



iVoca Application as a Tool to Learn English Vocabulary: Students' Perception

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Abstract

The development of artificial intelligence (AI)-based technology is accelerating, making the learning process easier and increasing its effectiveness. This study aims to evaluate the success of the iVoca application in improving English vocabulary mastery and to understand students' perceptions of its use. The methods used include questionnaires and interviews with 10 twelfth-grade students at a high school in Medan. The results show that 78.6% of students stated that iVoca made vocabulary learning less boring thru word game features, daily challenges, and visual and audio media that support understanding. Additionally, 71.4% of students felt more focused and motivated while using this application, while 75% were willing to recommend it to their friends. The findings also revealed major limitations, such as dependence on internet connectivity and limited media variety. These results indicate that iVoca is effective in increasing learning motivation and vocabulary mastery in the context of online learning. This research provides important insights into the development of educational technology that is more responsive to student needs, with practical implications for improving technology-based learning media to be more inclusive and adaptive.

Keywords: *iVoca, Students Perspective, Vocabulary, Technology*

Introduction

The current development of artificial intelligence (AI) technology has rapidly advanced and has a significant impact on education, including English language learning. This technology simplifies the learning process and provides various innovations in teaching methods, particularly in vocabulary acquisition, which is the cornerstone of communication. According to Read (2000), vocabulary mastery is not limited to recognizing word forms visually and auditorily, but also includes understanding their meaning and use in various contexts. Firmansyah (2016) emphasizes that vocabulary is very important in overall English proficiency because it is directly related to speaking, listening, reading, and writing skills. However, the

implementation of technology in the learning process is not without challenges. Some common challenges include limited internet connectivity and the diverse learning styles of students, such as visual, auditory, and kinesthetic. Suyanto (2009) emphasizes that vocabulary mastery must be accompanied by adequate experience for students to use it effectively. These limitations highlight the importance of developing innovative learning media that can overcome these obstacles.

In line with this, this study aims to evaluate the effectiveness of the iVoca application in improving students' vocabulary mastery and to explore their perceptions of using this application. Specifically, the research focuses on determining the extent to which iVoca can improve vocabulary skills and how students view the features and benefits of the application.

This study is important because it can provide insights into the effectiveness of innovative AI-based learning media and add to the reference base for developing English language learning media that are adaptive and responsive to student needs. The results of this research are expected to help educators and application developers create more engaging and effective learning media, while also providing direct insights from students' experiences and perceptions of using technology in vocabulary learning.

A number of experts assert that interactive media and AI-based technology can enhance student motivation and learning outcomes. Beck, McKeown, & Kucan (2021) state that effective vocabulary instruction should present experiences directly related to real-world contexts to make vocabulary retention and use more lasting. Additionally, research by Hakim and Lukman (2024) indicates that applications like Duolingo and ELSA Speak can assist in the English language learning process, but they still have limitations in providing in-depth feedback on grammar and pronunciation aspects. They emphasized that developing features capable of supporting diverse learning styles and providing more detailed feedback is essential for the success of technology-based learning.

iVoca is an AI-based vocabulary learning application designed to enhance students' learning experience with features such as word games, daily exercises, audio-visual aids, and automatic feedback that helps students improve their pronunciation directly. The application can also be accessed offline, supporting learning in areas with limited internet connectivity, and is expected to meet diverse learning styles and increase students' motivation to learn.

This study places greater emphasis on the direct perspectives and experiences of students as the primary users of the iVoca application in the context of high school learning, differing from previous research that was more focused on the quantitative effectiveness of vocabulary improvement alone. This approach is important because student perception is a key factor in the successful implementation of technology in education. This study specifically examines the features provided by the iVoca application, such as word games, daily exercises, and automatic feedback, and assesses the effectiveness and challenges faced by students

when using these features. This provides a new contribution to understanding technical aspects and user experiences that have not been widely discussed in previous literature, particularly in the context of developing AI applications. Therefore, the results of this study can serve as an important reference for developers of AI-based educational applications to further improve quality, accessibility, and feature diversity to meet the learning style needs of students and learning conditions in Indonesia. Thus, this research directly contributes to the field of developing adaptive and innovative learning media, expanding understanding of the real-world implementation of this technology.

Method

This study uses a descriptive qualitative method to analyze students' perceptions of using the iVoca application in English language learning, specifically in vocabulary mastery. According to McCusker and Gunaydin (n.d.), qualitative methods are used to obtain data that reflects real-world conditions thru in-depth information gathering. This research involved 32 students from class XII IPS 2 at one of the public high schools in Medan City as participants. The selection of this class was based on considerations of adequate internet access, the unique characteristics of the class, and the ease of data collection.

The sampling technique used is purposive sampling, which is the intentional selection of participants based on specific criteria. The participant criteria are as follows: active students from class XII IPS 2, with at least two weeks of experience using the iVoca application, having participated in at least two English learning sessions using the application, and demonstrating an interest in improving English vocabulary mastery thru active participation in vocabulary tasks. The demographic information of the participants includes 32 students aged 16–18 years, from class XII IPS 2, and with an intermediate level of English proficiency based on report card scores and vocabulary pre-test results.

Data collection was carried out using two main methods: questionnaires and interviews. The questionnaire was created in Google Forms format and distributed via WhatsApp. The questionnaire consists of 10 questions, both closed and open-ended, designed to evaluate students' perceptions of the iVoca application. The aspects measured include ease of use, effectiveness in improving vocabulary, most helpful features, learning motivation, and student engagement. Examples of questionnaire items include: (1) How often do you use the iVoca application in a week? (2) Do you feel your English vocabulary has improved after using iVoca? (3) Which feature has helped you the most in learning vocabulary? (4) Do you feel more motivated to learn English with iVoca? (5) List three new words you learned thru this application.

Additionally, the interviews were conducted face-to-face in the classroom, lasting approximately 15–20 minutes per student. The interviews were recorded using a voice recorder (with the participants' permission) for transcription and analysis purposes. The three main questions in the interview are: (1) How was your

experience using the iVoca application to learn English vocabulary? (2) What are the advantages and disadvantages of this application in your opinion? (3) Does this application help you understand the context of word usage?

Data from the questionnaire were analyzed using thematic analysis techniques by grouping responses based on the main themes that emerged. Interview data were transcribed and analyzed using an open coding approach, then categorized to identify patterns in students' perceptions. The results of both methods were compared and confirmed thru triangulation techniques. This study uses source and method triangulation to enhance data validity and credibility. Data from questionnaires and interviews are compared to assess the consistency of students' perceptions.

According to Baxter, Susan Jack, and Jack (2008), triangulation is a powerful strategy for viewing phenomena from multiple perspectives. Before data collection, the researcher obtained written consent from the school and participants. Each participant was given an explanation of the research objectives, their right to refuse or discontinue participation at any time, and assurances that their data would be kept confidential and used only for academic purposes. Data collection will be conducted from November 1st to 14th, 2024, with the iVoca application intervention lasting for four weeks in October 2024. Data analysis will be performed from December 12th to 30th, 2024. Because it uses purposive sampling techniques and only involves one class, the results of this study cannot be generalized to the entire population of high school students in Medan. However, these findings still provide valuable insights into students' perceptions of using technology-based learning applications.

Result

This study aims to determine students' perceptions of using the iVoca application to improve English vocabulary mastery. Data was obtained from 28 students who completed questionnaires and 10 students who were interviewed. The research results show that 78.6% of students (22 out of 28) feel that learning vocabulary has become more enjoyable and less boring thanks to the interactive features offered by iVoca, such as word games, daily challenges, context-based exercises, and visual and audio support. This is also reflected in the interviews, where 8 out of 10 students stated that this application makes them more interested and comfortable in learning vocabulary. For example, Student 2 stated, "This application makes learning vocabulary interesting and fun. I feel comfortable using it," and Student 4 added, "The design of this application is intuitive and enjoyable to use in class."

Additionally, 71.4% of students (20 out of 28) reported feeling more focused, motivated, and challenged while using the application, which positively impacted their vocabulary retention and understanding. Seven out of ten students interviewed also said the same. Student 8 said, "Interactive tasks make me more enthusiastic

about learning," while Student 6 mentioned, "I feel more motivated because there are daily challenges." In terms of vocabulary mastery effectiveness, 75% of students (21 out of 28) stated that the application helped them remember and understand new vocabulary more effectively. Nine out of 10 students interviewed also mentioned that the available exercises were very helpful in strengthening their vocabulary mastery. Student 3 stated, "This application helps me learn new words and reinforce the ones I already know," and Student 5 added, "The available exercises are very helpful for me to master vocabulary."

Ease of use and interface design were also a concern for students, with 67.9% of students (19 out of 28) feeling that the iVoca application was easy to use and had a user-friendly interface. Six out of ten students interviewed stated the same. Student 7 said, "This app is easy to use and has a simple interface," and Student 9 stated, "I like it because it's not complicated and can be used right away." Additionally, 75% of students (21 out of 28) expressed their willingness to recommend this application to their friends, indicating a high level of satisfaction and confidence in the application's effectiveness. Five out of 10 students interviewed also stated the same.

However, this study also found some technical constraints. A total of 32.1% of students (9 out of 28) experienced difficulties navigating the interface, and 42.9% of students (12 out of 28) cited dependence on internet connectivity as a major obstacle. Four out of the 10 students interviewed also stated this. Student 10 stated, "The internet connection sometimes makes it difficult for me to access the application," and Student 1 added, "The initial display is a bit confusing." Nevertheless, this constraint did not diminish students' positive perception of the overall benefits of the application.

The complete results of the questionnaire show that: (1) 78.6% of students find vocabulary learning more enjoyable with iVoca; (2) 71.4% feel more motivated; (3) 75% feel helped in remembering new vocabulary; (4) 67.9% find the application interface easy to use; (5) 42.9% experienced technical difficulties; (6) 71.4% feel more focused while learning; (7) 82.1% find features like word games and daily challenges helpful; (8) 78.6% want to continue using iVoca in English learning; (9) 75% are willing to recommend this application to friends; and (10) 85.7% feel this application supports classroom learning. Out of a total of 32 students, only 28 completed the questionnaire in full, while four students did not respond to all the questions. Interview quotes have been consistently coded from Student 1 to Student 10. Further interpretation of these findings will be discussed in the discussion section to maintain the separation between data description and analysis.

Discussion

The main result of this study indicates that the iVoca application significantly improves students' English vocabulary mastery thru an interactive, fun, and user-friendly approach. Most students feel that features like word games, daily challenges, context-based exercises, and visual and audio support make learning more engaging and less boring. Additionally, students reported increased motivation, focus, and

emotional engagement while using the app, which positively impacted vocabulary retention and comprehension. An unexpected finding was the high level of enthusiasm among students to recommend this application to their friends, indicating that iVoca not only serves as a learning aid but also as a social learning medium that builds confidence.

This finding supports Garcia's (2023) theory, which states that digital tools have great potential to transform student engagement and create immersive learning experiences. In the context of iVoca, the gamification features and user-friendly interface proved capable of increasing student participation and motivation, aligning with Garcia's idea of the transformative power of technology in education. Bass et al. (2019) also emphasized the importance of a deep understanding of how technology can support learning outcomes. Data from questionnaires and interviews show that the intuitive interface design and relevant features in iVoca are very helpful for students in memorizing and understanding new vocabulary, supporting Bass's argument that well-designed technology can make a real contribution to learning achievement.

Furthermore, James Paul Gee's (2007) theory on educational technology such as learning games is highly relevant. Gee stated that technology can create deep learning experiences thru immediate feedback and challenge-based learning. The iVoca application provides daily challenges and instant feedback that encourage students to learn actively and understand vocabulary usage in a broader context. This demonstrates that iVoca not only supports vocabulary memorization but also strengthens contextual understanding, aligning with Gee's idea about the effectiveness of technology in enhancing motivation and learning outcomes.

In comparing the results of this study with previous studies, there is a similarity with the findings of Hakim and Lukman (2024), who researched the Duolingo and ELSA Speak applications. They found that although the application increased learning motivation, there were limitations in providing in-depth feedback regarding grammatical and pronunciation aspects. This research also found that some students felt the features in iVoca did not fully support their learning styles, particularly in understanding vocabulary in depth. Some students complained about the less intuitive interface and the reliance on an internet connection as technical barriers. This indicates that, as in Hakim and Lukman's research, further development is needed for learning technology to provide more comprehensive support.

This finding is also consistent with Tiara Luthfi's (2024) research on the Wordwall media, which showed that although the media is helpful in English language learning, technical limitations and a lack of in-depth feedback reduce its effectiveness. However, iVoca has advantages over Wordwall in terms of feature flexibility and a more complex gamification approach. Compared to Duolingo and ELSA Speak, iVoca is more focused on vocabulary mastery and offers context-based challenges that are more relevant to the needs of students in Indonesia.

The limitations of this research need to be acknowledged. The research only involved one class (XII IPS 2) with a limited number of participants (32 students), so the results cannot be generalized to the entire population of high school students in Medan or Indonesia. Additionally, the use of purposive sampling techniques limits the representation of students with different learning styles. Dependence on internet connectivity is also a significant constraint, especially in regions with uneven digital infrastructure.

Contextual factors such as the research location in Medan, Indonesia, also influence the results. Students in this area may have limited access to technology and stable internet connections, so their perception of digital applications like iVoca could be different compared to students in major cities or countries with more advanced technological infrastructure. However, the students' enthusiasm for this application shows that learning technology designed with local context in mind can still have a positive impact.

The practical implication of this research is the need for teachers and application developers to pay more attention to user needs in the local context. Teachers can utilize iVoca as a learning tool that encourages active student engagement, while application developers need to simplify navigation, provide offline features, and broaden the scope of feedback to better accommodate diverse learning styles. This finding also indicates that the integration of technology in English language learning must be accompanied by adequate training and technical support.

For future research directions, studies with larger and more diverse samples are needed, as well as testing the iVoca application in various educational contexts, such as schools in remote areas or with different levels of English proficiency. The unanswered questions are how this application can be integrated with the national curriculum, and how effective it is compared to traditional teaching methods in the long run. Further research could also explore the impact of using iVoca on other language skills, such as reading, writing, and speaking.

Conclusion

The findings of this study indicate that the iVoca application is generally viewed positively by students because it makes vocabulary learning more enjoyable and interactive. From a student's perspective, features like word games and daily exercises are considered engaging and motivate them to learn consistently. Many students feel that the approach offered by iVoca aligns with their more dynamic and experience-based learning styles. However, students' perspectives also reveal some challenges that need attention, such as difficulties navigating the application interface and dependence on a stable internet connection. For students experiencing technical difficulties or with limited internet access, this becomes a barrier to optimal utilization of the application.

Additionally, some students mentioned that certain features do not fully support various learning styles, especially for those who require a more visual, auditory, or kinesthetic approach. This perspective is important because it shows that the effectiveness of an application depends not only on the content, but also on how that content is presented and accessed by users. Therefore, student feedback serves as a strong foundation for further development, such as refining the interface design to be more intuitive, adding offline access features, and providing more detailed and direct feedback on vocabulary and pronunciation mastery. By integrating student perspectives into the evaluation and development process, the iVoca application can become more inclusive and responsive to the real needs of users. This not only improves the quality of learning but also strengthens the role of technology as an adaptive educational tool focused on student learning experiences.

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