Evaluation of Interactive Learning Through the Quizizz Application at MTsN 2 Payakumbuh City

¹Maysa Latifa, ²Andy Riski Pratama, ³Rahmat Hidayat Hasan, ⁴Muhiddinur Kamal, ⁵Supratman Zakir

^{1,2,3,4&5} Universitas Islam Negeri Sjech M.Djamil Djambek Bukittinggi, Indonesia ¹maysalatifa1999@gmail.com, ²andyrezky24@gmail.com, ³rahmathidayathasan1997@gmail.com, ⁴muhiddinur-909@yahoo.com, ⁵supratman@iainbukittinggi.ac.id

Abstract. This research is motivated by conditions that require educators to look for solutions to evaluate interactive learning by utilizing Android in the Industry 5.0 era. The quizizz application is a game-based and multi-game educational application that makes assessment using quizizz more fun because there are game elements in it. So that the use of this application is effective for use in learning assessment. The purpose of this writing is to identify an evaluation of interactive learning through the guizizz application at MTsN 2 Payakumbuh City. The research method presented is quantitative descriptive research using research techniques using questionnaires. The research subjects involved 30 students of MTsN 2 Payakumbuh City class VII 3. The findings of this research show that the average percentage of approaches in the Strongly Agree (SS) category is 23.86%, Agree (S) is 41.37%, Quite Agree (CS) at a percentage of 22.47%, Disagree (TS) at a percentage of 6.42%, Strongly Disagree (STS) at a percentage of 1.83%. The conclusion of this research shows that the Quizizz application media can improve student learning outcomes. The implications of this research indicate that there needs to be optimization in implementing the Quizzizz application on a larger scale, so that the data obtained is more accurate and the Quizizz application can be considered for use as an interactive learning evaluation tool that can be used via Android.

Keywords. Learning Evaluation; Interactive; Quizizz Application

Abstrak. Penelitian ini di latar belakangi oleh kondisi yang mengharuskan pendidik mencari solusi agar evaluasi pembelajaran interaktif dengan memanfaatkan android di era Industri 5.0. Aplikasi quizizz merupakan aplikasi pendidikan berbasis game dan multi permainan yang membuat penilaian menggunakan quizizz lebih menyenangkan karena terdapat unsur permainan didalamnya. Sehingga penggunaan aplikasi ini efektif untuk digunakan dalam penilaian pembelajaran. Tujuan penulisan ini untuk mengidentifikasi evaluasi pembelajaran interaktif melalui aplikasi quizizz di MTsN 2 Kota Payakumbuh. Metode penelitian yang dipaparkan adalah penelitian deskriptif kuantitaf dengan menggunakan teknik penelitian menggunakan angket. Subjek penelitian melibatkan 30 siswa MTsN 2 Kota Payakumbuh kelas VII 3. Temuan hasil penelitian ini menunjukan ratarata persentase pendekatan dengan kategori Sangat Setuju (SS) di persentasi 23,86%, Setuju (S) di persentasi 41,37%, Cukup Setuju (CS) di persentasi 22,47%, Tidak Setuju (TS) di persentasi 6,42%, Sangat Tidak Setuju (STS) di persentasi 1,83%. Kesimpulan penelitian ini menunjukkan bahwa media aplikasi Quizizz dapat meningkatkan hasil belajar peserta didik. Implikasi dalam penelitian ini menunjukkan bahwa perlu ada pengoptimalkan dalam menerapkan aplikasi quizizz pada skala yang lebih besar, agar data yang diperoleh lebih akurat dan aplikasi quizizz dapat dipertimbangkan untuk digunakan sebagai alat evaluasi pembelajaran yang interaktif yang dapat digunakan melalui android.

Kata Kunci. Evaluasi Pembelajaran; Interaktif; Aplikasi Quizizz

A. INTRODUCTION

Changes in the world of education from time to time continue to undergo rapid renovations in accordance with the situation and the development and capabilities of humans themselves. (Adi, 2022) Including the use of technology in learning. Technological advances greatly affect the human process in carrying out learning and teaching activities. (Gunawan, Sultani, D. I., Putri Silalahi, C. A., Suherlan, A., Fitrah Dwi, D., Mukhlis, Asnawi, 2022) Therefore, teachers are required to hone their skills in teaching, and can utilize technology in the form of learning media. (Alhadar, 2020) Educators are not only required to have the ability to transform the knowledge they have and provide exemplary experience, but are also expected to be able to inspire their students so that they can develop their potential and have good morals. (Sudijono, 2016)

Learning evaluation is the most important thing that must be done by educators in assessing students. Learning evaluations are often carried out by written exams, assignments, quizzes and midterm and final exams. In general, the evaluation used is done manually, namely using printed media. But since Covid-19, learning evaluations have used digital media including Islamic Religious Education (PAI) learning. Although using digital media, this learning evaluation still requires the presence of students and exam supervisors at the specified place and time.

Looking at the problems that have been explained in this research, it is interesting for us to know that individual students can accept, reject, avoid every tendency that becomes the implementation of learning, how to improve students' learning abilities through the use of the Quizizz application. Quizizz is a software that contains educational material presented in an integrated form of learning to train creativity and increase student intelligence. Through Quizizz, it is hoped that students will be more motivated to learn, maximize the development of students' academic abilities, as well as play an important role in measuring students' learning concentration levels, by making learning evaluations on the Quizizz application can be used optimally. (S. Y. mei, S. Y. Ju, 2018) Based on this statement, the use of the Quizzizz application in the learning evaluation process is very important to support student learning outcomes.

Overcome this problem, educators should not focus on just one digital media that is less interactive in determining student learning outcomes. Efforts that can be implemented to overcome are designing android-based media, which can make it easier for educators to carry out evaluations for students. Android-based media that can be used is Quizizz media. Quizizz is interesting and effective because it is technology-based and competitive in an attractive way. (Mulyati, S., & Evendi, 2020) Quizizz learning evaluation is suitable to be applied in online learning which instantly or directly can also be known the results of the review. (Hidayati, I. D., & Aslam, 2021) The use of Quizizzz is fairly practical and easy, where users are divided into 2 parts, namely the host (question maker is usually a teacher and users (students) who join to answer questions that have been made by the educator. (Agustina, L., & Rusmana, 2021)

The faster the flow of globalization, it also gave rise to other currents in technological development, which eventually gave birth to the Quizizz application as a learning medium, supporting the continuity of teaching and learning activities in the midst of a pandemic. The Quizizz application is online, which means that it can be used easily if supported with adequate internet access. The Quizizz application has advantages that can be easily utilized in addition to learning media, as well as learning evaluation materials, for example, there are data and statistical calculations of student performance, the results of

which can illustrate the extent of student understanding of the material, later becoming a measuring material for overall learning evaluation. Thus, giving a new color to the teacher's evaluation process and a fun learning pattern for students. (Dhian Nuri Rahmawati, Ana Fitrotun Nisa, Dwi Astuti, Fajariyani, & Suliyanti, 2022)

The use of applications on android and technological devices can be directed to positive things, making it easier for teachers to design interesting lessons. (Nurjannah, N., Kaswar, A. B., & Kasim, 2021) One application that can be developed into a medium is the Quizizz application. This application has many features available that can be used as learning media. (Utari, W., Tambunan, E. R., Arrasyid, I. C., Fauziyah, M., Nisrina, R. H., Damanik, Y., Mulyana, A., Putri, H. E., & Sari, 2021)

The use of android and the internet is balanced and well utilized, especially in the world of education. This will bring the field of education to progress and develop along with the development of information and communication technology. Therefore, the learning process from school cannot be separated from the role of information technology, for example, the activities of teachers and students who use a lot of computer media, smartphones and the internet at home and at school. (Maghfiroh, N. W., 2018)

Several studies that have been conducted previously show that the Quizizz application media can improve student learning outcomes. (S. Y. mei, S. Y. Ju, 2018) Other studies also mention that in addition to helping students recall the material that has been given the Quizizz application can also create competition among students so that they are challenged to be the best in class. (Zainuddin, Z., Shujahat, M., Haruna, H., & Chu, 2020) The next research also states that all students can achieve completeness in learning evaluations because students are increasingly motivated to be able to do quizizz, so that understanding of the material and student learning outcomes increases. (Pusparani, 2020)Based on some previous research results, the Quizziz application is an interactive learning evaluation application that does not require the presence of students or educators at a specified place and time.

Based on the research explanation above, the author decided to research this topic with the title interactive learning evaluation through the quizizz application at MTsN 2 Payakumbuh City. Based on the title of the research, the aim of this research is to implement interactive learning evaluation through the Quizzizz application at MTsN 2 Payakumbuh City. Meanwhile, to respond to the background of the existing problem, the research objective to be achieved is to make it easier for educators to carry out the learning evaluation process, educators can use interactive applications for learning evaluation and can improve student learning outcomes.

B. RESEARCH METHOD

This research was conducted using quantitative research with a descriptive research design using a survey approach. The aim of this research is to determine the evaluation of interactive learning through the Quizizz application at MTsN 2 Payakumbuh City. The research was conducted in the first semester of the 2023/2024 academic year, the data collection method was carried out by questionnaire. The subjects in this study were MTsN 2 Payakumbuh class VII 3 students totaling 30 students. The research time was conducted in November 2023. This research instrument uses a questionnaire or questionnaire. Data collection techniques by distributing questionnaire instruments or questionnaires to students. The aspects asked in this questionnaire:

Tabel A.1	Research Q	uestionnaire Q	uestions
-----------	------------	----------------	----------

No	Variables	Question
1	Approach to Interactive	I understand using the quizizz application

J-PAI : Jurnal Pendidikan Agama Islam, Vol. 10 No. 2 Januari - Juni 2024

No	Variables	Question	
	Learning Evaluation Application	for learning evaluation	
2	Based on Android in the Era of	Assessment is more effective using	
	Industry 5.0	the quizizz application when compared to	
		written assessments	
3		Assessment using the quizizz application	
		makes me technology literate	
4		The quizizz application makes it easy to	
		collect learning assessments	
5		All quizizz application instructions are	
		easy to understand	
6		The quizizz application is a fun evaluation	
		tool	
7		I am less adept at operating the quizizz	
		application on android	
8		My biggest obstacle in taking the exar	
		through the quizizz application is android	
9		I prefer to access the quizizz application	
		on a laptop	
10		I can't cheat in answering questions	

Source: Research Instrument

The data analysis technique is to determine the percentage of each questionnaire or questionnaire answered by students. While the answer choices for the statement consisted of 5 answer choices, namely: strongly agree, agree, quite agree, disagree and strongly disagree. In accordance with the data submitted previously, the data obtained by this research will be processed descriptively using frequency tabulation as follows:

$$P = \frac{F}{N}X \ 100 \ \%$$

Description: P = Percentage F= Frequency N= Number of Samples

C. RESULTS AND DISCUSSION

The "Quizizz" application is a game-based formative evaluation system that can be used freely where teachers can design various models of questions or questions to be given to students at each meeting (Braun & Clarke, 2019). In addition, the quizizz application is a game-based learning media that is fun for teachers to use in learning and has a positive impact on student learning outcomes (Bahri dkk, 2021). One of the evaluation tools that can be used to evaluate learning is Quizizz. Quizizz is used to compile interactive test games and can be used to assess student learning outcomes and platforms that can be accessed for free in the form of applications and the web. The quiz has four answer options, correct answers are included and images can be added to the background of the questions. If the quiz is complete, the educator can give the code to the student so that the student can log in or take the quiz that has been created. (Dermawan, 2021)

One application that can be used as a substitute for learning assessment tools is the quizizz application. The quizizz application is a game-based educational application where there are multi-players that make learning more fun and interactive (Purba, 2019). By using this quizizz makes students think quickly, precisely and in a fun condition because

this quizizz is like a game. This is in line with what is written by (Citra & Rosy, 2020) in his article on Quizizz media the questions presented have time limits, students are taught to think precisely and quickly in working on questions in Quizizz media. Then the answers to the existing questions will be displayed with colors and images and visible on the teacher's computer (as an operator) and on the student's device will switch automatically according to the order of the questions presented (Fitriyeni & Kurniawati, 2022).

In Phase 1.0, the invention of machines focused on mechanizing production. Phase 2.0 at the stage of mass production integrated with quality control and standardization. Phase 3.0 mass uniformity that relies on computerized integration. Phase 4.0 digitalization and automation, the fusion of the internet with manufacturing. The era of the Industrial Revolution 4.0, also called the cyber era or the era without barriers and limitations of space and time, stimulates and fosters the advancement of science-technology which results in the creation of smart machines, autonomous robots, and even Artificial Intelligence (AI). (Priyanto, 2020) The high interconnectedness of society with various elements that occur due to tranculturation through the rapid and sophisticated development of science and technology requires all parties involved in the world of education to prepare themselves to become a multicultural global society, and prepare the next generation who are able to live in the era of society 5.0. (Bassar, 2021)

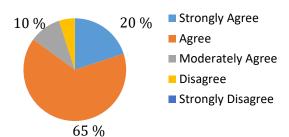
Quizizz is one form of android-based learning media development in the era of the industrial revolution 5.0. Quizizz is also a game-based learning application that is often used during distance learning. Quizizz is a program that can be accessed for free in the form of an application or web through a tool used in compiling tests in the form of interactive games and evaluating student learning outcomes, audio. (Nurrahmawati, 2021) Based on the explanation above, it can be concluded that Quizizz is a learning media in the form of online media to create material exposure in the form of interactive quizzes enriched with animations and interactions that are very interesting and also easy to use.

Quizizz learning media is very important to use in the online learning process. The features in Quizizz are able to provide learning experiences for students. Not only that, Quizizz learning media is also able to help teachers create material and questions that will be given to students in online learning. Quizizz learning media also makes it easy for teachers to provide lesson questions so that students can work on questions only on a predetermined day so that there is no accumulation of tasks in the online learning process.

Interactive media is media that allows students to interact with the media by practicing their skill and receiving feedback on the material presented. The advantage of this media is that it contains a combination of text, graphics, video and audio which will certainly be more interesting. Student participation will be greater so that they are able to learn the material more deeply in accordance with the constructivistic paradigm, support individualization of each student's learning style, more adequate flexibility so that it is wider to student conditions, able to simulate an object that cannot be presented in the classroom. The disadvantage of this media is that it costs more to produce media.

Based on the results of the questionnaire distributed to students, the following response results were obtained:

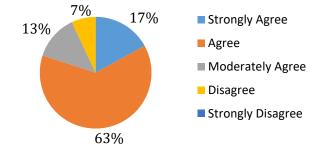
- 1. I understand using the quizizz application for learning evaluation
 - Figure A.1 Understanding the Use of the Quizizz Application $5\ \%$



Based on question number one, it shows that strongly agree 20%, agree 65%, moderately agree 10%, disagree 5% and strongly disagree 0%. This shows that the majority of students agree that they understand using the quizizz application for learning evaluation.

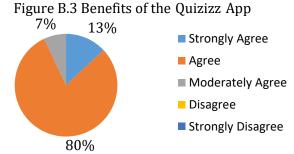
2. Assessment is more effective using the quizizz application when compared to written assessments

Figure B.2 Assessment of the Use of the Quizizz Application



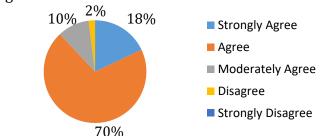
Based on question number two, it shows that strongly agree 17%, agree 63%, moderately agree 13%, disagree 7% and strongly disagree 0%. This shows that the majority of students agree that assessment is more effective using the quizizz application for learning evaluation compared to written assessments.

3. Assessment using the quizizz application makes me technology literate



Based on question number three, it shows that strongly agree 13%, agree 80%, moderately agree 7%, disagree 0% and strongly disagree 0%. This shows that the majority of students agree that using the quizizz application for learning evaluation makes students technology literate.

4. The quizizz application makes it easy to collect learning assessments Figure B.4 Effectiveness of Assessment Collection

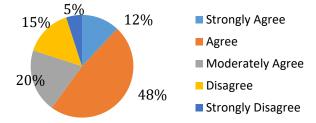


Based on question number four, it shows that strongly agree 18%, agree 70%,

moderately agree 10%, disagree 2% and strongly disagree 0%. This shows that the majority of students agree that using the quizizz application for learning evaluation makes it easier to collect assessments.

5. All Quizizz application instructions are easy to understand

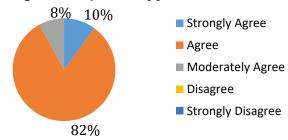
Figure B.5 Instructions for Using the Quizizz Application



Based on question number five shows that strongly agree 12%, agree 48%, moderately agree 20%, disagree 15% and strongly disagree 5%. This shows that the majority of students agree that all instructions from the quizizz application for learning evaluation are easy to understand.

6. The quizizz application is a fun evaluation tool

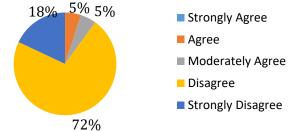
Figure B.6 Quizizz App Assessment



Based on question number six, it shows that strongly agree 10%, agree 82%, moderately agree 8%. disagree 0% and strongly disagree 0%. This shows that the majority of students agree that using the quizizz application for learning evaluation is very fun.

7. I am less adept at operating the quizizz application on android

Figure B.7 Operation of the Quizizz App

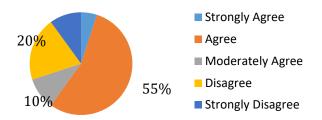


Based on question number seven, it shows that strongly agree 0%, agree 5%, moderately agree 5%, disagree 72% and strongly disagree 18%. This shows that the majority of students disagree if they are less adept at operating the quizizz application on android. So it is concluded that the majority of students can operate the quizizz application on android.

8. My biggest obstacle in taking the exam through the quizizz application is android

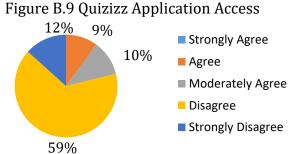
Figure B.8 Exam Using the Quizizz Application

10% 5%



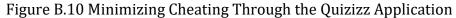
Based on question number eight, it shows that strongly agree 5%, agree 55%, moderately agree 10%, disagree 20% and strongly disagree 10%. This shows that the majority of students agree that their biggest obstacle to taking exams through the quizizz application is the network.

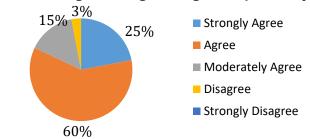
9. I prefer to access the quizizz application on a laptop



Based on question number nine, it shows that strongly agree 0%, agree 9%, moderately agree 10%, disagree 59% and strongly disagree 12%. This shows that the majority of students disagree if they access the quizizz application on a laptop.

10. I can't cheat in answering questions





Based on question number ten, it shows that strongly agree 25%, agree 60%, moderately agree 15%, disagree 3% and strongly disagree 0%. This shows that the majority of students agree that using the quizizz application can minimize the occurrence of cheating in answering exam questions.

From the questionnaire data that has been distributed, it is concluded that the quizizz application approach can be used for interactive learning evaluation. This can be seen from the relationship, understanding, effectiveness, obstacles in using the quizizz application, the majority of which chose the answer agree with a percentage of 53.7%. This is also in line with research conducted by (Zuhriyah & Pratolo, 2020) the results reveal that some students' views on the use of quizizz are interesting tools, encourage student confidence, increase student motivation and improve reading skills.

D. CONCLUSION

The conclusion of this research is that learning evaluation through the Quizzizz application at MTsN 2 Payakumbuh City in its application can make it easier for educators in the learning evaluation process, make educators creative in using interactive applications and can improve student learning outcomes. This application has a very good approach, this is proven by the student response questionnaire, the majority of which Maysa Latifa, et. al: Evaluation of Interactive Learning ...

agree that the Quizzizz application is easy to understand using Android, there are no obstacles in using it, and they are more technology literate. Meanwhile, the majority of obstacles experienced by students originate from the internet network. This research can contribute to the literature and development of knowledge in the field of education. Based on this, research limitations are related to the scope of the study and duration of the research. So the implication of further research is that it can be carried out on a larger scale, so that the data obtained is more accurate and the Quizzizz application can be considered for use as an interactive learning evaluation tool that can be used via Android.

REFERENCES

- Adi, L. (2022). Pendidikan Keluarga dalam Perspektif Islam. *Jurnal Pendidikan Ar-Rashid*, 7(1), 1–9. <u>https://doi.org/10.58258/jisip.v7i1.4303</u>
- Adun Priyanto. (2020). Pendidikan Islam dalam Era Revolusi Industri 4.0. *J-PAI: Jurnal Pendidikan Islam*, 6(2), 82. <u>https://doi.org/10.18860/jpai.v6i2.9072</u>
- Agus Samsul Bassar dkk. (2021). Pendidikan Islam: Peluang dan Tantangan di Era Global dan Multikultural. *J-PAI: Jurnal Pendidikan Agama Islam, 8*(1), 69. <u>https://doi.org/10.18860/jpai.v8i1.9577</u>
- Agustina, L., & Rusmana, I. M. (2021). Pembelajaran Matematika Menyenangkan dengan Aplikasi Kuis Online Quizizz. *Prosiding Seminar Nasional Matematika Dan Pendidikan Matematika Sosiomadika*, 1(1), 1–7. https://journal.unsika.ac.id/index.php/sesiomadika/article/view/2249

Anas Sudijono. (2016). Posisi dan Peran Guru dalam Pola Kurikulum 2013. *J-PAI: Jurnal*

Pendidikan Agama Islam, 3(1), 93. https://doi.org/10.18860/jpai.v3i1.3993

- Braun & Clarke. (2019). Replecting on reflexice thematic analysis. *Quality Research in Sport, Exercise and Health*, *11*(4). <u>https://doi.org/10.1080/2159676X.2019.1628806</u>
- C. A. Citra & B. Rosy. (2020). Keefektifan Penggunaan Media Pembelajaran Berbasis Game Edukasi Quizizz Terhadap Hasil Belajar Teknologi Perkantoran Siswa Kelas X SMK Ketintang Surabaya. Jurnal Pendidikan Administrasi Perkantoran, 8(2). <u>https://doi.org/10.26740/jpap.v8n2.p261-272</u>
- Deden Dicky Dermawan, dkk. (2021). *Penerapan Asesment Hots Sekolah Dasar Menggunakan Aplikasi Quizizz*. Cirebon: CV. Zenius Publisher, *3*(1), 3–4.
- Dhian Nuri Rahmawati, Ana Fitrotun Nisa, Dwi Astuti, Fajariyani, & Suliyanti. (2022). Pemanfaatan Aplikasi Quizizz sebagai Media Penilaian Pembelajaran Ilmu Pengetahuan Alam. *Dawuh Guru: Jurnal Pendidikan MI/SD*, 2(1), 60. <u>https://doi.org/10.35878/guru.v2i1.335</u>
- Fitriyeni & Wahyu Kurniawati. (2022). Efektivitas Penggunaan Aplikasi Quizizz untuk Penilaian Pembelajaran. *Primary: Jurnal Pendidikan Guru Sekolah Dasar, 11*(3). <u>https://doi.org/10.33578/jpfkip.v11i3.8947</u>
- Gunawan, Sultani, D. I., Putri Silalahi, C. A., Suherlan, A., Fitrah Dwi, D., Mukhlis, Asnawi, & N. (2022). Media Pembelajaran Interaktif Sederhana. Blog *Buku Ajar: K-Media*, 143–153.
- Hidayati, I. D., & Aslam, A. (2021). Efektivitas Media Pembelajaran Aplikasi Quizizz Secara Daring Terhadap Perkembangan Kognitif Siswa. Jurnal Pedaagogi Dan Pembelajaran, 4(1). <u>https://doi.org/10.23887/jp2.v4i2.37038</u>
- Leony Sanga Lamsari Purba. (2019). Peningkatan Konsentrasi Belajar Mahasiswa melalui

Pemanfaatan Evaluasi Pembelajaran Quizizz pada Mata Kuliah Kimia Fisika. *Jurnal Dinamika Pendidikan*, *12*(1). <u>https://doi.org/10.33541/jdp.v12i1.1028</u>

- Maghfiroh, N. W., & M. (2018). Pengaruh Penerapan Media Edmodo Terhadap Hasil Belajar Pendidikan Agama Islam di SMK Anwarul Maliki Sukorejo Pasuruan. *Maghfiroh, N. W.,* & *Munif*, 1(1), 57–76. <u>https://doi.org/10.35891/muallim.v1i1.1353</u>
- Mulyati, S., & Evendi, H. (2020). Pembelajaran Matematika melalui Media Game Quizizz untuk Meningkatkan Hasil Belajar Matematika SMP. *GAUSS: Jurnal Pendidikan Matematika*, *3*(1), 64–73. <u>https://doi.org/10.30656/gauss.v3i1.2127</u>
- Nurjannah, N., Kaswar, A. B., & Kasim, E. W. (2021). Efektifitas Gamifikasi Dalam Pembelajaran Matematika. *JURNAL MathEdu (Mathematic Education Journal)*, 4(2), 189–193. <u>https://doi.org/10.37081/mathedu.v4i2.2492</u>
- Nurrahmawati, A dkk. (2021). Menjadi Guru Profesional Inovatif dalam menghadapi Pandemi. UAD Press. 337
- Pusparani, H. (2020). Media Quizizz Sebagai Aplikasi Evaluasi Pembelajaran Kelas VI DI SDN Guntur Kota Cirebon. *Tunas Nusantara*, *2*(2), 267–279. <u>https://doi.org/10.34001/jtn.v2i2.1496</u>
- S. Y. mei, S. Y. Ju, and Z. A. (2018). Implementing Quizizz as Game Based Learning in the Arabic Classroom. *Eur. J. Soc. Sci. Educ. Res,* 12(1), 208. https://doi.org/10.26417/ejser.v12i1.p208-212
- Saiful Bahri dkk. (2021). Implementasi Game Quizizz sebagai Media Evaluasi Pembelajaran Daring Menyenangkan di Masa Pandemi Covid 2019. *Jurnal Pendidikan Ilmu Pendidikan Sosial (JPIPS)*, *13*(2). <u>https://doi.org/10.36418/japendi.v2i8.250</u>
- Sofyan Alhadar, L. V. G. (2020). S. C. I. Jurnal abdidas. Jurnal Abdidas, 1(3), 171–175. https://doi.org/10.31004/abdidas.v3i1.555
- Utari, W., Tambunan, E. R., Arrasyid, I. C., Fauziyah, M., Nisrina, R. H., Damanik, Y., Mulyana, A., Putri, H. E., & Sari, N. T. A. (2021). Pelatihan Pemanfaatan Aplikasi Quizizz Bagi Guru SDN 9 Nagrikaler Purwakarta untuk Meningkatkan Kemampuan Literasi Numerasi Matematis Siswa. *Indonesian Journal of Community Services in Engineering & Education* (*IJOCSEE*), 1(2), 142–152. https://ejournal.upi.edu/index.php/IJOCSEE/article/view/34194
- Zainuddin, Z., Shujahat, M., Haruna, H., & Chu, S. K. W. (2020). The role of gamified equizzes on student learning and engagement: An interactive gamification solution for a formative assessment system. *Computers & Education*, 10(1), 16. <u>https://doi.org/10.1016/j.compedu.2019.103729</u>