



## The Correlation Between Student's Engagement and Reading Comprehension While Using Quizlet Gamification for Vocabulary Learning

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### ABSTRACT

**Objective:** The rising popularity of gamification as an academic topic can be attributed to the growing affordability of Internet access through smartphones. One major challenge for gamification applications is maintaining student engagement and active participation. This research investigated whether students' engagement and reading comprehension significantly correlated with using Quizlet for vocabulary learning at a public senior high school in Gresik. **Method:** This research used a correlational research design. The subject of this study consisted of 30 students who used Quizlet for vocabulary learning. The research instruments were a questionnaire and a data sheet on students' reading scores collected from their teachers. The researcher used Descriptive and Pearson correlation through the SPSS Statistics 16.0 program to analyze the data. **Results:** This research revealed that students' engagement was moderate while using Quizlet for vocabulary learning. Then, the correlation coefficient was 0.429\*, and the significance 2-tailed value was 0.018. From the sig-value, there was a significant correlation between the two variables, and the correlation value showed that the correlation was positive in the moderate category. Students' engagement and reading comprehension while using Quizlet for vocabulary learning had a significant correlation with a moderate correlation, and this indicated that an increase followed most students' engagement increase in their reading comprehension. **Novelty:** This study significantly contributes to understanding how students' engagement influences their reading comprehension when using Quizlet for vocabulary learning. It also establishes a positive and statistically significant correlation with a coefficient of 0.429underscores that higher engagement levels correspond to improved reading comprehension outcomes.

### INTRODUCTION

In the ever-changing educational environment, the development of the internet and the emergence of new media make it easier for students to access learning sources and activities. The concept of using gamification to engage students in active learning has been discussed previously (Murillo-Zamorano et al., 2021). Moreover, gamification is also effective for delivering content language learning while enhancing students' engagement, motivation, satisfaction, and outcomes in the learning process (Inayati & Waloyo, 2022; Nadeem et al., 2023). Over the last several years, educators have increasingly included numerous games in their teaching curriculum. Learners may benefit from the experience of playing games while learning because they obtain target knowledge in a fun and interactive way (Xu et al., 2020). According to Galle (2020), gamification facilitates the learning of language by (1) giving visual and auditory exposure to the target language, (2) emphasizing specific language knowledge

(e.g., vocabulary and grammar); and (3) facilitating engagement/involvement in language learning and practice.

Using gamification to support ESL and EFL learners is a familiar approach to addressing how educational technology may support language learning. Quizlet is an effective gamification tool for learning English vocabulary (Ho & Kawaguchi, 2021). In another review, Pham (2022) noted that using Quizlet in learning vocabulary was significant in identifying an aid for language learners to improve their vocabulary. Furthermore, Chaikovska and Zbaravska (2020) conducted a study that reinforced the efficacy of Quizlet in enhancing vocabulary acquisition among ESL and EFL learners. Additionally, Jiang (2023) emphasizes the flexibility and adaptability of Quizlet, which allows educators to customize learning materials according to learners' proficiency levels and specific learning objectives. Based on those results, they had a good experience with Quizlet, and it has become a preferred choice in their learning process as they spend a significant amount of time using its features frequently. Similar findings have been reported in empirical studies investigating the use of Quizlet in English learning, including enhancing autonomous learning (Nguyen et al., 2021), enhancing learners' lexical retention (Nguyen & Le, 2023), and enhancing student outcomes (Tiang-uan, 2023).

However, Zou et al. (2021) noted that gamified English learning has the potential to improve reading and listening comprehension as well as short and long-term vocabulary development. It is reasonable to assert that word knowledge is essential for reading comprehension and impacts how effectively students understand the texts they read. Reading comprehension is the ability to understand a text's written passage by combining the reader's prior knowledge or world knowledge with information in the text to generate an understanding of the text itself. This skill relies heavily on the reader's existing understanding of the world, which serves as a framework for interpreting new information. For instance, when encountering a passage about historical events, a reader's background knowledge enables them to contextualize and comprehend the text more effectively. Additionally, substantial vocabulary and language skills play a crucial role in deciphering the meaning of words and phrases within the text Zhang & Zhang, (2022), allowing readers to grasp subtle nuances and infer deeper meanings. Understanding the structure and organization of different types of texts further enhances comprehension by aiding readers in identifying main ideas, making connections between paragraphs, and recognizing supporting details. However, students' reading comprehension tends to be difficult, and the success may depend on the student's engagement in learning vocabulary in the classroom (Akramy et al., 2022; Almusharraf, 2020; Klimova & Polakova, 2020).

Previous studies have highlighted the effectiveness of Quizlet as a gamification tool for English vocabulary learning, demonstrating its positive impact on vocabulary acquisition, autonomous learning, and overall student outcomes (Bayaksud et al., 2024; Özdemir & Seçkin, 2024; Pratiwi & Waluyo, 2023). These studies underscore the tool's flexibility and adaptability, allowing educators to customize materials to suit learners' proficiency levels and learning objectives (Polok, 2023). However, there is a notable gap in the literature regarding the core properties of student engagement and its direct correlation with reading comprehension when using Quizlet for vocabulary learning. While the benefits of gamified learning on vocabulary acquisition are well-documented, the specific impact of student engagement on reading comprehension remains underexplored. Ridwan (2023) highlighted the potential of gamified learning to

enhance reading and listening comprehension alongside vocabulary development, yet the mechanisms linking engagement levels with comprehension skills have not been thoroughly investigated. Therefore, this study aims to fill this theoretical gap by examining the correlation between student engagement with Quizlet and their reading comprehension, providing novel insights into the educational benefits of gamification tools in language learning contexts.

Related to those previous studies, the researcher formulates two research questions: To what extent does the student's engagement level in reading comprehension while using Quizlet for vocabulary learning? Is there any relationship between the students' engagement and their' reading comprehension while using Quizlet for vocabulary learning? Therefore, this study aims to investigate the correlation between students' engagement and reading comprehension while utilizing Quizlet for vocabulary learning, addressing a significant theoretical gap in the existing research. By delving into how students' active participation with Quizlet impacts their comprehension of English texts, this research seeks to contribute novel insights into the educational benefits of gamification tools in language learning contexts. Specifically, it investigates how the level of engagement fostered by Quizlet correlates with students' ability to comprehend and interpret English texts.

## RESEARCH METHOD

This is a quantitative study that employs a correlational technique design. A correlational study aims to determine the correlation between variables or use this correlation to make predictions (Creswell, 2013). The researcher chose this design because correlation design is aimed to measure if the variables are correlated. This is related to the study's objective, which is to examine the correlation between student engagement and students' reading comprehension while using Quizlet for vocabulary learning. This research has two variables: students' engagement as the independent variable and students' reading comprehension as the dependent variable. The population of this research is twelve-grade students of a public senior high school in Gresik, a combination of science and social majors for the academic year 2022/2023. The sample of this research was taken using cluster sampling. Clustering sampling means choosing an intact group of population members as research samples with similar characteristics (Creswell, 2014). The researcher randomly chose two classes of students who utilized Quizlet for vocabulary learning. The total number of samples is 30 students ( $N=30$ ). Furthermore, the instruments used to collect the data were questionnaires and students' reading scores. Before administering the instruments, the researcher provided a brief orientation session to the students, explaining the purpose of the study and how to complete the questionnaires.

In measuring student engagement using the Quizlet gamification, a questionnaire based on the Student Course Engagement Questionnaire (SCEQ) was used to measure students' acceptance of gamification and the Technology Acceptance Model (TAM) in their vocabulary learning process. The questionnaire examined students' engagement using only two dimensions described by Handelsman et al. (2005): skill engagement (3 questions) and participation/interaction engagement (4 items). On the other hand, students' acceptance of gamification was examined by two constructs: perceived usefulness (4 items), perceived ease of use (4 items), and attitude toward using gamification technology (3 items). Items in the perceived usefulness and perceived ease

of use components are taken from previous studies to measure the user acceptance of technology (Davis, 1989; Guner & Acarturk, 2020). Thus, the total number of questions is 18. Moreover, the researcher prepared the questionnaire using a closed-ended question with a five-point Likert scale (1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; and 5 = Strongly Agree)—the SCEQ and TAM, which consist of five categories presented in Table 1.

**Table 1.** The students' engagement in gamification.

| Variable                                 | Categories                         | Items Number  | Total Items |
|--|------------------------------------|---------------|-------------|
| Students' engagement in gamification (X) | Perceived Usefulness Items (PU)    | 1, 6, 11, 16  | 4           |
|  | Perceived Ease of Use Items (PEOU) | 2, 7, 12, 17  | 4           |
|  | Attitude (A)                       | 3, 8, 13      | 3           |
|  | Skill Engagement (SKE)             | 4, 9, 14      | 3           |
|  | Interaction Engagement (IE)        | 5, 10, 15, 18 | 4           |

Moreover, questionnaires were administered to investigate the students' engagement level using Quizlet gamification for vocabulary learning. Meanwhile, the reading score was used to examine the correlation between the student's engagement with Quizlet gamification and the student's reading comprehension. To analyze the students' engagement level, the researcher used descriptive statistics. The student engagement level is described and classified into three categories of level intervals. The student's engagement was classified in the interval level as in Table 2.

**Table 2.** Classification of students' engagement level.

| Level Interval | Interpretation |
|----------------|----------------|
| <=43           | Low            |
| 44-64          | Middle         |
| 65+            | High           |

Meanwhile, the researcher used Spearman's correlation formula to find the correlation between students' engagement with Quizlet gamification and their reading comprehension.

## RESULTS AND DISCUSSION

### Results

#### Students' engagement level

Descriptive statistics were used to describe the questionnaire data based on the calculations shown in Table 3 to investigate the level of student engagement.

**Table 3.** Descriptive Statistics of Student's Engagement Aspects

| TOTAL          |         |       |
|----------------|---------|-------|
| N              | Valid   | 30    |
|                | Missing | 0     |
| Mean           |         | 63.07 |
| Std. Deviation |         | 9.81  |

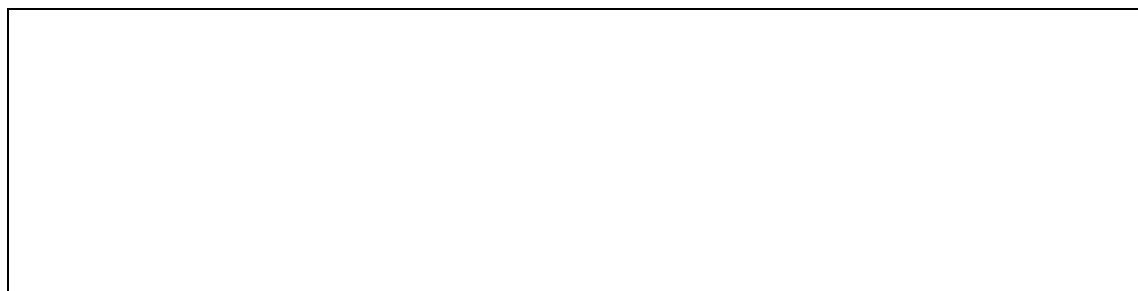
| TOTAL    |       |
|----------|-------|
| Variance | 96.40 |
| Range    | 42    |
| Minimum  | 43    |
| Maximum  | 85    |

Table 3 shows that the calculation of students' engagement from 30 respondents showed scores of 43 to 85 ( $M = 63.07$ ;  $SD = 9.81$ ). Besides, to know the distribution of frequency and percentages of students' engagement were explained in the Table 4.

**Table 4.** Frequency distribution of students' engagement level.

| Level Interval         | Interpretation | Frequency | Percentage |
|------------------------|----------------|-----------|------------|
| $\leq 43$              | Low            | 1         | 3.30       |
| 44-64                  | Middle         | 18        | 60.00      |
| 65+                    | High           | 11        | 36.70      |
| $\Sigma(\text{Total})$ |                | 30        |            |

Table 4 shows that the value of the mean score of 63.07 is in a moderate category. It showed that from 30 students, as many as 11 students, or as many as 36.70% of students, are at a high level of engagement, as many as 18 students, or 60.00% of students, are at a middle level of engagement, and as many as 1 or 3.3% are at a low level of engagement. Thus, the level of students' agency is moderate because the frequency is dominant in middle levels. Furthermore, the researchers calculated the average scores of each category to determine the aspects of student engagement that the students mainly experienced. Based on the SCEQ and TAM questionnaire results, the researchers calculated each category's mean scores and standard deviation, which can be presented in Figure 1.



**Figure 1.** The average score of students' engagement.

According to the result of Figure 1, the average score of students' engagement aspect indicates the dominant and less dominant of twelve grade students while using Quizlet gamification for vocabulary learning. The researchers analyzed the dominant and less dominant engagement when using gamification technology aspects by looking at the average scores from highest to the lowest of the sub-categories, including perceived usefulness ( $M = 2.40$ ,  $Std = 0.62$ ), perceived ease of use ( $M = 2.60$ ,  $Std = 0.56$ ), attitude ( $M = 2.60$ ,  $Std = 0.56$ ), skill engagement ( $M = 2.57$ ,  $Std = 0.62$ ), and interaction engagement ( $M = 2.40$ ,  $Std = 0.56$ ). To sum up, the highest engagement aspect of twelve grade students while using Quizlet for vocabulary learning is perceived ease of use and attitude ( $M = 2.60$ ,  $Std = 0.56$ ), which can be seen in Table 5.

Table 5 indicates that 30 twelve-grade students had a high engagement when they perceived the ease of using Quizlet gamification for vocabulary learning. Most students choose this aspect because it is user-friendly and easily accessible on various devices, which allows them to manage their time efficiently. Quizlet's gamification features streamline the learning process; students may be more likely to engage with the platform. Therefore, the perceived ease of use has the highest average score ( $M= 2.60$ ,  $Std= 0.56$ ). Moreover, there are four items in this aspect; items 2 ( $M= 2.77$ ,  $Std= 0.504$ ) and 12 ( $M= 2.53$ ,  $Std= 0.571$ ) gain the two highest Mean scores. Based on the result, "gamification (Quizlet) is flexible to used" is the commonly perceived ease of use aspect used by twelve grade students during vocabulary learning. Moreover, the other category is Attitude, with the same average score ( $M= 2.60$ ,  $Std= 0.56$ ); the results are presented in Table 6.

**Table 5.** Perceived ease of use.

| No. | Items   | N  | Mean | Std. Deviation |
|-----|---|----|------|----------------|
| 2   | The online gamification (Quizlet) system is flexible.                                       | 30 | 2.77 | .50            |
| 7   | The online gamification (Quizlet) functionality and interface are clear and understandable. | 30 | 2.37 | .61            |
| 12  | Interacting with the online gamification (Quizlet) system requires little mental effort.    | 30 | 2.53 | .57            |
| 17  | Overall, the online gamification (Quizlet) system is easy to use.                           | 30 | 2.43 | .56            |
|     | AVERAGE   | 30 | 2.53 | .56            |

**Table 6.** Students' attitude.

| No. | Items  | N  | Mean | Std. Deviation |
|-----|--|----|------|----------------|
| 3   | Using an online gamification (Quizlet) system is a good idea.  | 30 | 2.53 | .68            |
| 8   | I like learning with the online gamification (Quizlet) system.                                       | 30 | 2.50 | .57            |
| 13  | I look forward to those aspects of my learning that require an online gamification (Quizlet) system. | 30 | 2.07 | .78            |
|     | AVERAGE  | 30 | 2.37 | .67            |

The result of Table 6 shows there are three items in attitude aspect. Attitude ( $M= 2.37$ ,  $Std= .67$ ) is an aspect that concerns how the students express their feelings, beliefs, and opinions about the use of game elements and principles in an educational context. It encompasses their overall stance, preferences, and perceptions regarding incorporating gamified elements into learning experiences. One of the grade students' highest aspect in attitude is item 3 ( $M= 2.53$ ,  $Std= .68$ ), which states, "I think that using online gamification (Quizlet) system is a good idea." This means most students express an optimistic viewpoint and support using Quizlet's online gamification system for vocabulary learning. It could be based on the belief that gamification enhances engagement, motivation, or overall learning outcomes. Furthermore, it can be seen in item 13 ( $M= 2.07$ ,  $Std= .785$ ), which has the lowest score. Besides, the middle engagement aspect in this study is skill engagement ( $M= 2.57$ ,  $Std= 0.62$ ), shown in Table 7.

**Table 7. Skill engagement**

| No. | Items                                 | N  | Mean | Std. Deviation |
|-----|---------------------------------------|----|------|----------------|
| 4   | Taking good notes in the classroom.   | 30 | 2.33 | .75            |
| 9   | Listening carefully in the classroom. | 30 | 2.60 | .56            |
| 14  | Make sure to study regularly.         | 30 | 2.07 | .52            |
|     | AVERAGE                               | 30 | 2.33 | .61            |

Table 7 shows three items regarding skill engagement. In this study, skill engagement ( $M = 2.33$ ,  $Std = 0.61$ ) is how the students participate in learning experiences, practice applying skills, seek challenges to enhance proficiency, and demonstrate a continuous commitment to skill development. Moreover, item 9 ( $M = 2.60$ ,  $Std = 0.56$ ) claimed, "Listening carefully in the classroom," which is twelve grade students' highest skill engagement aspect when using Quizlet gamification for vocabulary learning. This means that students pay close attention to verbal instructions, discussions, or lectures in a classroom setting, even when using Quizlet gamification for vocabulary learning. Meanwhile, item 4 is contrasted with item 14, which item 14 has the lowest score ( $M = 2.07$ ,  $Std = 0.52$ ). Then, the most minor aspect of student engagement when using Quizlet Gamification used by twelve grade students in vocabulary learning is interaction engagement, which can be seen in Table 8.

**Table 8. Interaction engagement.**

| No. | Items  | N  | Mean | Std. Deviation |
|-----|--|----|------|----------------|
| 5   | Having fun in the classroom.                             | 30 | 2.27 | .69            |
| 10  | Participating actively in small-group discussions.       | 30 | 2.23 | .62            |
| 15  | Helping fellow students.                                 | 30 | 2.47 | .57            |
| 18  | Asking questions when I did not understand the lecturer. | 30 | 2.17 | .59            |
|     | AVERAGE  | 30 | 2.29 | .62            |

According to the Student Course Engagement Questionnaire (SCEQ) and Technology Acceptance Model (TAM), this aspect has four items. Only two items gain the highest mean score in interaction engagement, including item 15, with the highest score ( $M = 2.47$ ,  $Std = 0.57$ ), and item 5 ( $M = 2.27$ ,  $Std = 0.69$ ). Moreover, interaction engagement ( $M = 2.29$ ,  $Std = 0.62$ ) is the aspect that focuses on the involvement, participation, and interaction that the students have with the gamified elements. One of the grade students' highest aspects in interaction engagement is item 15 ( $M = 2.47$ ,  $Std = 0.57$ ), which states, "Helping fellow students." Most students feel that Quizlet gamification contributes to the collaborative aspect of learning, where students assist and support each other within the Quizlet platform's vocabulary learning context.

Based on the above analysis, the researchers concluded that there are student engagement aspects that help twelve-grade students to improve their reading comprehension while using Quizlet gamification for vocabulary learning, including perceived ease of use ( $M = 2.60$ ,  $Std = 0.56$ ) and Attitude ( $M = 2.37$ ,  $Std = .67$ ) as the dominant strategy with the highest average score, skill engagement ( $M = 2.57$ ,  $Std =$

0.62), perceived usefulness ( $M = 2.40$ ,  $Std = 0.62$ ) and the less dominant strategy with the lowest average score is interaction engagement ( $M = 2.40$ ,  $Std = 0.56$ ).

**Table 9.** Pearson correlation of students' engagement and students' reading score.

|               |                     | Total | Reading Score |
|---------------|---------------------|-------|---------------|
| TOTAL         | Pearson Correlation | 1     | .42*          |
|               | Sig. (2-tailed)     |       | .01           |
|               | N                   | 30    | 30            |
| Reading Score | Pearson Correlation | .42*  | 1             |
|               | Sig. (2-tailed)     | .01   |               |
|               | N                   | 30    | 30            |

\*. Correlation is significant at the 0.05 level (2-tailed).

### **Correlation between students' engagement and students' reading comprehension**

The researcher used Spearman's correlation to examine the correlation between the student's engagement and reading comprehension. The result is Table 9. Table 9 shows that the Pearson Correlation is 0.42, and the significant (2-tailed) value is 0.01. The correlation coefficient calculation produced a moderate correlation (range the interval 0.40-0.59), and the significant value is lower than 0.05. In this case, the result data shows a significant correlation. In other words, students' engagement (X) and their reading comprehension (Y) have a positive significant correlation with a moderate level of correlation.

## **Discussion**

### **Students' engagement level**

The findings of this study offer significant insights into the determinants of student engagement when using gamification technology for language learning, particularly emphasizing the role of perceived ease of use. This aspect of engagement has yet to be prominently featured in previous studies, which have primarily focused on other dimensions, such as interaction engagement and motivational aspects. For instance, Zainuddin et al. (2020) revealed that gamification enhanced students' interaction engagement by prompting them to take more notes, listen carefully during lectures, and actively participate in classroom discussions. These behaviors were driven by the anticipation of quizzes and the interactive nature of gamified activities, which increased students' attentiveness and willingness to engage during lessons.

In addition to interaction engagement, other research has highlighted the motivational benefits of gamification. Li et al. (2024) emphasized that game-like elements, such as rewards, challenges, and progress tracking, can boost students' intrinsic motivation and enjoyment of learning activities. Their study demonstrated how these elements foster a sense of achievement and progress, enhancing overall student engagement. This aligns with the theoretical framework proposed by Potter and Klaus (2024), which introduces the concept of "gameful design." This theory posits that integrating game elements into educational contexts can evoke positive emotions, engagement, and flow experiences, creating immersive and enjoyable learning environments that enhance student motivation and learning outcomes.

However, the current study's focus on perceived ease of use as a determinant of student engagement introduces a crucial yet underexplored dimension to the discourse on gamification in education. While motivational factors and psychological theories underscore the benefits of gamification, this study suggests that the initial adoption and



sustained engagement with gamified technologies may heavily depend on their accessibility and user-friendliness as perceived by students. This perspective highlights the importance of designing gamified learning tools that are engaging, motivating, and easy to use. The perceived ease of use can significantly influence students' willingness to adopt and consistently use these technologies, which is critical for their long-term success and effectiveness in educational settings.

The differences in findings between this study and previous research could be attributed to the diversity of language skills and contexts investigated by different researchers. While studies like those by Zainuddin et al. (2020) and Li et al. (2024) explored broader engagement and motivation, this study zeroes in on usability, particularly relevant to technology adoption in education. By focusing on perceived ease of use, this study contributes a novel perspective to the existing body of literature, suggesting that for gamification to be truly effective, it must not only engage and motivate students but also be accessible and user-friendly.

### **Correlation between students' engagement and students' reading comprehension**

The findings of this study indicate a moderate level of students' engagement in reading comprehension when using Quizlet for vocabulary learning. This suggests that students who actively use Quizlet engage with the tool and show improved reading comprehension. This aligns with Santi et al. (2021), who found a positive correlation between vocabulary size and reading comprehension. Students' consistent interaction with Quizlet's features, mainly through repeated exposure to vocabulary via flashcards and quizzes, contributes significantly to their reading comprehension improvement.

Moreover, the gamified elements of Quizlet, such as rewards, challenges, and progress tracking, play a crucial role in maintaining student engagement. These elements create a positive and motivating learning environment that enhances students' commitment to learning activities, as evidenced by Kaya and Ercag (2023) and Aldalur and Perez (2023). The sustained engagement fostered by these gamified features likely contributes to better comprehension outcomes, reinforcing the importance of motivation and interactive learning tools in educational settings (Prados-Sánchez, 2023).

The moderate correlation between student engagement and reading comprehension underscores the importance of active participation in learning activities. The study suggests that students' engagement with Quizlet increases, and their reading comprehension improves. This relationship highlights the critical role of engagement in enhancing comprehension skills. Quizlet's interactive and repetitive nature helps students reinforce their vocabulary knowledge, a fundamental component of reading comprehension (Korkmaz & Öz, 2023).

In short, this research has obtained final results that prove a significant correlation between students' engagement and their reading comprehension while utilizing Quizlet for vocabulary learning with a moderate correlation. This means that most students' engagement increased, followed by increased reading comprehension. In other words, their engagement entirely influenced the student's reading comprehension. Thus, it made a significant contribution to the project.

### **CONCLUSION**

**Fundamental Finding:** This study found that students' engagement and reading comprehension are highly correlated, as evidenced by the significant value being less

than 0.05. The correlation coefficient value of 0.429 is then classified as having a positive moderate level of correlation. This means a correlation exists and is considered significant when students' engagement and reading comprehension increase. In short, a significant connection exists between students' engagement and reading comprehension while utilizing Quizlet for vocabulary learning. **Implication:** The study has implications for researchers and practitioners in language learning and teaching. For researchers, the results from this study confirmed a positive relationship between students' engagement and reading comprehension. Therefore, future studies should examine what elements mediate the relationship between students' engagement and reading comprehension and investigate the students' reading performance because the researcher's analysis focuses solely on students' reading comprehension. **Limitation:** One limitation of this study is its exclusive focus on students' engagement and reading comprehension within the context of Quizlet for vocabulary learning. The study may need to account for potential differences in engagement and comprehension outcomes across various learning platforms or instructional methods. Moreover, the reliance on self-reported measures of engagement could introduce biases or inaccuracies in assessing the true extent of student engagement during vocabulary learning sessions. Future research could incorporate multiple learning platforms and employ more objective measures of engagement to enhance the generalizability and reliability of findings. **Future Research:** Future researchers should consider incorporating more objective measures of engagement, such as behavioral observations or physiological indicators, to complement self-reported data and provide a more nuanced understanding of student engagement dynamics. Moreover, expanding the scope of outcomes beyond reading comprehension to include aspects like writing proficiency or overall academic achievement could offer a more holistic view of the impact of engagement on language learning. Additionally, exploring potential mediators or moderators of the relationship between engagement and learning outcomes (e.g., instructional strategies and learner motivation) could help identify effective interventions to enhance educational practices. Finally, longitudinal studies that track students over extended periods can reveal the long-term effects of engagement on language learning and academic success.

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