



Vocabulary Learning with Quizlet in Higher Education

Aynur Aksel^{a*}

^a Bursa Uludag University, Turkey; <https://orcid.org/0000-0003-0215-476X>

Suggested citation: Aksel, A. (2021). Vocabulary Learning with Quizlet in Higher Education. *Language Education and Technology (LET Journal)*, 1(2), 53-62.

Article Info

Date submitted: 17.07.2021

Date accepted: 17.08.2021

Date published: 19.08.2021

Abstract

The purpose of the present study is to investigate the effectiveness of an online tool, Quizlet, on vocabulary achievement of English as a Foreign Language (EFL) students at a state university. It is also aimed to investigate the perceptions of the students of using Quizlet for vocabulary learning. The participants of the study consist of 92 university students enrolled in a preparatory program at a state university in Turkey in fall semester of the 2018-2019 academic year. Through a quasi-experimental research design, the outcomes of Quizlet on the students' vocabulary achievement and their perceptions of Quizlet were analyzed statistically. When the post-test scores of the experimental and control group were analyzed, it was found that the experimental group surpassed the control group although the difference between the two groups was not statistically significant. The findings of the perception questionnaire revealed that the students' perceptions of Quizlet were positive. The triangulation of the quantitative data indicated that Quizlet was an effective tool for enhancing vocabulary in English language learning and it was highly favored by EFL learners.

Research Article

Keywords: ELT, vocabulary learning, Quizlet, Web 2.0, ICT

1. Introduction

Technology has become an important component of modern language teaching and learning. It has evolved into an essential literacy and communication media practice (Shetzer & Warschauer, 2000). Therefore, a tremendous boost to new forms of delivery in education, particularly in the area of English language proficiency, is being witnessed (Samuel & Zaitun, 2007). Rapid changes in Information Communication Technologies (ICTs) have led to the evolution of new forms of web tools to serve the need of the new generation called Generation Z (Gen Z). A typical Generation Z person was born into a globally (internet) connected world and so "lives and breathes technology" (Cilliers, 2017, p.190), and, being a teach savvy and digital centric, 'Gen Z' can use digital tools very well (Singh, 2014; Singh & Dangmei, 2016). Therefore, integrating ICTs into foreign language teaching has become an indispensable part of Foreign Language Teaching (FLT) in order to ensure the active participation of Gen Z to learning process and accordingly increase their interest and language development. Besides facilitating linguistic development, the growing accessibility of web tools, software programs, and online applications help increase language learners' lexical knowledge as well. According to Nation (1993), there is a casual

* Aynur Aksel. Bursa Uludag University, School of Foreign Languages, Turkey.
e-mail address: aynuraks@uludag.edu.tr

relationship between a person's vocabulary size and language use, so a special attention needs to be paid to vocabulary teaching. In this sense, the role of web tools in promoting vocabulary teaching/learning is enormous and therefore has attracted the attention of both web tool designers and researchers in recent years, leading to an increase in the number of new web tools. Among these tools, Quizlet is regarded as a new sophisticated tool that has been specially designed for vocabulary learning (Anjaniputra & Salsabila, 2018) and, thus, it has been studied in FLT in recent years (Anjaniputra & Salsabila, 2018; Barr, 2016; Bilová, 2018; Lander, 2016; Sanosi, 2018; Tosun, 2015; Wolff, 2016). It is believed that investigating the benefits of Quizlet on university students' vocabulary learning and their perceptions of Quizlet in a single study will contribute to the literature by shedding light on the integration of web tools into FLT.

2. Literature Review

From a historical perspective, developments in ICT have led to the emergence of new methods such as Computer-Assisted Language Learning (CALL), Mobile-Assisted Language Learning (MALL), and Blended (Hybrid) Learning language teaching. Starting in 1960s as practice program, CALL has recent manifestations in virtual learning environment, Web-based distance learning, and MALL (Šimonová, 2014). MALL refers to the "formal or informal learning of a foreign language with the assistance of mobile devices" (Chen, 2013, p. 21). Mobile devices have expanded the horizons of education by making learning portable, real-time, and cooperative (Kukulka-Hulme, 2009; Wong & Looi, 2011). Research on MALL has revealed a number of benefits of MALL for language improvement (Cho, Lee, Joo & Becker, 2018; Davie & Hilber, 2015; Kearney, Schuck, Burden & Aubusson, 2012).

The evolution of web tools from read-only information systems (Web 1.0) to artificial intelligence-powered systems (Web 4.0) has demonstrated itself in promoting interconnectivity and fast performance of human-machine collaboration (Aghaei, Nematbakhsh & Farsani, 2012). The second generation of web tools, Web 2.0 tools, are very dynamic in education as they enable learners to generate the content easily (Albion, 2008). They also facilitate collaboration and collective intelligence by providing learners with effective learning opportunities (Patel, 2013; Tafazoli, Chirumbu & Cartis, 2014).

Incorporating technology into language classes is vital especially in vocabulary teaching as helping learners to develop their lexical competence has been an important issue for language teachers for a long time (Nushi & Jenabzadeh, 2016). Because vocabulary learning includes "complex processes such as the acquisition of words, pronunciations, meanings, as well as their stylistic, morphological and syntactic properties" (Kalyuga, Mantai & Marrone, 2013, p. 36), utilizing online activities that provide explanatory tools such as sounds, images, and repetitive texts is a very effective way to help develop vocabulary learning (Nushi & Jenabzadeh, 2016). Accordingly, using Web 2.0 tools activities create an interactive and motivating context where learners can easily share their information, and gain effective vocabulary acquisition (Ashraf, Motlagh, & Salami, 2014). Since well-designed Web 2.0 tools for pedagogical purposes can not only promote learners' motivation but also enhance their knowledge construction significantly (Jong, Chan, Hue, & Tam, 2018), integrating them into teaching as much as possible has become a prerequisite for language teachers.

As a popular Web 2.0 tool, Quizlet is described as a free website platform that provides learning tools for students, including flashcards, study and game modes. It was created by high school sophomore Andrew Sutherland in 2005. There are over 50 million user-generated flashcard sets on the website. There have been many experimental studies in various learning contexts to investigate the merits of Quizlet on vocabulary knowledge (Dreyer, 2014; Tosun, 2015; Vargas, 2011) and the perceptions of its users (Anjaniputra & Salsabila, 2018; Barr, 2016; Bilová, 2018; Davie & Hilber, 2015; Köse & Mede, 2016; Lander, 2016; Sanosi, 2018; Tosun, 2015; Wolff, 2016). Phi, Tho, Thanh and Khanh (2016) conducted research to determine the effect of Quizlet on vocabulary learning of 210 students at The University of Economics Ho Chi Minh City. The vocabulary tests score of the students, the questionnaires, and interviews with students and teachers were used as the instruments of the study. The findings revealed

that participants were motivated to learn English vocabulary through Quizlet and it helped improve their vocabulary knowledge. Dizon (2016) carried out a similar study on Quizlet in EFL classroom with Japanese EFL university students. The results of the pre- and post-tests employed in the study revealed that the learners were able to make statistically significant gains. Moreover, the data gathered from the questionnaire administered by the researcher revealed that the students had positive perceptions of Quizlet to study vocabulary. In an experimental study by Barr (2016), it was revealed that the learners who used Quizlet scored higher on tests compared to the learners who did not use. In an empirical study on Quizlet, Lander (2016) found that undergraduate students favored using Quizlet in English courses. It was also found that the tests score of students who extensively used Quizlet were boosted by 6%, which demonstrated the benefits of Quizlet on the students' lexical achievement. In another research on the effects of Quizlet on vocabulary acquisition, Sanosi (2018) employed an experimental research with a pre-test and post-test control group design. Comparing the test scores of the groups, it was concluded in the research that Quizlet helped improve the vocabulary knowledge of the students in the experimental group. In a recent classroom action research deployed by Anjaniputra & Salsabila (2018), the use of Quizlet in classrooms for vocabulary learning was evaluated. The results of the study indicated that Quizlet provided enjoyable learning atmosphere for the participants, and increased their focus, attention, and engagement in their vocabulary learning process.

Inspired by the previous studies conducted to evaluate the effectiveness of Quizlet in various learning contexts and for different language skills, the present study aims to investigate the effectiveness of Quizlet on the EFL students' achievements in the vocabulary tests, and to explore their perceptions of the tool. Since there has not been any similar research conducted on the effects of Quizlet on vocabulary learning in the present school setting before, this study sets out to explore the probable outcomes of Quizlet in the classroom and thus to fill the gap of investigating the gains of a web-based ICT tool in FLT in the present context. The present study seeks to answer the following two questions:

- 1- Does the use of Quizlet affect the students' vocabulary exam scores?
- 2- What are the students' perceptions of using Quizlet in vocabulary lessons?

3. Methodology

3.1. Research Model/Design

I The present study employed a quasi- experimental research design with a control group and an experimental group. This work adopted a quantitative research approach to analyse the data.

3.2. Participants/Sampling

The participants of the present study consist of 92 students (44 males and 48 females) from the elementary level. They were placed at A1-level classes based on the results of the placement exam that was held at the beginning of the academic year by the testing unit of the school. Once their level had been designated, the students were distributed to the classes in an alphabetical order by their surnames. There were 44 students (23 females and 22 males) in the experimental group and 48 students (26 females and 22 males) in the control group. 83 students were Turkish, 2 were Arabic, 4 were Azeri, 2 Turkmen, and 1 Russian. The age range of the students was between 17- 26 years old.

3.3. Instruments/Materials

Quizlet was used as the instrument of the study as it is a popular mobile and web-based study application that allows students to study information via learning tools and games (Quizlet, 2018).

3.4. Procedure

For the study, four elementary classes were selected. Convenience sampling was used because the researcher, herself, implemented the manipulation in her two classes that were assigned as 'the

experimental group'. For the selection of the other two classes, which are assigned as 'the control group', two criteria were taken into consideration: a) the similarity of the course instructors in terms of age, experience, and teaching style, b) matching of the participants in the control and experimental group. The results of the first quiz, which was regarded as the pre-test, were compared and analysed through ANCOVA test. Since there was not a statistically significant difference between the pre-test scores of the two groups ($p = .51$), and the course instructors had similar background in teaching English, the potential extraneous factors were controlled in the very beginning of the study. The test scores were also found to be distributed normally.

The students in both control and experiment group had studied the words in the course book, *The New English File Elementary* (OUP), for eight weeks as scheduled in the syllabus before starting the study. Then, the first vocabulary quiz, which was a standardized exam prepared by the testing unit of the school, was administered to the students. Following the test, the researcher introduced Quizlet to the experimental group. In order not to cause confusion, every student was assisted to learn how to use Quizlet effectively. The students were asked to log into the website to be able to access the vocabulary activities uploaded by the researcher. Following the tutoring for Quizlet, the researcher integrated Quizlet activities into vocabulary teaching in each vocabulary lesson. On this week, the students started to study *Word Power 1* (Pearson Education, Inc., 2008) as the course book of the lesson. After studying the target words in the course book, *Word Power 1*, the students were asked to take the tests created by the researcher in the 'Test' mode of Quizlet. The 'Test' mode included three parts: written questions (read the definition and type in the words), True / False questions, and multiple choice questions. The students were provided with selected images and photos of the words they studied in the course book through Quizlet activities. For those who had problems with the Internet connection, pair work activities were encouraged to get all the students to study the vocabulary during the class hours actively. The integration of Quizlet activities in every Vocabulary lesson lasted until the end of the first academic term, but for the current study only the outcomes of a four-week-implementation were evaluated due to time constraint.

In the control group, the same syllabus was followed by the instructors. The target vocabulary in the course book was taught by their instructors without the implementation of Quizlet or any other online tools. All the Vocabulary lessons were held through traditional method. Since the students were not allowed to use their mobile phones during class hours, any probable intervention of ICT tools was controlled.

On the 12th week, the students in both the control and experimental group took the vocabulary mid-term exam, which was prepared by the expert academics who work at the testing unit of the school. In the mid-term, the students were responsible for two units. There were 36 items in the exam with multiple choice, fill-in-the-blanks, matching, and defining part of speech parts.

3.5. Data Collection and Analysis

The data for this current study were obtained through:

- a) 2 vocabulary exams scores (1 quiz, 1 midterm exam)
- b) an internet-based perception questionnaire (developed by Dizon, 2016)

The quantitative data were collected through the exam scores of the participants, and a 12-item internet-based 5-point Likert scale (from strongly disagree to strongly agree) perception questionnaire (see appendix A). The first two items in the questionnaire were about the students' age and gender. The other 10 items were taken from Dizon (2016)'s questionnaire that was based on the technology acceptance model (TAM), which was originally developed by Davis (1989) as cited in Dizon (2016). Perceived Usefulness (PU), perceived use of easiness (PEOU), and behavioural intention (BI) were evaluated in the survey. The items of the questionnaire were translated into Turkish so that all items could clearly be understood by the students. In order to validate the translated questionnaire, forward and backward

translation was done to maintain the equivalence of the test questionnaire in Turkish by 2 expert translators and 5 university lecturers, one of whom was a bilingual speaker. The perception questionnaire was created in Google Forms and was piloted with twenty students to confirm its internal consistency and reliability. Cronbach's alpha value was found $\alpha=.95$. After validating its reliability through piloting, the perception questionnaire was distributed to the students in the experimental group via e-mail. 44 students responded to the items in the questionnaire. The questionnaire items were based on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The data gathered from the 12-item internet-based questionnaire were analysed through descriptive statistics in SPSS 23. Firstly, the factor analysis of the questionnaire was done. Then, the reliability statistics of each factor was verified. Lastly, mean values and standard deviations of the items were analysed.

The following analyses were done through SPSS:

1-The pre-test scores of the control and experimental group were analysed via ANCOVA test to understand how homogenous the groups were at the beginning of the study.

2-The pre-tests and post-test scores of the control group were analysed to investigate their improvement in Vocabulary exams. The mean scores and standard deviations were computed by SPSS.

3-The scores of the pre-tests and post-tests of the experimental group were analysed to investigate their improvement in their Vocabulary test scores. The mean scores and standard deviations were computed.

4-The pre-test and post-test scores of control and experimental groups were analysed through independent sample t-test to compare and investigate any significant difference between the groups.

5-Descriptive statistics of the questionnaire were analysed to better understand the students' perceptions of Quizlet use in the classroom.

4. Results and Discussion

The results of the ANCOVA test revealed that the difference between the control and the experimental group's pre-test results was not statistically significant ($p= .51$). These results indicate the homogeneity of the control and experimental group, which is an advised factor for a valid research design (Creswell, 2012, p. 323).

Table 1.

Control group one-sample test.

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Pre-test	24,2	4	,00	63.33	58,07	68,59
Post-test	29,9	4	,00	70.75	65,98	75,51

One-sample t-test was conducted to compare the pre-test and post-test scores of the control group (Table 1). It was seen that there was a statistically significant difference in the scores ($p=.00$). As seen in the table, the students' scores improved by 7 % in the post test ($M=63.70$).

Table 2.

Experimental group one-sample test.

	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Pre-test	27.09	43	.000	64.63	59.82	69.44
Post-test	27.73	43	.000	72.04	66.80	77.28

The results of the experimental group one sample test statistics (Table 3) show that there was a statistically significant difference between two test scores ($p=.00$), and there was 8% improvement in the posttest scores of the students in the experimental group.

Table 3.

Group Statistics

	groups	N	Mean	Std. Deviation	Std. Error Mean
Pre-test scores	Cont	48	64.33	18.11	2.61
	Exp.	44	66.63	15.82	2.38
Post-test	Cont.	48	71.75	16.39	2.36
	Exp.	44	74.04	17.23	2.59

Table 3 illustrates the group statistics. The results of the statistics revealed that the experimental group mean scores of the posttest ($M=74,04$) were higher than that of the control group ($M=71,75$).

Table 4.

Independent sample test of the control and experimental group

		Levene's Test for		t-test for Equality of Means		
		uality of Variances		t	df	Sig. (2-tailed)
Pre-test	Equal variances assumed	F	Sig.	t	df	Sig. (2-tailed)
		1.41	.23	-.647	90	.519
Post-test	Equal variances not assumed			-.651	89.80	.517
	Equal variances assumed	.29	.587	-.655	90	.514
Post-test	Equal variances not assumed			-.653	88.32	.515

Table 4 shows the independent samples t-test results of the control and experimental group. Although the experimental group received relatively better scores in the posttest, the test analysis suggests that the difference between the posttest results of the groups was not statistically significant ($p=.51$).

Table 5.

Questionnaire Descriptive Statistics

Items	Mean	Std. Deviation	N
1 (Fac.1) PU1	3.94	.791	44
2 Fac. 1) PU2	4.17	.737	44
3 (Fac. 1) PU3	4.03	.878	44
4 (Fac. 1) PU4	4.36	.833	44
5 (Fac. 2) PEOU1	4.06	.860	44
6 (Fac. 2) PEOU2	3.50	1.000	44
7 (Fac. 2) PEOU3	3.75	.996	44
8 (Fac. 2) PEOU4	3.97	.910	44
9 (Fac. 2) BI	3.78	1.124	44
10 (Fac. 2) BI	3.83	1.159	44

The overall reliability of the questionnaire was verified with Cronbach's alpha ($\alpha=.91$). KMO and Bartlett's test score was done for factor analysis (KMO= .83 sig= .00). Based on the results, 2 factors were determined: PU (perceived usefulness) as factor 1 and PEOU&BI (perceived ease of use and behavioral intention) as factor 2. The first factor's reliability was calculated as $\alpha=.88$ and the second factor's as $\alpha=.87$. Table 5 shows the descriptive analysis of the questionnaire items. According to the results, PU factor had the highest mean scores. Out of ten items, statement four, "I think Quizlet was useful in my class", received the highest level of agreement (M= 4.36). Item 2, "I was able to learn English vocabulary more quickly with Quizlet", had the second highest score (M=4.17). Similarly, PEOU also had relatively higher scores, only one having 3.50. Item 5, "It was easy for me to study English vocabulary with Quizlet", had the highest score in this factor (M=4.06). The students found it easy to use Quizlet as the item number 7, "Learning how to study English vocabulary with Quizlet was easy for me", and 8, "The Quizlet website and/or mobile app was clear and understandable", had similar mean scores (M=3.75 and M=3.97). The last two items had relatively lower scores compared to the other items (M=3.78 and M=3.83), yet they are over 3.50. The findings show that none of the items received mean value lower than M=3.50, which revealed that students had positive perceptions of Quizlet with a total agreement on each item.

5. Conclusion

The present study was carried out in order to investigate whether Quizlet might have an effect on students' achievement in vocabulary exams. Besides, it was aimed to identify the students' perceptions of using it in EFL classrooms. As an answer for the first research question, the quantitative analysis of the exam scores revealed that the experimental group mean scores of the post-test (M=74.04) were higher than that of the control group (M=71.75) though the difference was not statistically significant. This finding is in line with Tosun (2015)'s experimental study, which reported that students who were instructed with Quizlet received similar test scores with those who did not. In various studies, however, statistically significant differences between control and experimental group test scores were obtained (Dizon, 2016; Lander, 2016; Sanosi, 2018).

With regards to the second research question, the students' perceptions of Quizlet were found positive in the perception questionnaire with nine items having mean scores over M=3.50, and only one having

M=3.50. The findings of the questionnaire are in line with similar studies conducted in which students reported Quizlet as useful and motivating (Anjaniputra & Salsabila, 2018; Dizon, 2016; Jackson, 2015; Köse & Mede, 2016; Phi, 2016; Stroud, 2014; Tosun, 2015; Wolff, 2016). Based on the results of the perception questionnaire, it is seen that the students perceived Quizlet to be useful for vocabulary learning in English language learning.

Considering all the advantages it provides, it can be concluded that Quizlet, an effective web-based mobile learning medium, is motivating, enjoyable, useful for vocabulary learning. Therefore, teachers should be aware of the significance of utilizing Web 2.0 tools in language teaching/learning, and should integrate ICTs into vocabulary teaching more. As pointed out by Li (2018), “technology can be an effective tool to engage, motivate and regulate learners” (p.13). Therefore, it is vital for teachers at all stages in their career to be attentive to the changes in technology, and they need to be adequately prepared to implement technology in their teaching practice (Gomes et al., 2016).

6. Limitations and Suggestions for Further Research

For the current study, only elementary level students (N=44 for the experimental group, N=48 for the control group) were selected, and the study was limited to a four-week implementation because immediate results were to be collected to analyse the outcomes. These two factors can be stated as the limitations of the study. Better results in terms of vocabulary achievement could have been gained if Quizlet had been implemented for longer time with more students from the same level or from different levels. Moreover, further replication studies are required to evaluate the gains of Quizlet in terms of vocabulary retention.

References

- Aghaei, S., Nematbakhsh, M. A., & Farsani, H. K. (2012). Evolution of the world wide web: From WEB 1.0 TO WEB 4.0. *International Journal of Web & Semantic Technology*, 3(1), 1-10.
- Albion, P. R. (2008). Web 2.0 in teacher education: Two imperatives for action. *Computers in the Schools*, 25(3-4), 181-198. www.tandfonline.com
- Anjaniputra, A. G., & Salsabila, V. A. (2018). The merits of Quizlet for vocabulary learning at tertiary level. *Indonesian EFL Journal*, 4(2), 1-11. doi: 10.25134/iefj.v4i2.1370.
- Ashraf, H., Motlagh, F. G., & Salami, M. (2014). The impact of online games on learning English vocabulary by Iranian (low-intermediate) EFL learners. *Procedia-Social and Behavioral Sciences*, 98, 286-291. doi: 10.1016/j.sbspro.2014.03.418
- Barr, B. (2016). Checking the effectiveness of Quizlet® as a tool for vocabulary learning (Doctoral dissertation). <http://hdl.handle.net/11078/359>
- Bilová, Š. (2018). Collaborative and Individual Vocabulary Building Using ICT. *Studies in Logic, Grammar and Rhetoric*, 53(1), 31-48.
- Chen, X. B. (2013). Tablets for informal language learning: Student usage and attitudes. *Language Learning & Technology*, 17(1), 20–36. <http://dx.doi.org/10125/24503>
- Cho, K., Lee, S., Joo, M. H., & Becker, B. (2018). The effects of using mobile devices on student achievement in language learning: A Meta-Analysis. *Education Sciences*, 8(3), 105.
- Cilliers, E. J. (2017). The challenge of teaching generation Z. PEOPLE: *International Journal of Social Sciences*, 3(1), 188-198.
- Creswell, J. W. (2012). Educational research. Planning, conducting, and evaluating quantitative and qualitative research. (4th edition). Pearson Education Inc. ISBN-10: 0-13-136739-0

- Dizon, G. (2016). Quizlet in the EFL Classroom: Enhancing Academic Vocabulary Acquisition of Japanese University Students. *Teaching English with Technology*, 16(2), 40-56. <http://www.tewtjournal.org>
- Dreyer, J. (2014). The effect of computer-based self-access learning on weekly vocabulary test scores. *Studies in Self-Access Learning Journal*, 5(3), 217-234.
- Gomes, N., Lopes, S., & Araújo, S. (2016). Mobile Learning: A Powerful Tool for Ubiquitous Language Learning. *New perspectives on teaching and working with languages in the digital era*, 189. Dublin:Research-publishing.net. <http://dx.doi.org/10.14705/rpnet.2016.tislid2014.433>
- Jackson III, D. B. (2015). A Targeted Role for L1 in L2 Vocabulary Acquisition with Mobile Learning Technology. *Perspectives (TESOL Arabia)*, 23(1).
- Jong, M. S. Y., Chan, T., Hue, M. T., & Tam, V. W. (2018). Gamifying and Mobilizing Social Enquiry-based Learning in Authentic Outdoor Environments. *Journal of Educational Technology&Society*, 21(4),277-292. <https://www.jstor.org/stable/10.2307/26511554>
- Kalyuga, M., Mantai, L., & Marrone, M. (2013). Efficient vocabulary learning through online activities. *Procedia-Social and Behavioral Sciences*, 83, 35-38. <https://doi.org/10.1016/j.sbspro.2013.06.007>
- Kearney, M., Schuck, S., Burden, K., & Aubusson, P. (2012). Viewing mobile learning from a pedagogical perspective. *Research in learning technology*, 20(1), n1. doi: <https://doi.org/10.3402/rlt.v20i0.14406>.
- Köse, T., & Mede, E. (2016). Perceptions of EFL Learners about Using an Online Tool for Vocabulary Learning in EFL Classrooms: A Pilot Project in Turkey. *Procedia-Social and Behavioral Sciences*, 232, 362-372. <https://doi.org/10.1016/j.sbspro.2016.10.051>
- Kukulska-Hulme, A. (2009). Will mobile learning change language learning?. *ReCALL*, 21(2), 157-165. doi:10.1017/S0958344009000202
- Lander, B. (2016). Quizlet: What the students think--A qualitative data analysis. *EURO CALL*, 12(3), 254-259. <https://doi.org/10.14705/rpnet.2016.eurocall2016.571>
- Nation, I. S. P. (1993). Vocabulary size, growth, and use. *The bilingual lexicon*, 6, 115-134.
- Nushi, M., & Jenabzadeh, H. (2016). Teaching and learning academic vocabulary. *California Linguistic Notes*, 40(2), 51-70. <https://www.researchgate.net/publication/305072985>
- Patel, K. (2013). Incremental journey for World Wide Web: introduced with Web 1.0 to recent Web 5.0—a survey paper. *International Journal of Advanced Research in Computer Science and Software Engineering*, 3(10).
- Phi, T. T., Tho, V. H., Thanh, N. L. H., & Khanh, P. T. (2016). Application of quizlet. com to teaching and learning business English vocabulary at Ho Chi Minh City University of Economics. In *Proceedings of The First International Conference on Language Development (ICLD 2016)* (pp. 230-238). <http://nnkt.ueh.edu.vn/wp-content/uploads/2015/12/34-015.pdf>
- Quizlet. (2018). About Quizlet | Quizlet. Retrieved December 9, 2018 from <https://quizlet.com/mission>
- Samuel, R. J., & Zaitun, A. B. (2007). Do teachers have adequate ICT resources and the right ICT skills in integrating ICT tools in the teaching and learning of English language in Malaysian schools? *The Electronic Journal of Information Systems in Developing Countries*, 29(1), 1-15. <https://doi.org/10.1002/j.1681-4835.2007.tb00196.x>
- Sanosi, A. B. (2018). The Effect of Quizlet on Vocabulary Acquisition. *Asian Journal of Education and e-Learning (ISSN: 2321–2454)*, 6(04). <https://www.researchgate.net/publication/327108959>

- Shetzer, H., & Warschauer, M. (2000). An electronic literacy approach to network-based language teaching. *Network-based language teaching: Concepts and practice*, 3(5), 171-185.
- Šimonová, I. (2015). CALL terminology, Pokrivčáková, S., Babocká, M., Bereczky, K., Bodorík, M., Bozdoğan, D., Dombeva, L., & Leung, P. in *CALL and Foreign Language Education: e-textbook for foreign language teachers*. Nitra: Constantine the Philosopher University.
- Singh, A. (2014). Challenges and issues of generation Z. *IOSR Journal of Business and Management*, 16(7), 59-63.
- Singh, A. P., & Dangmei, J. (2016). Understanding the generation Z: the future workforce. *South-Asian Journal of Multidisciplinary Studies*, 3(3), 1-5.
- Stroud, R. (2014). Student engagement in learning vocabulary with CALL. In S. Jager, L. Bradley, E. J. Meima, & S. Thouesny (Eds). *CALL Design: Principles and Practice, Proceedings of the 2014 EUROCALL Conference*, Groningen, The Netherlands (pp 340-344) Dublin Research-publishing.net. Doi: 10.14705/rpnct.2014.000242
- Tafazoli, D., Chirimbu, S. C., & Dejica-Cartis, A. (2014). Web 2.0 in English language teaching: Using word clouds. *Professional Communication and Translation Studies*, 7,(1-2)
- Tosun, S. (2015). The effects of blended learning on EFL students' vocabulary enhancement. *Procedia-Social and Behavioral Sciences*, 199, 641-647. doi: 10.1016/j.sbspro.2015.07.592
- Vargas, J. M. (2011). Modern learning: Quizlet in the social studies classroom (Doctoral dissertation, Wichita State University).
- Wolff, G. (2016). Quizlet Live: The classroom game now taking the world by storm. *Language Teacher*, 40, 25. <http://jalt-publications.org/tlt/departments/tlt-wired>
- Wong, L. H., & Looi, C. K. (2011). What seems do we remove in mobile-assisted seamless learning? A critical review of the literature. *Computers & Education*, 57(4), 2364-2381.

Appendices

Appendix A: Quizlet Perception Questionnaire Items

1. Using Quizlet has improved my English.
2. Learn English vocabulary faster using Quizlet
3. Quizlet made it easy for me to learn English vocabulary.
4. I think it was helpful to use Quizlet in the classroom.
5. It was easy for me to learn English vocabulary using Quizlet.
6. Mastering English vocabulary was easy with Quizlet.
7. It was easy for me to study how to learn English words using Quizlet.
8. The Quizlet website/app was clear and understandable.
9. I plan to learn English vocabulary using Quizlet in the future.
10. I would like to study English vocabulary with Quizlet if offered / given the opportunity.