

## **THE EFFECTIVENESS OF USING SPEECHACE IN IMPROVING THE VOCABULARY OF THE STUDENTS AT THE LANGUAGE CENTER UNIT**

**By:**

**Dini Riandini<sup>1</sup>, Nova Salma Romadhoni<sup>2</sup>, Dayana Rofiqoh<sup>3</sup>**

*Universitas Amikom Purwokerto, East Java, Indonesia<sup>1,2,3</sup>*

diniriandini@amikompurwokerto.ac.id<sup>1</sup>, nromadhoni673@gmail.com<sup>2</sup>,  
dayanarofiqoh@gmail.com<sup>3</sup>

**Abstract:** An important component in learning languages, especially English, is developing vocabulary skills. However, students experience difficulties in understanding vocabulary. The problems they face include a lack of vocabulary and audio speed. The problem of vocabulary skills in students can be overcome with the help of the Speechace application. This study aims to determine whether there is a significant difference in vocabulary mastery skills between students who received instruction using the Speechace application and those who did not. This study was conducted using a quasi-experimental method. To analyze the data, a t-test was used. Based on the results of the independent sample t-test, it was revealed that the  $p_{\text{value}}$  (0.000) was smaller than the  $\alpha_{\text{value}}$  (0.05) and the t-value obtained (8.463) was greater than the t-table value (4.734). This indicates that students who received instruction using the Speechace application and those who did not have significantly different vocabulary mastery skills. Therefore, students can learn vocabulary more effectively by using the Speechace application as a learning aid, particularly for English.

**Keywords:** application, speechace, vocabulary skills

### **INTRODUCTION**

In today's globalized era, English has become essential for daily communication and international interaction. Studies show that strong English proficiency supports academic achievement and

effective participation in a global society. Kulak (2025) highlights the importance of active communication in developing key language skills, while Yaccob et al. (2022) note that innovative tools such as gamification can enhance engagement and

learning. Therefore, improving students' English proficiency is crucial for their academic success and global readiness.

To become proficient in speaking, writing, listening, and reading, learners need a strong vocabulary foundation. Vocabulary is central to language learning, as a richer vocabulary leads to greater fluency (Sasmitha & Thamrin, 2022). Therefore, strengthening students' vocabulary is essential for their overall success in learning English.

Vocabulary is vital for language proficiency, and classroom media can help students build it effectively. Interactive tools like games, music, and images increase students' interest and participation (Permana, 2020). Therefore, selecting engaging media is crucial for supporting vocabulary development.

Students are expected to master English to compete in the global workforce (Prastiwi & Hayati, 2021; Benazir et al., 2024). However, vocabulary mastery remains a challenge even at the university level, including among Informatics Engineering students who have taken English courses. Without strong vocabulary skills, effective communication in English is difficult. To improve proficiency, the Language Unit at Amikom Purwokerto University conducts English certification. Therefore, integrating the Speechace application is recommended to help strengthen students' vocabulary and overall English mastery.

Speechace is a website founded by Abishek Gupta in 2014 that supports English learners in developing their speaking skills

through speech recognition technology. The platform also provides features that can assist with vocabulary mastery, as illustrated in the screenshot below. When integrated effectively into curriculum design, tools like Speechace can significantly enhance language acquisition, indicating that educators can leverage such technology to strengthen and enrich their teaching strategies (Moxon, 2021; Amin et al., 2024). Thus, the incorporation of such digital tools offers meaningful opportunities to create more engaging, personalized, and effective language-learning experiences. See Figure 1 for the Speechace website.



**Figure 1. Screenshot of the Speechace website**

Speechace is a speech-recognition tool that assesses pronunciation and fluency while providing immediate, detailed feedback (Riandini et al., 2024; Wariyati et al., 2020). As one of the first platforms to use API-based speech analysis (Mutiarra et al., 2024), it is user-friendly and allows teachers to create prompts, students to record responses, and the system to analyze speech automatically. It can be integrated into LMS platforms such as Moodle, Blackboard, and Canvas, and is accessible across multiple devices for unlimited practice. Research shows that Speechace improves speaking and vocabulary skills and offers personalized, interactive learning experiences (Afidah et al., 2025). Overall, it serves as an effective digital tool for

enhancing students' English proficiency.

Previous research shows that vocabulary learning applications can significantly improve students' English skills. Studies by Wigati (2024) and Abimanto and Mahendro (2023) reported strong gains in student performance. Recent findings also show positive student responses to platforms like SpeechAce, whose user-friendly and AI-driven features increasing engagement, motivation, and speaking performance (Darmawan et al., 2024). Structured listening-based training (Kawahara et al., 2016) further supports the idea that tools like SpeechAce can enhance auditory skills through systematic practice. This aligns with Zahran and Owusu's (2020) recommendation to integrate authentic listening materials with

interactive technology to strengthen overall language learning.

This study was conducted at the Faculty of Computer Science, Amikom University Purwokerto, where English is widely used in academic activities. The aim was to examine university students' perceptions of the Speechace website in improving their English vocabulary.

## **METHODOLOGY**

This study used a quasi-experimental method design. Sample determination using the purposive sampling technique. Based on certain criteria, including having the same total number and being taught by the same English lecturer. The same English lecturer, two groups were selected as the sample, namely as samples, students of the Faculty of

Computer Science (FIK) and the Faculty of Business and Social Sciences (FBIS) during the preparation period for the English certification exam in February 2025 as well as students of the Faculty of Business and Social Sciences (FBIS).

Selected as samples based on predetermined criteria that have been determined. Therefore, a coin toss was used to determine which group was the experimental group and control group. As a result, FIK students were selected as the control group and the FBIS class as the experimental group. There were 156 participants in the sample. The cloze procedure test questions used in the written exam to acquire data, written exam to obtain data. To test to test the data, the t-test was used.

## **RESULTS AND DISCUSSION**

This section presents the results of the statistical analysis and discusses the effectiveness of using the Speechace application in improving students' listening skills compared to conventional methods. The findings are based on pre-test and post-test scores from both the experimental and control groups.

**Table 1**  
**Statistical Results of the Experimental and Control Groups**

<b>Test Type</b>	<b>Mean Score</b>	<b>t-obtained</b>	<b>t-table</b>	<b>p-value</b>
Pre-test Exp	74.53	25.76	2.00	0.000
Post-test Exp	89.51			
Pre-test Cont	62.06	11.425	2.00	0.000
Post-test Cont	75.06			

The results of this study, namely from the experimental group's statistical analysis, reveal that the students' average score on the post-

test (89.51) was higher than that on the pre-test (74.53). The t-value obtained (25.76) was greater than the critical value (t-table 2.00), while the p-value (0.000) was lower than the  $\alpha_{\text{value}}$  (0.05). This indicates that the experimental group's listening skills have improved. The Speechace application allows students to participate in the listening process and practice listening directly, which helps them improve their listening skills and practice the vocabulary they have heard. After that, students can discuss the correct answers while asking the teacher about the meaning of those terms. Statistical analysis of the control group shows that the average student score in the post-test (75.06) is higher than the average score in the pre-test (62.06). The t-value obtained (11.425) and the p-value (0.000) are smaller than the  $\alpha$ -

value (0.05). Students in the control group showed improvement in their listening skills. This was due to the students' motivation to learn about listening exercises, and the control groups made progress. Students' vocabulary and pronunciation can be improved by listening to audio from native speakers.

**Table 2**  
**Statistical Results of the Independent Sample t-test**

<b>Test Type</b>	<b>Mean Difference Score</b>	<b>t-value</b>	<b>t-table</b>	<b>p-value</b>
Post-test Exp	89.51	8.463	4.734	0.000
Post-test Cont	75.06			0.000

The independent samples t-test, as stated in Table 2, shows that the p-value (0.000) is less than the  $\alpha$ -value (0.05) and the t-obtained (8.463) is higher than the critical t-table (4.734). Therefore, the students in the experimental group had better improvement in their listening skills

than the students in the control group. After the treatment in the experimental group, the use of the Speechace application improved students' vocabulary knowledge and overall English proficiency. Students reported that Speechace is convenient and helpful for learning vocabulary, listening, and pronunciation, as it allows practice anytime and anywhere. This is supported by previous studies, which have shown that Speechace's immediate feedback is user-friendly and interactive, making it effective for EFL learners (Ningsih, 2024). Its integration into classroom settings also enhances the learning experience by complementing traditional teaching with real-time evaluations and continuous assessment of speaking skills (Afidah et al., 2025; Moxon, 2021). When effectively incorporated

into curriculum design, tools like Speechace can significantly support language acquisition and enrich teaching strategies (Moxon, 2021; Amin et al., 2024). Moreover, Speechace aligns with current methodological approaches that promote learner engagement and provide valuable support for teachers, highlighting the need for proper training and awareness of technological advancements in language education (Khoirunnisa & Trisanti, 2025; Hotamova, 2025). Overall, these findings reinforce the potential of Speechace as a powerful digital tool for enhancing students' language learning outcomes.

## **CONCLUSION**

Based on the research findings, students found the Speechace app highly beneficial in the teaching and

learning process, particularly in improving their understanding of English vocabulary, and they enjoyed engaging with the English audio provided. The app was effective in enhancing vocabulary mastery, and overall, students at Amikom Purwokerto University, through the Language Unit, demonstrated noticeable improvement in their vocabulary skills after using Speechace.

#### ACKNOWLEDGMENT

The researchers would like to express their gratitude to Amikom University Purwokerto for their assistance, which enabled this research to run smoothly and be completed.

#### REFERENCES

Abimanto, D., & Mahendro, I. (2023). Efektivitas penggunaan teknologi AI dalam pembelajaran bahasa Inggris. *Sinar Dunia: Jurnal Riset Sosial Humaniora Dan Ilmu Pendidikan*, 2(2), 256–266.

<https://doi.org/10.58192/sidu.v2i2.844>

Afidah, N., Agustina, U. W., & Ma'arif, I. B. (2025). Investigating students' perspective on the use of speechace platform in pronunciation skills of English Department Freshman Students. *Schoolar: Social and Literature Study in Education*, 5(1), 31–38. <https://doi.org/10.32764/schoolar.v5i1.5863>

Amin, J. (2024). Speechace's action in improving pronunciation at senior high school. *Jurnal Ilmu Pendidikan Muhammadiyah Kramat Jati*, 5(2), 290–294. <https://doi.org/10.55943/jipmukjt.v5i2.287>

Benazir, A., Xu, Z., & Lin, F. X. (2024). Speech understanding on tiny devices with a learning cache. *MOBISYS 2024 - Proceedings of the 2024 22nd Annual International Conference on Mobile Systems, Applications and Services*, 425–437. <https://doi.org/10.1145/3643832.3661886>.

Darmawan, A., Hariri, M., & Vega, D. (2024). Students' attitude in using artificial intelligence based speaking activity in classroom. *E-Link Journal*, 11(2), 183–192. <https://doi.org/10.30736/ej.v11i2.1125>

Hotamova, I. (2025). Integrating artificial intelligence into the development of English

- speaking skills: Based on the applications Elsa Speak and SpeechAce. *TNJ*, 7(70), 168-170.  
<https://doi.org/10.69691/c9ex0x53>
- Kawahara, K., Takada, M., Iwamiya, S., & Ito, T. (2016). Transferring technical listening training curriculum at the department of acoustic design, Kyushu University, to a corporation in the acoustics industry. *Acoustical Science and Technology*, 37(4), 157-164.  
<https://doi.org/10.1250/ast.37.157>
- Khoirunnisa, A. and Trisanti, N. (2025). Improving pronunciation and speaking confidence with speechache in 8th grade English learning. *Language Circle Journal of Language and Literature*, 19(2s), 281-293.  
<https://doi.org/10.15294/lc.v19i2s.31420>
- Kulak, V. (2025). Learning a foreign language as a second: the role of active communication and lexical enrichment. *Zhytomyr Ivan Franko State University Journal Pedagogical Sciences*, 2(121), 165-181.  
[https://doi.org/10.35433/pedagogy.2\(121\).2025.12](https://doi.org/10.35433/pedagogy.2(121).2025.12)
- Moxon, S. (2021). Exploring the effects of automated pronunciation evaluation on L2 students in Thailand. *Iafor Journal of Education*, 9(3), 41-57.  
<https://doi.org/10.22492/ije.9.3.03>
- Mutiara, A., Wakhda, S. C., Alfidariyani, I. M., & Indriani, L. (2024). The Effectiveness of speechace website on students' pronunciation. *English Education: Journal of English Teaching and Research*, 9(1), 92-104.  
<https://doi.org/10.29407/jetar.v9i1.22372>
- Nguyen, N. V., Vo, T. T., & Tran, V. D. T. (2025). AI-Driven pronunciation assessment: the impact of speechace on EFL learners' pronunciation competency. *Call-Ej*, 26(3), 84-106.  
<https://doi.org/10.54855/callej.252635>
- Permana, I. G. Y. (2020). Teaching vocabulary for elementary school students. *The Art of Teaching English as a Foreign Language*, 1(2), 1-4.  
<https://doi.org/10.36663/tatefl.v1i2.56>
- Prastiwi, A. D., & Hayati, K. R. (2021). Efektivitas game android sebagai media pengajaran untuk meningkatkan kosa kata bahasa Inggris di kalangan mahasiswa teknik perkapalan. *Tekmapro: Journal of Industrial Engineering and Management*, 16(2), 25-35.  
<https://doi.org/10.33005/tekmapro.v16i2.208>

- Riandini, D., Marlita, R., Romadhoni, N. S., & Subarkah, P. (2024). Pelatihan aplikasi speechace untuk meningkatkan kemampuan bahasa Inggris bagi guru. *Jurnal Abdi Nusa*, 4(3), 250-254.
- Sasmitha, I., & Thamrin, H. (2022). Meningkatkan minat belajar bahasa Inggris dengan aplikasi duolingo sebagai media interaktif di rumah pintar YAFSI. *Literasi Jurnal Pengabdian Masyarakat Dan Inovasi*, 2(2), 732-737. <https://doi.org/10.58466/literasi.v2i2.1414>.
- Suharso, M., & Dalimunthe, A. A. (2025). *The use of yoodli as media to improve speaking skills in English education students*. 4778, 2270-2284. <https://doi.org/10.24256/ideas>.
- Wariyati, Sujarwo, & Maulia, A. D. (2020). *Pelatihan aplikasi speechace untuk peningkatan kefasihan berbahasa Inggris Pada Guru – Guru MTS Al Jam ' Iyatul Washliyah Dalu X A Kabupaten Deli Serdang*. 4(2), 2-5.
- Wigati, N. (2024). Efektivitas Penerapan aplikasi falou untuk meningkatkan kemampuan berbicara bahasa Inggris. *Jurnal Pendidikan dan Pembelajaran Khatulistiwa (JPPK)*, 1(01), 190-199.
- Yacob, N., Rahman, S., Mohamad, S., Rahim, A., Rashid, K., Aldaba, A., ... & Hashim, H. (2022). Gamifying ESL classrooms through gamified teaching and learning. *Arab World English Journal*, (8), 177-191. <https://doi.org/10.24093/awej/call8.12>
- Zahran, F. & Owusu, E. (2020). Shadow-reading strategy effect on EFL listening comprehension skills and motivation. *International Journal of Linguistics Literature and Translation*, 3(10), 18-29. <https://doi.org/10.32996/ijllt.2020.3.10.3>