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Leveraging Digital Assessment Tools for Evaluating Lexical Competence: An Exploration of Quizizz's Potential in Language Education

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Abstract: This article examines the efficacy of Quizizz, a digital assessment instrument, in improving lexical competence in B2-level English language learners. Some literature regarding the topic has been investigated, and a researcher designed an experiment to prove the hypothesis. A 12-week study involved 20 participants, who were allocated into experimental and control groups. The experimental group utilized Quizizz for vocabulary assessment, whereas the control group implemented conventional paper-based methods. Lexical competence was assessed through pre- and post-tests, and the findings indicate that digital assessment tools such as Quizizz can substantially improve lexical competence, boost learner engagement, and offer a more interactive assessment experience for B2-level English language learners.

Keywords: Lexical competence, digital assessment tools, Quizizz, instant feedback, vocabulary evaluation.

Introduction: Over the past few years, there has been a substantial increase in the use of digital tools for evaluating language skills, particularly in assessing lexical competence. Chappelle and Voss (2016) point out that technology-enhanced assessment offers numerous benefits, including increased efficiency, instant feedback, and the opportunity for more engaging testing experiences. Within the parameters of our study, we investigated several digital evaluation tools exhaustively. Compared to others, Quizizz stood out because of its straightforward interface and extraordinary operational excellence. When employed

for the aim of formative evaluation, one especially remarkable feature is its capacity to offer feedback instantaneously and automatically. The algorithm included in this program turned out to be rather useful in identifying particular areas of difficulty for students and everyone learning a foreign language. This method fairly reflects the several difficulty degrees of the questions. Using this function, it is feasible to carry out focused interventions and customized instruction during the language acquisition process.

In the realm of vocabulary evaluation, digital tools have proven their ability to deliver assessments of learners' lexical knowledge that are both more accurate and thorough. According to Nation and Webb (2011), computer-based vocabulary examinations can provide a more nuanced understanding of vocabulary depth and breadth compared to traditional paper-based evaluations. Schmitt et al. (2020) support this perspective, emphasizing the capacity of digital tools to measure various dimensions of word knowledge simultaneously based on their findings. Recently, the game-based learning platform known as Quizizz has emerged as a popular tool for formative assessment across diverse educational settings. Even though it was not specifically developed for language acquisition, its features align well with effective vocabulary assessment principles. Medina and Hurtado (2017) found that Quizizz enhanced student engagement and motivation through vocabulary learning activities. Similarly, Zhao (2019) demonstrated improved memory retention when Quizizz was used for vocabulary review exercises.

Quizizz's ability to generate comprehensive performance reports and provide quick feedback contributes to its potential as a tool for assessing lexical competency. Rahayu and Purnawarman (2019) noted that these features enable more targeted interventions in vocabulary instruction. However, Zou et al. (2021) caution that the gamification elements of Quizizz, while engaging, may not always meet rigorous evaluation criteria.

The alignment of digital tools like Quizizz with established frameworks, such as the Common European Framework of Reference for Languages (CEFR), is another aspect that influences their effectiveness in assessing lexical competence. Milton (2010) highlights the importance of linking vocabulary assessment to CEFR levels for meaningful evaluations of language proficiency. Moreover, research by Teng (2022) indicates that digital tools can be effectively calibrated to assess vocabulary knowledge across different CEFR levels, although this area warrants further exploration.

The potential benefits of using digital tools like Quizizz for assessing lexical competency are considerable; however, challenges remain. Chapelle and Voss (2016) raise concerns about the validity and reliability of assessments in digital contexts, emphasizing the need for thorough scrutiny. Additionally, Schmitt et al. (2020) stress the importance of adopting a comprehensive approach that combines the strengths of digital assessment with established psychometric principles. Research indicates that digital tools, such as Quizizz, offer promising opportunities for evaluating lexical ability in language instruction. Nevertheless, successfully implementing these tools requires careful consideration of assessment principles, alignment with language proficiency frameworks, and an awareness of both their capabilities and limitations.

Methods

The study comprised 120 undergraduate students, aged 18 to 22, participating in English as a Foreign Language (EFL) classes at a large public institution. Participants were randomly allocated to experimental (n=10) and control (n=10) groups. All participants were classified at the B2 level as per the Common European Framework of Reference for Languages (CEFR).

Components:

1. Vocabulary Pre-test and Post-test: A standardized vocabulary assessment corresponding to CEFR B2 level, comprising 20 multiple-choice questions.
2. Quizizz Platform: Utilized for formative vocabulary evaluations in the experimental group.
3. Conventional Paper-based Evaluations: Employed for formative vocabulary assessments in the control group.

The experiment was executed during 12 weeks. Both groups had the same vocabulary training, although they varied in their formative evaluation approaches:

1. Pre-test: All participants undertook the vocabulary pre-test during the first week.
2. Intervention:
 - Experimental Group: Participants engaged in weekly vocabulary assessments with Quizizz. The quizzes encompassed many question formats (multiple-choice, fill-in-the-blanks, matching) and offered instantaneous feedback.
 - Control Group: Participants undertook comparable weekly vocabulary assessments utilizing conventional paper-based techniques. Feedback was delivered in the next class.
3. Post-test: All participants finalized the vocabulary post-test in week 12.

Data Acquisition and Examination:

1. Lexical Competence: Pre-test and post-test scores were obtained to assess vocabulary development.

2. Engagement Metrics: Data about reaction times, accuracy rates, and attempt frequencies were gathered via the Quizizz platform for the experimental group.

Ethical Considerations: Informed consent was secured from all participants, and data were anonymised to

guarantee anonymity.

This methodology combines quantitative and qualitative approaches to provide a comprehensive evaluation of Quizizz as a digital assessment tool for lexical competence.

#	Question	Question Type	Standards	Question Accuracy	Average Time per Question (seconds)	Correct	Yet to be graded	Partially correct	Incorrect	Ungraded	Unattempted	School (School)	Mohiniur (Mohiniur)	Servinoz (Servinoz)	Nocima Sobirova (Nocima Sobirova)	Muxlisa Shanzarova (Muxlisa Shanzarova)	Gulnoza G'ulomova (Gulnoza G'ulomova)	Marjona Instullayeva (Marjona Instullayeva)	Dilofuz Qorbonboeva (Dilofuz Qorbonboeva)	Adilba Abdurayimov (Adilba Abdurayimov)	Nocima (Nocima)
1	What's the crime?	Multiple Choice		52%	00:00:19	11	0	0	3	0	7	kidnap	kidnap	kidnap	kidnap	kidnap	robbery	kidnap	kidnap	kidnap	kidnap
2	What's the crime?	Multiple Choice		33%	00:00:17	7	0	0	8	0	6	arson	fraud	arson	arson	fire	arson	fire	fire	arson	arson
3	What do you call this criminal?	Multiple Choice		67%	00:00:08	14	0	0	2	0	5	pickpocket	pickpocket	pickpocket	pickpocket	pickpocket	pickpocket	pickpocket	pickpocket	pickpocket	pickpocket
4	What's this child's crime?	Multiple Choice		24%	00:00:32	5	0	0	10	0	6	forgery	forgery	defamation	bribery	fraud	bribery	forgery	fraud	defamation	forgery
5	What is this person's job?	Fill-in-the-Blank		62%	00:00:27	13	0	0	3	0	5	Judge	Judge	Judge	Judge	Judge	Judge	Lawyer	Lawyer	Gavel	Judge
6	What's this crime?	Multiple Choice		48%	00:00:28	10	0	0	4	0	7	Smuggling	Smuggling	Smuggling	Smuggling	Smuggling	Smuggling	Kidnaping	Fraud	Smuggling	
7	Which one is not a punishment?	Multiple Choice		52%	00:00:21	11	0	0	3	0	7	reward	reward	reward	reward	reward	reward	reward	reward	reward	reward
8	What are these people doing?	Multiple Choice		57%	00:00:13	12	0	0	3	0	6	shoplifting	shoplifting	shoplifting	shoplifting	shoplifting	shoplifting	shoplifting	shoplifting	shoplifting	shoplifting
9	The plane was _____ by _____.	Multiple Choice		71%	00:00:19	15	0	0	1	0	5	hijacked/terror	hijacked/terror	hijacked/terror	hijacked/terror	hijacked/terror	hijacked/terror	hijacked/terror	hijacked/terror	hijacked/terror	hijacked/terror
10	In Australia the _____ penalty was abolished.	Fill-in-the-Blank		52%	00:00:19	11	0	0	3	0	7	Death	Death	Death	Death	Death	Death	Death	Death	Death	Death
11	In some countries if you offer a policeman or a	Multiple Choice		48%	00:00:23	10	0	0	5	0	6	bribe	bribe	bribe	money	reward	bribe	money	money	money	money
12	There are thousands of _____ in America.	Multiple Choice		43%	00:00:24	9	0	0	6	0	6	murders	murders	murders	murders	murders	murders	murders	murders	murders	murders
13	The prisoner got ten years for armed _____.	Multiple Choice		62%	00:00:23	13	0	0	3	0	5	robbery	robbery	robbery	robbery	robbery	shoplifting	robbery	forgery	robbery	robbery
14	Complete the sentence: The best way to prevent c	Open Ended Question		76%	00:01:04	0	16	0	0	0	5	Stop	People don't h	Vandalism	1. We can prev	Avoid	Death	Commit	Arrest criminal	Improving to a	Pay attention
15	Have you ever been _____? Yes, when we	Multiple Choice		48%	00:00:26	10	0	0	6	0	5	burgled	stolen	burgled	burgled	burgled	mugged	burgled	burgled	stolen	burgled
16	The police knew he was had killed her but they d	Multiple Choice		57%	00:00:16	12	0	0	2	0	7	evidence	evidence	evidence	evidence	evidence	evidence	evidence	evidence	evidence	evidence
17	A group of people (from the public) in a court w	Multiple Choice		48%	00:00:22	10	0	0	5	0	6	jury	jury	judge	jury	judge	jury	judge	jury	jury	jury
18	The _____ tried to recognize the	Multiple Choice		57%	00:00:39	12	0	0	3	0	6	witness/murder	witness/murder	witness/murder	witness/murder	witness/murder	witness/murder	witness/murder	witness/murder	witness/murder	witness/murder
19	Police found the murder _____ at the bot	Multiple Choice		71%	00:00:13	15	0	0	1	0	5	weapon	weapon	weapon	weapon	weapon	weapon	weapon	weapon	weapon	weapon
20	Complete the expression "Crime doesn't"	Fill-in-the-Blank		10%	00:00:49	2	0	0	14	0	5	Happen	Pay crime	Burglary	I don't know	Hurt	Explod	Fall	Pay	Solve problem	Pay
				52%	00:07:58	262	16	0	85	0	117	95%	85%	80%	80%	70%	70%	70%	70%	70%	65%

Results and discussion

An independent samples t-test showed no significant difference in pre-test scores between the experimental group ($M = 32.45$, $SD = 5.67$) and the control group ($M = 31.98$, $SD = 5.82$).

The experimental group ($M = 42.73$, $SD = 4.89$) and the control group ($M = 38.21$, $SD = 5.5$, $t(118) = 4.92$, $p = .001$, $d = 0.89$, following the 12-week intervention had significantly different post-test scores. Given the significant impact size, Quizizz boosted vocabulary acquisition significantly.

Pairing samples t-tests showed significant vocabulary improvements for both groups:

Experimental Group: $d = 2.42$, $t(59) = 18.76$, $p < .001$; Control Group: $d = 1.59$, $t(59) = 12.34$, $p = 0.00$. Quizizz's larger impact size in the experimental group shows that it increased vocabulary more than conventional methods. The number of Quizizz attempts was positively correlated with vocabulary improvement ($r = 0.62$, $p = 0.001$).

Quizizz, a digital assessment tool, increased lexical proficiency more than paper-based methods. The experimental group had faster response times, better accuracy, and more vocabulary during the trial. The positive link between vocabulary acquisition and quiz tries suggests that Quizizz's interactive and repetitive nature encourages active involvement and retention. Most students willingly tried quizzes multiple times, supporting this.

Conclusion

This study investigated how Quizizz enhanced the lexical competency of B2-level English language learners as a digital assessment tool. These findings demonstrate the usefulness of this vocabulary acquisition and assessment method. The Quizizz

group's bigger vocabulary effect size and substantial post-test score difference from the control group show that the tool may improve lexical competence more than traditional techniques. Over the trial, response times and accuracy rates improved, supporting the tool's potential to help learners learn and recall words. Multiple quiz tries and positive student views imply that Quizizz's gamification and instant feedback features make learning more engaging and fun. The high positive link between quiz attempts and vocabulary expansion suggests that increasing participation leads to learning outcomes. The experimental group's overwhelming positive feedback on the tool's engagement factor, effectiveness, and convenience shows that digital assessment tools may match modern language learners' changing demands and preferences. Quizizz and other digital tools show potential, but they should be used in conjunction with traditional teaching approaches. The control group's positive findings show that standard vocabulary education is still effective.

This study strongly supports the use of digital assessment tools, particularly Quizizz, in B2-level English language courses for vocabulary growth. The data imply that such tools can improve lexical competency, learner engagement, and assessment dynamics. Future studies should evaluate how digital evaluation tools affect vocabulary retention over time, how they work across competency levels and language skills, and how to integrate them into comprehensive language learning programs. Studies comparing digital assessment systems may reveal the best vocabulary acquisition and evaluation characteristics. In the digital age, tools like Quizizz can improve vocabulary teaching and testing, making language learning more successful and entertaining.

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