

Improving the Japanese College Students' Academic Vocabulary Mastery on Synonyms With *Kahoot!*

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Abstract

Acquiring a strong vocabulary is a crucial skill for college students. However, in the context of English as a Foreign Language (EFL) learning in Japan, students often struggle with acquiring new vocabulary due to a lack of exposure to new English words. This case study aimed to explore the impact of *Kahoot!*, an online quiz platform, on Japanese college students' academic vocabulary mastery of synonyms and their perceptions of the learning process. Sixty Japanese university students majoring in Literature, Community and Human Services, and Contemporary Psychology and learning English as a foreign language participated in the study during the spring semester of academic year 2023. The quantitative results derived from pre- and post-tests presented that the students' mean scores on a 50-point synonym test increased from 31 to 39 points, representing 26% improvement, from the start to the end of the semester. The qualitative analysis of students' feedback revealed that they had positive experiences with *Kahoot!* with the majority reporting the most significant improvement in reading (45%), followed by writing (33.3%) and even speaking (21.7%) skills. The author suggests that English teachers incorporate *Kahoot!* to improve their students' mastery of academic vocabulary through synonyms and recommends additional academic tasks to maximize their learning.

Keywords: *ICT use in Education, Kahoot!, Academic vocabulary learning, Synonyms*

Introduction

“How can I build my vocabulary efficiently and effectively?” or “I struggle with reading quickly because I stop reading when I find unfamiliar words.” These are common questions or concerns that the author has been asked by students in the classroom. The challenges of mastering a foreign language, particularly in countries like Japan where English is taught as a second language, are far-reaching. The intricacies of language acquisition with the focus on the essential role of vocabulary, have been extensively explored by scholars like Webb (2007) and Nation (2022). In their seminal works, they underscored the indispensable nature of vocabulary acquisition for language learners, with Wilkins (cited from Thornbury, 2002), going so far as

to assert that “*without grammar, little can be conveyed, and without vocabulary, nothing can be conveyed.*” It is evident that a robust vocabulary lays the foundation for mastering all four language skills: listening, speaking, reading, and writing.

Drawing upon the insights of Sembiring and Ginting (2019), who identified eight vocabulary teaching techniques, the significance of employing diverse methodologies becomes apparent. These techniques, ranging from contrast and synonyms to enumeration and word games, offer a comprehensive toolkit for educators. Synonym instruction, a traditional yet effective approach, emerges as a key strategy to help students grasp nuances in meaning without relying on translation into their native language. Recent research, exemplified by the work of Chen *et al.* (2015), demonstrated the positive impact of teaching synonyms on enhancing students' writing skills. The study utilized an innovative online system called PREFER, incorporating various paraphrasing options, including synonyms, and observed improved writing proficiency in EFL students.

In addition, Webb (2007) conducted research with 84 Japanese EFL students by implementing ten tests to determine the learning of English words and their synonyms. Their study examined the effects of learning two groups of words. The first group consisted of ten words including unfamiliar synonyms and the second group included familiar ones. The results of the study indicated that the participants scored better when learning words that had known synonyms. Synchronizing this result, Nation (2022) emphasized the importance of the connection between the acquired knowledge of the target language and the vocabulary yet to be learned.

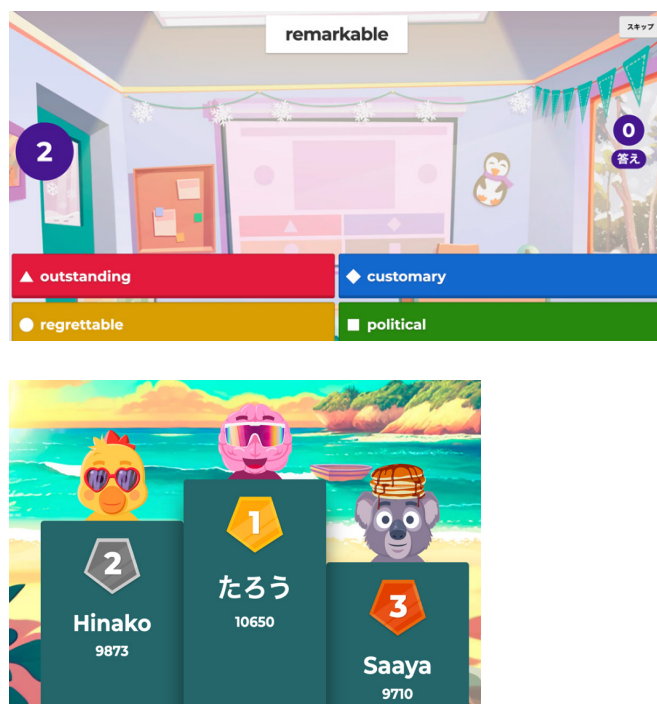
Games in Language Learning

It is not uncommon for students to experience a loss of attention or inspiration in the classroom, which can result in adverse consequences. To counteract this issue, educators must implement engaging and interactive learning activities to maintain their students' focus and involvement. One approach to enhance student engagement is the use of game-based learning (Wang & Tahir, 2020). *Kahoot!*, a popular online quiz platform that exemplifies this method. It employs a multiple-choice format and allows users to use existing quizzes or create their own to share. The game can be played individually or in a group setting and it is available for free. Since its launch in 2013, *Kahoot!* has been adopted by over six million educators globally and played by 4.4 billion users (Kahoot.it/.com, 2013). During the game, questions appear on the screen and students can select their answers by pressing the corresponding color on their personal devices (mostly through smartphones). A strict time limit as low as five seconds to thirty seconds can be set to increase the focus of the game as well as excitement from the participants. The platform automatically awards the correct answer to the player who answers the quickest, with higher scores being earned for a quicker response. A leaderboard is displayed immediately after each question, which excitingly shows the rankings and stimulates students to compete each time it appears. From the author's experience, the class always erupts in

excitement every time the leaderboard shows up on the screen. Figure 1 presents the example images from the game.

Figure 1

Screenshots From Kahoot! Question Example and a Leaderboard



In the context of English as a Foreign Language (EFL) learning in Japan, students often struggle with acquiring new vocabulary due to a lack of exposure to new English words. Furthermore, college students in Japan frequently take standardized English tests such as the TOEIC Listening & Reading Test and the TOEFL ITP, which ALWAYS include questions on synonyms. Despite the importance of vocabulary skills, previous research has not explored how Japanese students view the use of synonyms to enhance their vocabulary, or how an online game platform like *Kahoot!* can help with this. The current case study aims to address this gap by examining the impact of the online application *Kahoot!* on Japanese college students' mastery of synonyms and their perception of the use of *Kahoot!* for improving their vocabulary skills and provide additional suggestions for peer teachers.

Background Information

The online game platform *Kahoot!* was applied in a first-year English Reading & Writing class at a private university in Tokyo, Japan from April to July 2023. The author was the instructor of three English Reading & Writing courses, and the classes were conducted in a face-to-face format on campus. The classes were 100 minutes in length and were held once a week. This Reading & Writing course was mandatory for all-first year students and in these three

classes student majors include Literature, Community and Human Services, and Contemporary Psychology. Students' language levels ranged from 380 to 480 on the TOEIC Listening and Reading Test, which equates to levels A2 to B1 according to the Common European Framework of Reference for Languages (CEFR). The textbook, *Q: Skills for Success: Level 3: Reading and Writing*, (3rd edition), (Ward & Gramer, 2019) was used as the main course material.

Research Questions

The purpose of this study was to address the following two research questions:

1. What is the impact of using the online platform *Kahoot!* on Japanese college students' mastery of synonyms related to their academic vocabulary?
2. How do Japanese college students perceive and respond to the use of *Kahoot!* for learning synonyms in English?

Methodology and Procedures

This study employed a case study approach. The data was collected from 60 students enrolled in the first semester of three mandatory English Reading & Writing courses for first-year students majoring in Literature, Community and Human Services, and Contemporary Psychology during the academic year 2023.

At the start of the semester, in the first of 14 classes, the students were administered a 50-point pre-test to identify synonyms for 50 words using Google Forms uploaded on the LMS called canvas. At the end of the semester, a post-test was conducted to evaluate their progress. The target words were selected randomly from the main textbook, *Q: Skills for Success: Level 3: Reading and Writing*, (3rd edition), (Ward & Gramer, 2019), that includes essential academic words.

In the meantime, students engaged in a word quiz activity during each meeting using *Kahoot!* to identify synonyms from the assigned reading section of the textbook throughout the spring semester 2023. Depending on the length of the reading passage, students had chances to review vocabulary over a two-week period. While the game could be played in groups, the author chose to conduct the activity individually to ensure equal participation for all students. Table 1 below shows the assigned reading topics as well as target word examples from the book.

Table 1*Weekly Assigned Reading Topic and Target Word Examples*

Class	Assigned Reading Topic	Target Word Examples
2	Unit 1: Small Talk: A Big Deal	accomplishment, authentic, appreciate, consider, confidence, demonstrate
3	Unit 1: 21 st Century Job Interview	effective, expect, impress, maintain, offensive, professional
4	Unit 1: 21 st Century Job Interview	punctual, research, responsible, select, slang, weakness
5	Unit 2: Knowing Your Tastes	arrange, artistic, balanced, identical, identify, influence
6	Unit 2: Eating with Our Eyes	likely, method, occasion, principle, recognize, sensitive
7	Unit 2: Eating with Our Eyes	status, system, typically, contrast, brightly, be willing to
8	Unit 3: Cars that Think	obstacle, obey, benefit, respond, limitations, blame, polite
9	Unit 3: Classrooms without Walls	monitor, digital, revolutionize, discover, interactive, reliable
10	Unit 3: Classrooms without Walls	dominate, feedback, adapt, global, motivate, app
11	Unit 4: Can Targeted Ads Change You	browse, target, specifically, accurate, acknowledge, annoying
12	Unit 4: In Defense of Advertising	broadcasting, impact, relevant, suggest, reflect, annual
13	Unit 4: In Defense of Advertising	donation, memorable, imply, relevant, support, surrounding

In addition to the quantitative pre- and post-tests, qualitative data was collected from a post-class survey to gauge students' perceptions for their vocabulary mastery of synonyms through the use of *Kahoot!*. The survey included three Likert-scale questions assessing whether students were actively engaged, found *Kahoot!* helpful for vocabulary mastery, and which skill (listening, reading, writing, or speaking) the activity contributed to the most. The survey also included an open-response item for students to provide reasons, general comments, or impressions about their learning. Written in Japanese, the survey was distributed online using a Google Form and completed anonymously. The author translated and analyzed the data using the thematic analysis procedure outlined by Braun and Clarke (2006), categorizing the students' responses into themes and refining the specifics of each theme. Table 2 below shows the translated version of questions asked on the Google Form.

Table 2*Questions in the Questionnaire*

1	Were you able to actively engage with <i>Kahoot!</i> ?
2	Did you find the use of <i>Kahoot!</i> helpful for your vocabulary mastery on synonyms?
3	To which skill do you think the use of synonyms contributed the most? Listening/Reading/Writing/Speaking
4	Any reasons for your responses or general comments?

Note: Questions developed by the author

Results & Discussion

Students' Vocabulary Scores

To answer the first research question, “How does the use of the online application *Kahoot!* contribute to college students' vocabulary mastery on synonyms?” the pre- and post-test scores of 60 students were compared. As shown in Figure 2, using *Kahoot!* in a classroom activity related to vocabulary mastery on synonyms led to a significant increase in students' performances in identifying synonyms. As shown in Table 3, the mean score of students at the end of the semester increased by 26%, from 31 to 39, compared to the beginning of the semester. Furthermore, almost all students (54 out of 60) showed an increase in their scores, with one student exhibiting 82% improvement from 22 to 40 after using *Kahoot!* over the spring semester. These results suggest the effectiveness of using *Kahoot!* to enhance their vocabulary mastery of synonyms.

Figure 2*Comparison of Students' Vocabulary Scores*

Table 3

Summary of Vocabulary Scores

	Mean	SD	Minimum	Maximum
Pre-Test Score	31	6.4	17	44
Post-Test Score	39	5.5	23	48

Note: N=60, Perfect score=50

Post-Class Survey

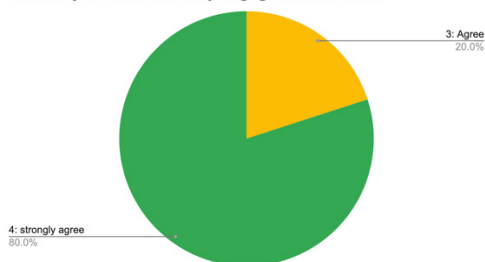
Regarding the second research question, “How do they respond after learning English synonyms through the application of *Kahoot!*?” the post-class survey was conducted to examine whether the students were able to actively engage with the vocabulary activity on *Kahoot!*. All 60 students participated in the survey.

According to the results of the post-class survey, as shown in Figure 3, 80% of the 60 students strongly agreed that they were able to engage with the *Kahoot!* activity, and none of the students disagreed. In terms of whether they found the use of *Kahoot!* helpful for their vocabulary mastery on synonyms, 81.6% of the students strongly agreed and no one opposed the question. The students perceived that the use of synonyms contributed the most to their reading skills (45%), followed by writing skills (33.3%), and the least to their speaking skills (21.7%). No student reported an effect on their listening skills, which may be related to the fact that listening is a receptive skill that requires quick processing, leaving little time for thinking about synonyms.

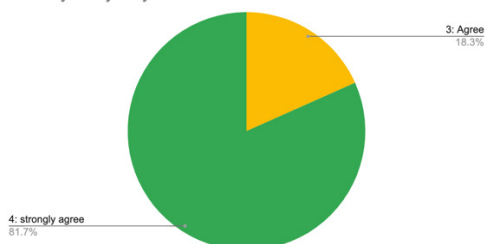
Figure 3

Students’ Perceptions of the Use of Kahoot! and Their Mastery of Synonyms

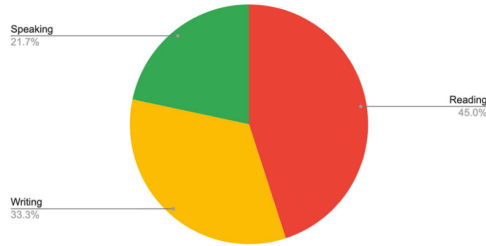
1. Were you able to actively engage with Kahoot!?



2. Did you find the use of Kahoot! helpful for their vocabulary mastery on synonyms?



3. To which skill do you think the use of synonyms contributed the most?



The qualitative data collected from the last open-ended question “Any reasons for your responses or general comments?” added a rich layer of nuance to the quantitative results indicating that the use of *Kahoot!* for their mastery of synonyms helped students to understand and increase their vocabulary. Table 4 shows a sampling of analysis with descriptions and examples.

Table 4

Thematic Analysis with Descriptions and Examples

Theme	Description	Example from students' comments
Improvement	Vocabulary increase	<ol style="list-style-type: none"> 1) It was helpful to improve my vocabulary. 2) I felt the use of synonyms was effective and efficient. 3) I felt memorizing with Japanese definition was easy to forget but using synonyms stuck far better in my memory.
Reading	Improving reading skills	<ol style="list-style-type: none"> 1) I felt I got faster at reading by rephrasing words with simpler synonyms. 2) I got better at reading without translating to Japanese thanks to the use of synonyms. 3) I could visualize the content more easily using synonyms. 4) By doing synonym quizzes, I could understand the parts of speech better.
Enjoyment/ Motivation	Gaming effect of Kahoot!	<ol style="list-style-type: none"> 1) We can enjoy competing with classmates. 2) Answering in the form of quizzes like Kahoot! helps me remember more easily. 3) I had trouble memorizing vocabulary, but using games removed that hardship. 4) Using games made me review the lesson more frequently. 5) Playing games makes me alert and increases focus on the lesson. 6) I was able to communicate with my classmates more smoothly after playing games.
Practicality	Writing, TOEIC test	<ol style="list-style-type: none"> 1) It was helpful when thinking of paraphrases in writing. 2) I could solve synonym questions on the TOEIC test more easily.

The thematic analysis identified four themes: Improvement, Reading, Enjoyment/Motivation, and Practicality. Improvement was related to students' perception that the use of *Kahoot!* helped them to increase their vocabulary and memorize words more easily. Reading was associated with the idea that students were able to read faster and more efficiently by using synonyms. Enjoyment/Motivation highlighted the fun class dynamics, ease of memorizing and reviewing vocabulary through games, and even the focus on the class itself. Lastly, Practicality emphasized the usefulness of the activity for writing and answering synonym questions on the TOEIC Listening & Reading test.

Conclusion

The objective of this study was to examine the effect of *Kahoot!*, an online quiz platform, on Japanese college students' academic vocabulary mastery of synonyms and their perceptions of the learning experience. To achieve this, 60 students were tasked with identifying synonyms in their weekly classes using *Kahoot!* and their progress was evaluated through pre- and post-tests. The students also filled out a questionnaire to provide feedback and perception on their experience with *Kahoot!* for their synonym vocabulary mastery.

Two conclusions were drawn based on the results of the study:

The use of *Kahoot!* appears to have a positive influence on students' academic vocabulary in mastery of synonyms, as evidenced by the analysis of quantitative data. The meaningful improvement in scores indicates that integrating this platform in future language learning could be beneficial.

The qualitative data analysis revealed that the students had a positive attitude towards using *Kahoot!* for learning synonyms. All students actively participated in the *Kahoot!* activities and perceived that it helped improve their knowledge and mastery of English synonyms.

Recommendations

The current study has some implications that can be drawn from its results. As a whole, the results are valuable as they provide insight into the effectiveness of learning academic vocabulary through synonyms using *Kahoot!*. However, the students might have displayed a limited understanding of vocabulary usage in context or in actual sentences. To address this, teachers could incorporate specific instructions such as highlighting the different uses of a word and how it functions in a sentence. This approach would provide students with a practical understanding of real-world language use, which could improve their productive vocabulary knowledge.

To further enrich student learning, educators could introduce additional pedagogical activities. Assigning specific words to students and encouraging them to find synonyms, along with sharing how those words are used in authentic sentences through pair or group work, offers

a collaborative approach to deepening students' understanding of vocabulary usage in context. This multifaceted strategy ensures a holistic approach to vocabulary acquisition, addressing both receptive and productive aspects of language proficiency.

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