Jurnal Pendidikan

THE ROLE OF QUIZIZZ APPLICATION IN LEARNING: A LITERATURE REVIEW

Non Syafriafdi

Universitas Riau, Pekanbaru, Indonesia

non.syafriafdi@lecturer.unri.ac.id

Abstract: *Sailing through the 21st century, integrating technology into the classroom has become necessary. To ensure successful learning, educators need effective tools that can boost motivation and support student engagement. One of these tools is Quizizz. This research aims to contribute to the thriving research on technology use in education by investigating the role of Quizizz in learning. Employing qualitative design, the method used is library research, which involved reviewing and analyzing existing literature related to Quizizz and its use in educational settings. The research concludes that the Quizizz plays a considerable role in the learning process today. It is one of the most appropriate and relevant applications used in learning, particularly for evaluation. Interactive and fun learning experience, active student engagement, instant feedback, and learning personalization are some of the factors that make Quizizz a very powerful tool to increase student learning motivation and interest, which naturally also results in the improvement of learning achievement. Moreover, Quizizz's features can also help develop the 21st century skills that are essential for students to have today, particularly critical thinking, communication, and collaboration.*

Keywords: *Literature review; Quizizz; learning*

Abstrak: Menjalani abad ke-21, mengintegrasikan teknologi dalam kelas telah menjadi hal yang penting. Untuk memaksimalkan pembelajaran yang sukses, pendidik membutuhkan perangkat yang efektif yang dapat meningkatkan motivasi dan mendukung keaktifan siswa. Salah satu alat ini adalah Quizizz. Penelitian ini bertujuan untuk berkontribusi pada penelitian yang sedang berkembang tentang penggunaan teknologi dalam pendidikan dengan menyelidiki peran Quizizz dalam pembelajaran. Dengan menerapkan pendekatan kualitatif, metode yang digunakan adalah penelitian kepustakaan, yang melibatkan peninjauan dan analisis literatur yang ada terkait dengan Quizizz dan penggunaannya dalam lingkungan pendidikan. Penelitian ini menyimpulkan bahwa Quizizz memainkan peran yang cukup besar dalam proses pembelajaran saat ini. Ini adalah salah satu aplikasi yang paling tepat dan relevan digunakan dalam pembelajaran, terutama untuk proses evaluasi. Pengalaman belajar yang interaktif dan menyenangkan, keterlibatan siswa secara aktif, umpan balik instan, dan personalisasi pembelajaran merupakan beberapa faktor yang membuat Quizizz menjadi alat yang sangat ampuh untuk meningkatkan motivasi dan minat belajar siswa, yang tentu saja pada akhirnya juga berdampak pada peningkatan prestasi belajar. Selain itu, fitur-fitur yang

dimiliki Quizizz juga dapat membantu mengembangkan keterampilan abad ke-21 yang sangat dibutuhkan oleh siswa saat ini, utamanya dalam hal berpikir kritis, komunikasi, dan kolaborasi.

Kata kunci: *Tinjauan pustaka; Quizizz; pembelajaran*

INTRODUCTION

As education fast-tracks into a digital realm, technology has become ubiquitous in classrooms worldwide. The efficacy of this trend can be attributed to educators realizing the inadequacy of conventional teaching methods to equip students with skills relevant for modern workforce (Naga & Subramani, 2018; Malik, 2018). Given today's digitally progressive world where critical thinking, problem-solving, and collaboration are among sought-after competencies (Gore, 2013; Ahonen & Kinnunen, 2015), students adopting technology hold an edge over counterparts who don't (Hermita, 2020). Technology accentuates these key qualities by providing vast information resources and real-life situations to hone digital literacy capabilities (Erwin & Mohammed, 2022). While merely integrating technology into the classroom has become commonplace, it is not enough to ensure student engagement and successful learning outcomes (Khan et al., 2017). Thus, educators are in need of effective tools and strategies that can boost motivation and support student learning. One of these tools is Quizizz.

Quizizz is a relatively new digital learning platform that has been gaining in popularity in recent years. It is an online learning application used to create and share interactive quizzes with students (Junior, 2020). This app was created in 2015 by Deepak Joy Cheenath and Ankit Gupta as a tool to increase students' satisfaction and involvement with their education. Since then, Quizizz has grown to be a prevalent educational tool with more than 20 million users worldwide. Gamification features on the platform, such as points, badges, and leader boards, encourage students to participate in the learning process (Pitoyo & Asib, 2020). In addition, Quizizz offers students immediate feedback so they can modify their learning strategies as necessary (Rahayu & Purnawarman, 2019). Owing to the platform's personalized pacing, students can also work at their own pace and according to their own schedules.

Quizizz is designed to help teachers create a more interactive and fun learning environment as well as enable students to learn in a more interesting and less boring way (Degirmenci, 2021). It can be used for formative assessments, such as quizzes that evaluate student progress during a course, or summative assessments, such as quizzes that evaluate student mastery of a subject. This app has many features that make it unique and attractive for both students and teachers to use (Muji et al., 2021). These features include the ability to create quizzes easily and quickly, provide real-time feedback, and the ability to customize and personalize quizzes according to learning needs. Quizizz provides ready-to-use quizzes that users can access and use, including quizzes with various topics and levels of difficulty. This feature allows teachers to save time and effort in preparing quizzes, while students can gain extensive knowledge on various topics (Aini,

2019). In addition, Quizizz also has a leaderboard feature that allows students to compete in quizzes, thereby increasing their motivation and activeness in learning. The app also has a feature to invite students to join quizzes and then displays real-time quiz results and statistics after the quiz is over. Another advantage of Quizizz is the feature of using images and videos in quizzes. This feature allows teachers to enrich learning with interesting visual contents, promoting active recall and retrieval, which are essential for long-term memory retention. With its complete and easy-to-use features, Quizizz is a very useful app for teachers and students in enhancing interactive and effective learning experience (Zhao, 2019; Rizki & Kurniawati, 2022).

Although Quizizz has many advantages, there are still a few drawbacks that need attention. One of them is the ability to access the internet needed by students and teachers. To use this application, students and teachers need stable and fast internet access (Göksün & Gürsoy, 2019). If the internet connection is inadequate, the application may become slow and unresponsive (Harahap & Kembaren, 2023). Another obstacle in using Quizizz is the teacher's lack of control over the use of the application by students (Wen & Aziz, 2022). This app does not have sufficient monitoring features to ensure that students do not cheat during quizzes (Colodeeva, 2021). In addition, this application also has limitations in terms of adapting quizzes to the local or regional curriculum. The quizzes provided by Quizizz are general in nature and not really related to the curriculum or the special needs of a particular area. Another drawback of Quizizz is the limitations in terms of skills and practical learning. This app is more suitable for knowledge and information quizzes. For subjects that focus more on practical skills, such as math or science, it will be more difficult to test students' competencies with Quizizz (Yong & Rudolph, 2022).

Nevertheless, Quizizz has emerged as a popular tool due to its unique features such as personalized learning and gamification aspects. It has been used in a variety of educational settings, from K-12 classrooms to higher education and corporate training. As such, this research paper aims to contribute to the thriving research on technology use in education by qualitatively investigating the role of Quizizz in learning. This research addresses the need for more studies that examine the effectiveness of Quizizz across different educational settings, subjects, and cultural contexts.

METHODOLOGY

This study has a qualitative research design with the purpose of exploring the role of Quizizz in learning. The writer used a library research method, which involved reviewing and analyzing existing literature related to Quizizz and its use in educational settings. This method was particularly appropriate for this research question because it allowed for an in-depth exploration of the various ways in which Quizizz is used in educational settings and its impact on student learning outcomes. The literature review process involved conducting searches of electronic

databases such as Google Scholar, JSTOR, and ProQuest, as well as reviewing relevant textbooks, conference proceedings, and other academic sources. To be included in the study, sources had to meet the following criteria: (1) they were published within the past ten years, (2) they focused on the use of Quizizz in educational settings, and (3) they provided insights into the role of Quizizz in student learning.

Data was collected through careful reading and note-taking, with an emphasis on identifying key concepts and themes related to the role of Quizizz in learning. The findings were then synthesized and organized into categories to provide an overview of the various ways in which Quizizz is used in educational settings, its effectiveness as a learning tool, and its impact on students' motivation, engagement, and achievement.

RESULTS AND DISCUSSION

The Use of Quizizz in Learning

In recent years, Quizizz has gained popularity as a learning tool, with many educators using it to improve student learning outcomes (Junior, 2020). This section will go over the various uses of Quizizz in educational settings, including both traditional and online ones.

Quizizz is frequently used as a formative evaluation tool in traditional, face-to-face classes (Yong & Rudolph, 2020; Suharsono, 2020). Its function is to assess students' comprehension during lectures or to give quick feedback on their progress (Savitaningsih et al., 2022). Using Quizizz, teachers can create tests that cover particular course material and involve students in interactive review exercises (Degirmenci, 2021). This assists in keeping students interested and motivated while also giving teachers valuable insight on how well the students are picking up new material (Munawir & Hasbi, 2021).

Quizizz is used in online learning environments as an addition to instructional videos or to produce self-paced study guides for students (Sakina et al., 2020; Simpson, 2020). The material from online classes can be covered in quizzes that teachers design, giving students a stimulating and engaging approach to study the subject matter (Mohamad et al., 2020). This can be particularly helpful for students who might have trouble with self-paced learning or who require additional assistance outside of the typical classroom environment.

Additionally, quizzes from Quizizz are completed by students as part of their homework assignments. This will promote student learning and give learners a more interesting and dynamic stand when reviewing their course materials (Abdel-Rahman, 2021). Additionally, Quizizz can be used for test preparation (Yanuarto & Hastinasyah, 2023). Teachers can design a Quizizz quiz that covers the content of an impending exam, which will undoubtedly benefit students in preparing themselves and increase their confidence in passing it.

Furthermore, Quizizz is commonly employed as a tool for cooperative learning in which students answer questions and compete with other teams (Andayani et al., 2021; Munir & Darmanto, 2022). Teachers may organize group exercises that encourage cooperation and teamwork among students by having them answer Quizizz questions in order to gain points. Particularly in classes where collaborative projects are significant parts of the curriculum, this might be helpful.

One of the key benefits of Quizizz is adaptability. The platform is suitable to a range of learning scenarios, including conventional classrooms, online programs, and blended learning situations. Quizizz additionally offers teachers a variety of tools and features, such as multimedia components, time limitations, and more, to make interactive and interesting quizzes.

Overall, Quizizz is a flexible tool that may be utilized to improve student learning results in a range of educational contexts. Quizizz can aid students in maintaining their motivation and interest in the learning process by offering a variety of interactive and interesting practices.

The Effectiveness of Quizizz in Learning

Quizizz is an online learning platform that has been widely used in various schools and universities around the world. One of the main advantages of Quizizz is its ability to significantly enhance students' learning motivation (Lestari, 2019; Pitoyo & Asib, 2020; Dhamayanti, 2021). Quizizz offers a pleasant learning experience (Irwansyah & Izzati, 2021). Amri and Shobri (2020) state that Quizizz provides an interactive and engaging learning environment, which increases students' learning motivation and makes them more invested in the material being studied (Zhao, 2019; Irwansyah & Izzati, 2021). The interactive quizzes provided by Quizizz allow students to learn in a manner that is different from what is usually applied in learning. Students can learn while playing and feel more relaxed while learning (Pavita & Nirmala, 2021; Manuyandi et al., 2021; Pham, 2022). This helps to increase students' learning motivation, as they feel more motivated to master the material. Also, Quizizz has competition and scoring features. In its use, students can see their score results directly and compete with their classmates. This triggers students' curiosity and desire to study harder and strengthen their understanding of the learning material (Rahmah et al., 2019).

In addition, Quizizz also enables students to be actively involved in the learning process (Zhao, 2019; Degirmenci, 2021). Students can take quizzes independently or play along with classmates. This aids in increasing students' participation in learning and provides an outlet for them to learn in a more interactive way (Göksün & Gürsoy, 2019; Raju et al., 2021; Asmara et al., 2022). As claimed by Petress (2006), increased student participation in the learning process will help improve the quality of learning.

On top of that, Quizizz grants instant feedback to students and provides an opportunity for them to interact with the material (Lim & Yunus, 2021). This is because every time students

answer a quiz question, they will get immediate feedback on their answers. This ensures the reinforcement of students' understanding regarding the material and encourages them to learn from their mistakes (Nurhasanah & Fauzan, 2021). According to research conducted by Hattie and Clarke (2018), the provision of instant feedback in learning also contributes to increasing students' interest and willingness to learn.

Furthermore, Quizizz also proffers teachers the flexibility to customize quizzes in accordance with students' needs and the learning content (Yunus & Hua, 2021). This is very advantageous as teachers can create questions that match the difficulty level and needs of students, as well as include materials that need to be emphasized in the quiz (Munawir & Hasbi, 2021). Besides, teachers can also choose the type of questions they want, such as multiple choices, true/false, or open-ended questions. For instance, for math subjects, teachers can use Quizizz to develop quizzes with math problems that are appropriate to the curriculum and the level of difficulty of the students. The teacher can add questions on topics that are difficult for students to understand and ask students to do the questions as extra practice. This will help students deepen their understanding of the material and improve their learning outcomes in Math (Setiyani et al., 2020; Khasanah & Lestari, 2021; Maulidya et al., 2022; Munir & Darmanto, 2022; Wulandari et al., 2023; Yanuarto & Hastinasyah, 2023). Likewise, with Science subjects, teachers can use Quizizz to create quizzes containing questions on important topics in science, such as biology, chemistry, physics, and so on (Dermawan et al., 2020; Agustia et al., 2021; Purba et al., 2021; Aýun & Irwansyah, 2022). Similarly with English subjects, teachers can use Quizizz to test students' ability to understand tenses, vocabulary, and grammar. With the various language selection features on Quizizz, students who are learning a foreign language can use it to test their understanding of the foreign language (Abdel-Rahman, 2021; Dhamayanti, 2021; Irwansyah & Izzati, 2021; Lim & Yunus, 2021; Munawir & Hasbi, 2021; Pham, 2022). In addition to these subjects, Quizizz was also found to have a positive impact on Statistics (Rahmawati et al., 2022), Computer (Puspita & Ganefri, 2020), Civics (Dwinta & Sapriya, 2021), History (Yulianto et al., 2020), and so on.

Students' motivation to learn greatly impacts their learning outcomes (Hamalik, 2008). As maintained by Vollmeyer and Rheinberg (2000), the more motivated the students are, the more learning achievement they will reach. With all these benefits that have been explained, it is no wonder that many studies have shown how Quizizz can improve student learning achievement (Purba, 2020; Pratama, 2021; Munawir & Hasbi, 2021). Zuhriya and Pratolo (2020) reveal that Quizizz can help students develop their academic skills and improve their academic achievement. Quizizz has features that allow for continuous repetition (Yong & Rudolph, 2022; Melissa et al., 2022). In interactive exercises, students are given the opportunity to work on exercises within a set time and receive immediate feedback on their answers. Once the exercise is completed, students can correct their mistakes and reinforce their understanding of the concepts being studied (Göksün & Gürsoy, 2019). By performing continuous repetition of exercises, students can

solidify their comprehension and improve their learning performance (Mohamad et al., 2020; Darmawan et al., 2020).

Specifically, Quizizz has also been found to be an effective tool for improving the 21st-century skills of students, particularly critical thinking, communication, and collaboration. To begin with, Quizizz can improve students' critical thinking skills (Nasution & Nasution, 2021; Rizki & Kurniawati, 2022) by encouraging them to apply analytical and evaluative thinking when answering questions. The platform allows instructors to create quizzes that challenge students to think beyond rote memorization and instead require them to analyze, synthesize, and evaluate information in order to arrive at the correct answer (Karchmer-Klein et al., 2022). In a study by Kinshuk et al. (2020), the use of Quizizz in a blended learning environment notably improved students' critical thinking skills compared to traditional classroom teaching (Hursen, 2021). The study discovered that Quizizz facilitated a more active learning environment, which in turn encouraged higher levels of critical thinking. Another study by Yunus and Hua (2021) found that students who participated in Quizizz quizzes that emphasized critical thinking skills showed improved performance on subsequent critical thinking assessments.

Additionally, Quizizz can also support the development of problem-solving skills (Azzahra, 2022). This is because they have to solve problems or questions given in a limited time, causing students to think quickly and precisely (Kristiani & Usodo, 2022). The immediate feedback provided by Quizizz can also foster the advancement of these skills. When students receive feedback on their answers, they are urged to reflect on their thought process and identify areas that need improvement. By promoting metacognitive thinking, Quizizz can help students become more mindful of their own thinking.

For communication and collaboration skills, Quizizz allows students to learn and interact in a meaningful and interactive way (Junior, 2020). In Quizizz, students have the opportunity to work in teams and collaborate in completing given tasks or challenges (Muji et al., 2021).

One feature of Quizizz that can improve students' communication skills is Live Leaderboard. This feature displays student rankings in real-time during Quizizz sessions, which can prompt students to communicate and compete with each other in a positive manner (Patisung & Koowuttayakorn, 2020; Pratama, 2021). In addition, in the form of interactive quizzes, students can share their knowledge with their friends through chat or discussion. Moreover, the use of Quizizz can also improve students' communication skills in terms of information delivery and presentation (Isnaeni et al., 2021). In the process of answering quizzes, students need to understand the questions and convey their answers intelligibly. This allows students to learn how to convey information effectively and appropriately to others.

Meanwhile, in terms of collaboration, Quizizz can help students work together with their peers in completing tasks or tackling problems (Munir & Darmanto, 2022). For example, in some quizzes, students are required to work as a team to answer questions and achieve certain

objectives. In the process, students learn to solve problems together and collaborate in achieving a common goal. As found by Zainuddin et al. (2020), the consistent use of the Quizizz platform caused significant improvement in the ability of students to collaborate and help each other.

CONCLUSION

Having reviewed the existing literature, it can be concluded that the Quizizz application is one of the most appropriate and relevant applications used in learning, particularly for evaluation. Interactive and fun learning experience, active student engagement, instant feedback, and learning personalization are some of the factors that make Quizizz a very powerful tool to increase student motivation and interest in learning, which naturally also results in the improvement of learning achievement. More than that, Quizizz's features can also help develop the 21st century skills that are essential for students to have today. For that reason, it is not surprising that in today's digital era, Quizizz plays a considerable role in the learning process and has been widely used in various educational institutions around the world.

While Quizizz has been shown to have many benefits for learning, it is recommended for future researchers to also investigate the limitations of the application. Although some studies have briefly mentioned potential limitations, such as the risk of cheating or the need for reliable internet connection, further research could provide more in-depth analysis of these issues. Fully understanding these drawbacks is necessary to develop strategies to overcome them and to ensure that Quizizz can be used effectively and appropriately so that the best learning quality and outcome can be acquired.

REFERENCES

Abdel-Rahman, A. G. E. D. (2021). The effect of Quizizz and Kahoot! applications on developing EFL vocabulary learning among freshmen students at faculty of education. .
28-1), 126(*32* , .

Agustia, M., Aprilia, C., Sari, J., Hikmah, D., & Risnita, R. (2021). Using Quizizz in learning assessment with science literacy oriented in science learning. *International Journal of Engineering, Science and Information Technology*, *1*(1), 86-90.

Ahonen, A. K., & Kinnunen, P. (2015). How do students value the importance of twenty-first century skills?. *Scandinavian Journal of Educational Research*, *59*(4), 395-412.

Aini, Y. I. (2019). Pemanfaatan media pembelajaran Quizizz untuk pembelajaran jenjang pendidikan dasar dan menengah di Bengkulu. *Kependidikan*, *2*(25).

Amri, M., & Shobri, Y. A. (2020). Persepsi mahasiswa terhadap penggunaan Quizizz dalam pembelajaran akuntansi konsolidasi Bank Syariah di IAIN Ponorogo. *Jurnal Teknologi Informasi dan Pendidikan*, *13*(1), 128-136.

Yunus, C. C. A., & Hua, T. K. (2021). Exploring a gamified learning tool in the ESL classroom: The case of Quizizz. *Journal of Education and e-Learning Research*, *8*(1), 103-108.

Andayani, W., Andriani, R., Amelya, S. R., Octavia, H. I. A., & Debora, M. (2021). Indonesian students' experiences in studying foreign language using technology. *Wacana: Jurnal Penelitian Bahasa, Sastra dan Pengajaran*, *19*(2), 38-45.

Asmara, C. H., Muhammad, R. N., & Aini, J. N. (2022). The use of Quizizz application for measuring EFL students' engagement at SD Muhammadiyah Manyar. *PROJECT (Professional Journal of English Education)*, *5*(4), 750-756.

Aýun, Q., & Irwansyah, I. P. (2022). Students' perceptions of the use Quizizz as an online learning media for biology. *Biosfer: Jurnal Pendidikan Biologi*, *15*(1), 147-158.

Azzahra, M. (2022). The Differences between using Quizizz interactive quiz and LiveWorksheet in math problem solving ability. *Jurnal Penelitian dan Pengembangan Pendidikan*, *6*(2), 321-328.

Colodeeva, L. (2021). Enriching EFL classroom with Quizizz lessons. *ACROSS*, *4*(1), 49-57.

Degirmenci, R. (2021). The use of Quizizz in language learning and teaching from the teachers' and students' perspectives: A literature review. *Language Education and Technology*, *1*(1), 1-11.

Darmawan, M. S., Daeni, F., & Listiaji, P. (2020). The use of Quizizz as an online assessment application for science learning in the pandemic era. *Unnes Science Education Journal*, *9*(3), 144-150.

Dhamayanti, F. I. (2021). EFL students' perception and motivation toward Quizizz as e-learning media in english e-classroom. *Education of English as Foreign Language*, *4*(2), 71-78.

Dwinta, N., & Sapriya, S. (2021, April). The role of media Quizizz in civics learning to increase learning motivation for elementary school students. In *International Conference on Elementary Education* (Vol. 3, No. 1, pp. 194-198).

Erwin, K., & Mohammed, S. (2022). Digital literacy skills instruction and increased skills proficiency. *International Journal of Technology in Education and Science*, *6*(2), 323-332.

Göksün, D. O., & Gürsoy, G. (2019). Comparing success and engagement in gamified learning experiences via Kahoot and Quizizz. *Computers & Education*, *135*, 15-29.

Gore, V. (2013). 21st century skills and prospective job challenges. *IUP Journal of Soft Skills*, *7*(4), 7.

Hamalik, O. (2008). *Proses Belajar Mengajar*. Jakarta : PT Bumi Aksara.

Harahap, S. H., & Kembaren, F. R. W. (2023). Teachers' perceptions of utilizing Quizizz application in ELT for young learners. *Scope: Journal of English Language Teaching*, *7*(2), 278-286.

Hattie, J., & Clarke, S. (2018). *Visible Learning: Feedback*. Routledge.

Hermita, N. (2021). *Inovasi Pembelajaran Abad 21*. Surabaya: Global Aksara Pres.

Hursen, C. (2021). The effect of problem-based learning method supported by web 2.0 tools on academic achievement and critical thinking skills in teacher education. *Technology, Knowledge and Learning*, *26*, 515-533.

Irwansyah, R., & Izzati, M. (2021). Implementing Quizizz as game based learning and assessment in the English classroom. *TEFLA Journal (Teaching English as Foreign Language and Applied Linguistic Journal)*, *3*(1), 13-18.

Isnaeni, W., Rudyatmi, E., Ridlo, S., Ingesti, S., & Adiani, L. R. (2021, June). Improving students' communication skills and critical thinking ability with ICT-oriented problem-based learning and the assessment instruments with HOTS criteria on the immune system material. In *Journal of Physics: Conference Series* (Vol. 1918, No. 5, p. 052048). IOP Publishing.

Junior, J. B. B. (2020). Assessment for learning with mobile apps: exploring the potential of Quizizz in the educational context. *International Journal of Development Research*, *10*(01), 33366-33371.

Karchmer-Klein, R., Boulden, L., & McDonald, M. (2022). *Next-Level Digital Tools and Teaching: Solving Six Major Instructional Challenges, K–12*. Teachers College Press.

Khan, A., Egbue, O., Palkie, B., & Madden, J. (2017). Active learning: Engaging students to maximize learning in an online course. *Electronic Journal of E-learning*, *15*(2), pp107-115.

Khasanah, K., & Lestari, A. (2021). The effect of Quizizz and learning independence on mathematics learning outcomes. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, *6*(1), 63-74.

Kristiani, T., & Usodo, B. (2022). Exploration of the use of Quizizz gamification application: teacher perspective. *International Journal of Elementary Education*, *6*(2).

Lestari, T. W. (2019). Kahoot! and Quizizz: A comparative study on the implementation of e-learning application toward students' Motivation. *Karya Ilmiah Dosen*, *2*(2).

Lim, T. M., & Yunus, M. M. (2021). Teachers' perception towards the use of Quizizz in the teaching and learning of English: A systematic review. *Sustainability*, *13*(11), 6436.

Malik, R. S. (2018). Educational challenges in the 21st century and sustainable development. *Journal of Sustainable Development Education and Research*, *2*(1), 9-20.

Munuyandi, T., Husain, S., Abdul Jabar, M. A., & Jusoh, Z. (2021). Effectiveness of Quizizz in interactive teaching and learning Malay grammar. *Asian Journal of University Education (AJUE)*, *17*(3), 109-118.

Maulidya, E., Aryaningrum, K., & Fakhrudin, A. (2022). The effectiveness of the use of Quizizz-based gamification on students'learning interest in 4th grade Mathematics. *JPsd (Jurnal Pendidikan Sekolah Dasar)*, *8*(1), 49-62.

Melissa, M. M., Liaupati, L. A., Silalahi, R. M., & Wikaningtyas, C. R. (2022). Students' perspectives and experiences about the elements of Quiziz gamification in mathematics learning. *Jurnal Mercumatika: Jurnal Penelitian Matematika dan Pendidikan Matematika*, *6*(2).

Mohamad, M., Arif, F. K. M., Alias, B. S., & Yunus, M. M. (2020). Online game-based formative assessment: Distant learners post graduate students' challenges towards Quizizz. *International Journal of Scientific and Technology Research*, *9*(4), 994-1000.

Muji, A. P., Ambiyar, A., Aziz, I., & Hidayat, H. (2021). The implementation of Quizizz-based online evaluation in higher education: An exciting alternative for evaluation. *International Journal of Research in Counseling and Education*, *5*(2), 186-194.

Munawir, A., & Hasbi, N. P. (2021). the effect of using Quizizz to EFL students' engagement and learning outcome. *English Review: Journal of English Education*, *10*(1), 297-308.

Munir, A. M., & Darmanto, E. (2022). The influence of Quizizz-assisted teams games tournament on mathematics learning outcomes for grade V elementary School. *ANP Journal of Social Science and Humanities*, *3*, 85-89.

Nasution, W. H. R., & Nasution, A. S. (2021). Quizizz: Science learning media in elementary school in developing critical thinking skills. *Journal of Science Education Research*, *5*(1), 26-30.

Nurhasanah, A., & Fauzan, R. (2021, May). The effectiveness of critical thinking ability on the basis of Quizizz application viewed from problem based learning model in history learning of senior high school. In *IOP Conference Series: Earth and Environmental Science* (Vol. 747, No. 1, p. 012046). IOP Publishing.

Pangestuti, D., Febriyana, D., Adhawiyah, I. R., Febriyanti, R. T., & Prajoko, S. (2021). Development of Quizizz application-based test to measure science process skills of high school students on biodiversity materials. *Indonesian Journal of Biology Education*, *4*(1), 36-44.

Patisung, S., & Koowuttayakorn, S. (2020). *Thai high school students' attitudes towards using Quizizz on English vocabulary learning* (Doctoral dissertation, Thammasat University).

Pavita, M. D. A., & Nirmala, D. N. (2021). Merdeka belajar in pandemic: Using Quizizz game based learning to improve students' vocabulary mastery. *Language Literacy: Journal of Linguistics, Literature, and Language Teaching*, *5*(1), 221-227.

Petress, K. (2006). An operational definition of class participation. *College Student Journal*, *40*(4), 821-824.

Pham, A. T. (2022). University students' attitudes towards the application of Quizizz in learning English as a foreign language. *International Journal of Emerging Technologies in Learning*, *17*(19).

Pitoyo, M. D., & Asib, A. (2020). Gamification-based assessment: The washback effect of Quizizz on students' learning in higher education. *International Journal of Language Education*, *4*(1), 1-10.

Pratama, R. Y. (2021). Utilization of Quizizz educational game media to increase learning interest and achievement. *Indonesian Journal Of Educational Research and Review*, *4*(2), 307-316.

Purba, L. S. L. (2020, June). The effectiveness of the Quizizz interactive quiz media as an online learning evaluation of physics chemistry 1 to improve student learning outcomes. In *Journal of Physics: Conference Series* (Vol. 1567, No. 2, p. 022039). IOP Publishing.

Purba, L. S. L., Afridika, S., & Junita, Y. (2021). Innovation in using the Quizizz-assisted zoom application in chemistry learning during the covid-19 pandemic. *Phenomenon: Jurnal Pendidikan MIPA*, *11*(1), 117-126.

Puspita, T. Y., & Ganefri, G. (2020). Development of Quizizz-based learning media on basic computer and network subjects. *Indonesian Journal Of Educational Research And Review*, *3*(3), 106-112.

Rahayu, I. S. D., & Purnawarman, P. (2019, June). The use of Quizizz in improving students' grammar understanding through self-assessment. In *Eleventh Conference on Applied Linguistics (CONAPLIN 2018)* (pp. 102-106). Atlantis Press.

Rahmah, N., Lestari, A., Musa, L. A. D., & Sugilar, H. (2019, July). Quizizz online digital system assessment tools. In *2019 IEEE 5th International Conference on Wireless and Telematics (ICWT)* (pp. 1-4). IEEE.

Rahmawati, A., Sukmawati, A., & Noorbaiti, R. (2022). Pengembangan alat evaluasi berbasis HOTS untuk mengukur kemampuan berpikir kritis peserta didik pada materi statistika kelas VIII berbantuan aplikasi Quizizz. *JURMADIKTA*, *2*(3), 31-42.

Raja, R., & Nagasubramani, P. C. (2018). Impact of modern technology in education. *Journal of Applied and Advanced Research*, *3*(1), 33-35.

Raju, R., Bhat, S., Bhat, S., D'Souza, R., & Singh, A. B. (2021). Effective usage of gamification techniques to boost student engagement. *Journal of Engineering Education Transformations*, *34*, 713-717.

Rizki, E. N., & Kurniawati, W. (2022). The use of Quizizz applications and its impact on higher order thinking skills of elementary school teacher education students in elementary science learning. *International Journal of Elementary Education*, *6*(2).

Sakina, R., Kulsum, E. M., & Uyun, A. S. (2020). Integrating technologies in the new normal: a study of blended learning. *International Journal of Quantitative Research and Modeling*, *1*(4), 181-193.

Savitaningsih, N. M. S., Ratminingsih, N. M., & Marsakawati, N. P. E. (2022, March). Teachers' readiness in assessing students' achievement in blended learning environment. In *Proceeding of English Teaching, Literature And Linguistics (Eternal) Conference* (Vol. 2, No. 1, pp. 312-330).

Setiyani, S., Fitriyani, N., & Sagita, L. (2020). Improving student's mathematical problem solving skills through Quizizz. *Journal of Research and Advances in Mathematics Education*, *5*(3), 276-288.

Simpson, J. C. (2020). Distance learning during the early stages of the Covid-19 pandemic: Examining K-12 students' and parents' experiences and perspectives. *IxD&A*, *46*, 29-46.

Suharsono, A. (2020). The Use of Quizizz and Kahoot! In the Training for Millennial Generation. *IJIET (International Journal of Indonesian Education and Teaching)*, *4*(2), 332-342.

Vollmeyer, R., & Rheinberg, F. (2000). Does motivation affect performance via persistence?. *Learning and instruction*, *10*(4), 293-309.

Wen, M. N. Y., & Aziz, A. A. (2022). The use of Quizizz as an online teaching and learning assessment tool in an ESL classroom: A systematic.

Wulandari, S., Bharata, H., & Rosidin, U. (2023). Development of a Quizizz-based mathematics learning assessment tools to improve students' concepts understanding. *Numerical: Jurnal Matematika dan Pendidikan Matematika*, *7*(1).

Yanuarto, W. N., & Hastinasyah, P. D. (2023). Gamification: Quizizz in mathematical game learning for secondary students. *Indonesian Journal of Mathematics Education*, *5*(2), 64-73.

Yong, A., & Rudolph, J. (2022). A review of Quizizz–A gamified student response system. *Journal of Applied Learning and Teaching*, *5*(1).

Zainuddin, Z., Shujahat, M., Haruna, H., & Chu, S. K. W. (2020). The role of gamified e-quizzes on student learning and engagement: An interactive gamification solution for a formative assessment system. *Computers & Education*, *145*, 103729.

Zhao, F. (2019). Using Quizizz to integrate fun multiplayer activity in the accounting classroom. *International Journal of Higher Education*, *8*(1), 37-43.

Zuhriyah, S., & Pratolo, B. W. (2020). Exploring students' views in the use of Quizizz as an assessment tool in English as a foreign language (EFL) class. *Universal Journal of Educational Research*, *8*(11), 5312-5317.