage.

The previous research illustrate that online-based vocabulary size test can measure students' vocabulary more efficiently. The result of present research is in line with the findings of Safriyani, (2019) which states that students' feels the use of this tools effective in improving vocabulary measurement. Referring to previous research (Chen et al., 2024; Endarto & Subekti, 2020; Safriyani, 2019; Winardi, 2023; Wulansari et al., 2023; Xia et al., 2023), the use of vocabulary size test websites has been proven to be an effective tool in measuring vocabulary, such as 1) the visual impact of the website which can attract the users' attention, 2) the use of the vocabulary size test website is more efficient in terms of speed, time, accessibility, and easy to use anywhere and at any time, 3) it is also more suitable in today's technological developments. Therefore, developing a vocabulary size test website, especially in the context of English language learners, is very important as a strategy to attract student attention, streamline time, access and use of these tools can also increase student motivation in learning vocabulary which is also positively correlated with their writing skills.

4. Conclusion

This research reveals two main findings that answer the research question. First, there is a strong positive correlation between vocabulary and students' writing skills in the context of English language learners at various levels of education in Indonesia. This relationship is mutual, where a large vocabulary allows students to express their ideas better in writing skills. Meanwhile, the writing activity itself also contributes to increasing the students' vocabulary. Specific factors of learning motivation, effective vocabulary learning strategies, and teaching methods also influence this correlation. Second, the use of the Vocabulary size test website has proven to be effective and efficient in measuring the size of students' vocabulary. The main benefits include ease of access, time efficiency, consistency of measurement and the most important thing is that through measurement using this easy to access vocabulary size test website, it can make students easier to find out their current vocabulary level which will encourage them to study harder and will be able to improve their writing skills.

Besides, based on these findings, several implications and suggestions can be proposed. Systematic vocabulary teaching and the development of effective vocabulary learning strategies should be a priority in English language learning. Teachers can design more effective learning by considering the positive relationship between vocabulary and writing skills. The development and use of the vocabulary size test website needs to be improved as an effective and efficient measurement tool in the English language learning context. In addition, further research is needed to examine more deeply other factors that can influence the relationship between vocabulary size and writing skills in order to maximize the use of technology in measuring and learning vocabulary. By applying the findings in this research, it is expected that it can improve the quality of English language learning, especially in developing vocabulary size and writing skills in the context of English language learners.

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