Journal International of Lingua and Technology, 3(1) - April 2024 183-197



Impact of Quizizz Learning Media in Increasing Interest and Motivation for Learning in Early Childhood Education Students

Siti Noor Aini ¹, Fenni Kurniawati Ardah ², Devin Mahendika ³, Amina Intes ⁴, Hasbiyah Srianah Amir ⁵

- ¹ Sekolah Tinggi Pariwisata Ambarrukmo Yogyakarta, Indoesia
- ² Universitas Muhammadiyah Prof. Dr. Hamka, Indoesia
- ³ Universitas Andalas, Indonesia
- ⁴ University of Southern Denmark, Denmark
- ⁵ Institut Ilmu Sosial dan Bisnis Andi Sapada, Indonesia

Corresponding Author: Siti Noor Aini, E-mail; ainun@stipram.ac.id

Article Information: Received April 17, 2024 Revised April 19, 2024 Accepted April 24, 2024

ABSTRACT

Along with the times of technology in the field of education, there are many updates in the use of learning media, one example is by using the Quizizz application. The Quizizz application really helps teachers in the teaching and learning process. The Quizizz application has many interesting features, and makes learning more fun. This quizizz application is one of the learning media chosen by teachers to carry out the learning process in early childhood. The purpose of this study was to determine how much impact quizizz learning media has on increasing early childhood learning interest and motivation. This study uses a skinative method in which the data is obtained through the introduction of the guizizz application to early childhood and direct interviews with several parties such as teachers and parents of children. The results showed that the use of the Quizizz application in early childhood was carried out well starting from the planning, implementation, and evaluation stages. From this research it can be concluded that this quizizz application is very helpful in the learning process of children so that children more quickly understand the lessons conveyed by the teacher and with interesting features can also make children's learning motivation increase. The limitation of this research is that researchers only conduct research on early childhood quizizz applications even though there are still many applications that can be used to provide learning motivation in early childhood. Researchers hope that future researchers can conduct research related to early childhood learning motivation but using other learning media. This study recommends that future researchers make research as a reference in conducting research on the impact of quizizz applications in increasing early childhood learning motivation.

Keywords: Early Childhood, Learning Motivation, Quizizz App

Journal Homepage https://ejournal.staialhikmahpariangan.ac.id/Journal/index.php/jiltech/
This is an open access article under the CC BY SA license

https://creativecommons.org/licenses/by-sa/4.0/

How to cite: Aini, N, S., Ardah, K, F., Mahendika, D., Intes, A., Amir, S, H. (2024). Impact of

Quizizz Learning Media in Increasing Interest and Motivation for Learning in Early Childhood Education Students. *Journal International of Lingua and Technology*, 3(1),

183-197. https://doi.org/10.55849/jiltech.v3i1.600

Published by: Sekolah Tinggi Agama Islam Al-Hikmah Pariangan Batusangkar

INTRODUCTION

The motivation that children have in every learning activity is very helpful in improving learning outcomes in certain subjects (Lady et al., 2018; Loveys & Riggs, 2019). Learning motivation is considered important for the success of the learning process (Moè et al., 2018; Wang et al., 2018). For this reason, another challenge is how teachers optimize the quality of the planned Learning Outcomes (Department of Computer Education and Instructional Technology, Necmettin Erbakan University, Konya, Turkey et al., 2019). In addition, teachers must be able to stimulate students' interest and motivation in learning and change learning to be more interesting (Holmes & Rasmussen, 2018; Williams et al., 2018). For example, teachers should be able to create interesting questions or quizzes and teachers should be able to collaborate between games and learning, inviting children to learn to read while having fun, so that children are eager to answer questions and their interest in learning increases (Deagle et al., 2019; Nandiyanto et al., 2019). (Gale et al., 2023) Stating that teachers must also be able to provide learning media so that children can be excited about learning and create a desire to learn and children's motivation and interest in learning increases very well.

The rapid development of science and technology today can affect human life (Abu-Ali et al., 2019; Farquharson et al., 2019). One of them is in the field of education. As technology advances in education, the learning process can improve quality or skills, technology can help solve problems in the world of education, or can help humans in the field of education (Huang & Hsieh, 2020; S. Li, 2018). A teacher is required to be responsive to changes in the learning renewal program through increasing the capacity of media and multimedia in the learning process (Cohen et al., 2021; Mohamed & Alawna, 2020; Ukritchon et al., 2018). (Gever et al., 2021; Ninghardjanti & Dirgatama, 2022) Stating that one of the positive impacts of technology in learning is that technology can be utilized as an interactive learning media. By being able to increase the effectiveness of learning and make learning easier, and interesting for children so that the expectations of learning are running erotically and practically.

Early childhood is a "Sensitive" period because at that time the maturity of physical and mental functions occurs, the readiness to respond to environmental stimuli and internationalization internally in itself (Alawida et al., 2019; Cimino et al., 2019; McLean & Wilson, 2019). personal and also readiness in responding to technological advances in the advanced world of education in this day and age (Leacock & Warrican, 2020; Murillo et al., 2018; Po-Yan Leung et al., 2018). A challenge for educators to be able to create interesting learning media so that children do not feel bored in learning (Horovitz & Mayer, 2021; Khalaf et al., 2022). One of the

fun learning media or learning apps is Quizizz (Faculty of Education Sciences of the Universidad Nacional de San Augustin de Arequipa, Peru et al., 2023; Pham, 2022). Quizizz is a digital application that contains fun classroom activities and can allow children to learn together through androit and laptop (Angjeliu et al., 2020; Ball-Damerow et al., 2019). Quizizz is an application that is narrative and flexible because besides being able to be used for means of delivering material it can also be used for fun learning evaluation media so as to make learning not boring (Kaufhold et al., 2020; Wijana et al., 2018). (Berber & Sowerby, 2018) Stating that Quizizz is in the form of exposure which has very interesting animations and is easy to use. The questions in Quizizz can use images so that it is not too menotonous and the image is also a target to generate interest in learning for early childhood.

Quizizz is a game-based application, which can bring multiple players into a class and make the class more interactive and fun (Ding et al., 2019; L. Li et al., 2019). The application of games in this Quizizz application, children can do class exercises on their own electronics (Janković & Lambić, 2022; Katemba & Sinuhaji, 2021; Tangonan, 2022). This Quizizz application is not the same as educational applications in general, this Quizizz application has game characteristics where there are avatars, themes, memes, and entertaining music in carrying out the child's learning process. Quizizz can also make it possible for children to compete and motivate them to learn and improve learning outcomes. As the teacher displays the quiz on the screen and the child answers and the results of the answers will be immediately visible on the screen, and the teacher can directly monitor the process and download the quiz results to evaluate and see the child's learning performance (Faculty of Education Sciences of the Universidad Nacional de San Augustin de Arequipa, Peru et al., 2023) Stating that this Quizizz Application can also help motivate children's learning and improve children's learning outcomes which were originally only done using paper.

Based on research conducted by Yunali in 2016, it is said that teachers are less innovative in carrying out the learning process in children. During the learning process, children are only given a little explanation material with examples in the package book with very limited material. Meanwhile, learning activities must be prepared as well as possible so that children can fully understand the material presented by the teacher. Teachers must prepare lesson plans, choose learning models, learning methods and also learning evaluation media. One of the things that needs to be conveyed by the teacher when doing learning is the media and learning evaluation. Therefore, as educators must be able to manage learning media to increase children's understanding for future provision. Early childhood also has the right to receive good and fun learning.

Based on the expression of previous research, it can be said that there is a difference and there is novelty contained in this current research. In this study, it discusses the impact of the quizizz application on early childhood in increasing motivation and interest in early childhood learning. The impact of this quizizz application can make children eager to answer the questions displayed, the animations displayed in this quizizz can make children's motivation to learn increase. The effect of

this quizizz application also has an impact on child psychology. In this study, researchers describe the results of research in the form of tables and analysis to find out how the teacher's response to the impact of using this quizizz application in the early childhood learning process. This study also introduces children to how the form of use of this quizizz application is also how this quizizz application forms to early childhood.

The purpose of this research is to create a mobile game application as an alternative learning media to recognize symbols, count, match pictures and shuffle words. Games can be used as an alternative learning media for Early Childhood Education (ECE) teachers in changing the traditional way of learning to learning with simulation games to develop children's creativity as challenging, accurate, reasoning and moral educational games. The main goal is to motivate children, grow children's interest in learning, provide players with interesting experiences that reinforce learning, and skills, problem solving, and improve proficiency at each stage of the game. Gamification is the process of creating a game activity that encourages children to engage and participate in learning. And also aims to provide a new style of learning so that children do not feel bored when the teacher delivers the material.

Based on the explanation above, researchers have an interest in taking the title The Impact of Quizizz Learning Media in Increasing the Interest and Motivation of Early Childhood Education Students. This research was conducted to determine the impact of Quizizz learning media to increase motivation and interest in early childhood learning. With this research, researchers can know and understand the effect of the quizizz application on early childhood in the learning process. And to see how children respond to this learning media which has many fun features. The impact of the emergence of learning media called the qizizz application makes elements ranging from schools, teachers, children and parents feel the great effect of this quizizz application and has a big role in guiding children not to be too focused on the current media.

RESEARCH METHODOLOGY

This research uses qualitative and descriptive methods. Qualitative method is a type of scientific research that aims to understand phenomena in social context through a process of prioritizing communication and in-depth interaction between researchers and research phenomena (Marhavilas et al., 2019). Using a qualitative approach with a descriptive approach because in this study, facts about something will be described and presented researched where the description in this study is written in the form of words equipped with a comprehensive description of what happened in the field (Harris et al., 2018). There are three types of techniques used in making this research are observation, interview, documentation and direct introduction to the quizizz application. And then the data that can be obtained is analyzed by reduction, namely selecting data that researchers think is important and that can be studied, presenting data, and making conclusions so that it is easily understood by researchers and people who read it.

Introduction of the quizizz application to children directly so that children

know what the quizizz application is. Before introducing this quizizz application to children, researchers make questions in the form of interesting quizzes, so that children become curious about the application that will be displayed. The researcher then explains how to use this quizizz application to the child, and also the researcher displays interesting pictures so that each child becomes focused on the questions the researcher presents (Bjørkvold & Blikstad-Balas, 2018; Jambou et al., 2018). Researchers also give rewards to children who are eager to answer the questions presented so that children who were originally less interested in the questions that researchers present in this quizizz application become motivated to pay attention to these questions. Researchers also documented in the form of taking photos after the researcher presented the question. Documentation is done so that this research is more effective and reliable.

Interviews were conducted directly to respondents so that researchers knew how much impact the quizizz application had on early childhood learning motivation. The interview was carried out by means of questions and answers between the researcher and the research subject so that this researcher obtained more accurate and precise information. This data collection technique is needed by researchers in order to collect basic data from this study (Khotimah et al., 2022). These data will be collected for initial data in an interview conducted by the researcher. The interview was conducted as evidence or information from a statement that was planned in advance by the researcher before giving questions and answers to the research subject. The interview can be called a directed interview, because before that there is already planning. The interview focuses the respondent on questions that have been prepared by the researcher. The data analysis technique of this research can be seen from the chart below:

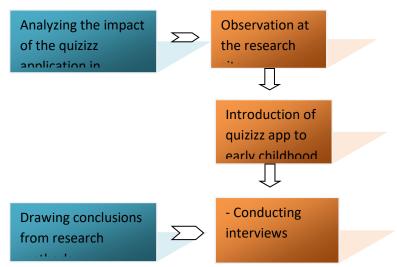


Figure 1: Steps for distributing questionnaires

RESULT AND DISCUSSION

The Quizizz application offers various features available for teachers to use as learning media. Teachers can display learning materials with a variety of desired and

interesting learning models. The delivery of questions in the form of multiple choices in the quizizz application with a variety of features is assumed to have an influence on children's interest in learning, so that children are excited to start learning. Features contained in the quizizz application are in the form of images that can be included in a question and there is also a way of performing a music so that children feel comfortable in learning. This Quizizz application is indeed very useful in learning for children, children can immediately learn and play at the same time, so that children do not feel too focused on thinking about the learning delivered by the teacher.

This Quizizz Application Media is presented in the form of a quiz that can make children play an active role in learning. Children are made into several teams, and each team competes to get the most points to become the winner in a quiz. In the race will cause a trigger to boost the advancement of a child's thinking to then continue in an action taken by the child. The impact in this quizizz application is to improve thinking in a lesson by displaying various kinds of interesting questions for children. This method in learning is equipped with a quizizz application that makes learning more interesting. This quiz is given through the quizizz application using one of the technological media, namely smartphones. In this quizizz application, questions that can be answered with a predetermined time. And after finishing answering all the questions this quizizz application will display the score directly so that children feel challenged and can also make improvements in learning quickly and well.

Table 1.1 results of questionnaire distribution

No	Question	Data Validity
1	The Quizizz application has a good impact on	0-30
	increasing early childhood learning motivation?	
2	Quizizz application is a new challenge for a	0-30
	teacher?	
3	Is the impact of the quizizz application very good	0-30
	for children?	
4	Are children very happy to learn using the quizizz	0-20
	application?	
5	Quizizz application is the right learning media?	0-20
6	With many features in the quizizz application, does	0-20
	the child's motivation in learning increase?	
7	The quizizz application has a bad influence?	0-40
8	The quizizz application is not interesting for early	0-60
	childhood?	
9	There is no learning media other than the quizizz	0-50
	application?	
10	Teachers make it easy to do learning?	0-60
11	Quizizz application is difficult to download?	0-30
12	Children's creativity is increased in using this	0-60

	quizizz application?	
13	The quizizz application can be used for all	0-60
	students?	
14	The quizizz application is very menotonous as a	0-40
	learning medium?	
15	The quizizz application makes learning effective?	0-70
16	Children feel burdened in using the quizizz	0-30
	application?	
17	This quizizz application makes children unfocused	0-40
	because they are chased by time?	
18	The quizizz application is dangerous?	0-60
19	This quizizz application is very boring?	0-40
20	Must require quota in learning quizizz application?	0-70

In the table above there are questions related to the use of the quizizz application studied by researchers in early childhood. The questions obtained are able to produce information that can help researchers in examining the impact of the quizizz application in increasing motivation and interest in learning in early childhood. The questions tested by researchers were 20 questions which contained questions related to quizizz applications, benefits, objectives, impacts and advantages and disadvantages of quizizz applications for early childhood. Questions containing the utilization of the quizizz application were able to get a percentage of 70% by displaying the category strongly agree. And questions that produce a category that this quizizz application is very easy and practical to use get a percentage of 60%. By displaying the category strongly agree. This study also examines the impact of the quizizz application on early childhood which makes children think creatively and innovatively by obtaining a strongly agreed category which displays a presentation of 75%.

The statement containing the quizizz application is less fun for children by displaying the category strongly agree by showing a 20% presentation. Researchers also examined the difficulty of downloading the quizizz application by displaying a strongly agree category which showed a percentage of 10%. Researchers also examined the quizizz application is difficult to use without the quizizz application network, this quizizz application must use the network to use it, displaying a strongly agreed category by showing a percentage of 70%. Researchers also examined whether children felt burdened by using this quizizz application which obtained a strongly agree category by showing a presentation of 30%. Researchers also examined the dangers of using the quizizz application for children who obtained a strongly agreed category showing a presentation of 60%. Researchers also examined the unfocusedness of children in learning because the time in quizizz obtained a strongly agreed category and resulted in a percentage of 40%. The lowest percentage of 20% of researchers examined the quizizz application is an appropriate learning media application for early childhood.

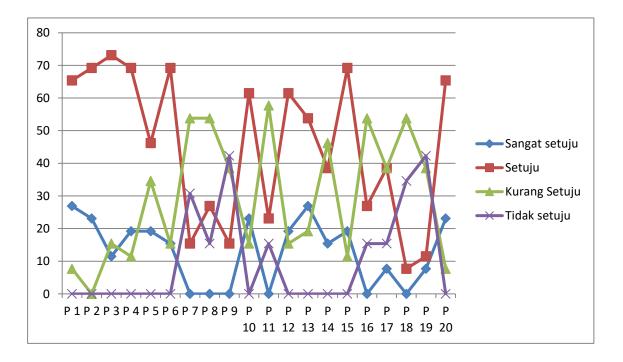


Figure 2. Graph of Quizizz Application Usage

The graph above is a description of the quizizz application. The graph above explains that this study uses 20 questions about how influential the quizizz application is in increasing motivation and interest in early childhood learning. The purpose of the 20 questions is to find out the opinions of teachers and children on the influence of the quizizz application in learning. The questions that get the highest percentage show a very agree category which there are 2 questions, namely in questions number 15 and 20 which get a percentage of 70%. The percentage results that have the second highest weight are 5 questions contained in questions number 8, 10, 12, 13 and 18 which have a percentage of 60% strongly agree category. The next highest percentage result is in question 9 which has a percentage weight of 50% strongly agree category. And the lowest data acquisition in questions 1, 2, 3 which has a percentage weight of 30% strongly agree category. The next lowest data acquisition is in questions 4, 5, 6 which have a percentage weight of 20% strongly agree category.

From the data from the results of the researcher's test related to the impact of the quizizz application to increase motivation and interest in learning in early childhood, it explains that in the form of a strongly agreed category displaying a strongly agreed category in the first acquisition there is a percentage of 70% on 2 questions, and the lowest data acquisition in the strongly agreed category data is obtained at a percentage of 60% on 5 questions. The second data acquisition was obtained in the agree category, where the percentage was 50% in 1 question and the lowest data category was agreed with a presentation of 30% in 4 questions and the lowest agreed there was a percentage of 20% in 3 questions. And the acquisition of disagree data has a percentage of 0%. So the researchers can conclude that learning using the quizizz application is that children

are very excited and motivated to learn and make learning effective and efficient. It is evident that those who strongly agree in the quizizz application have a weighted percentage of 70%.

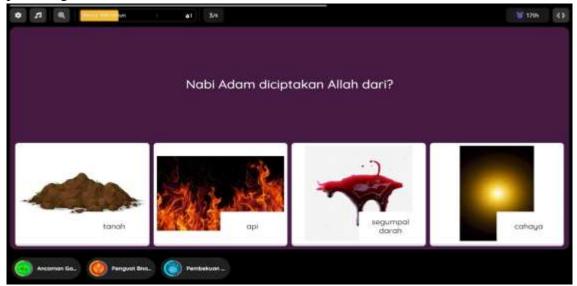


Figure 3. Use of the Quizizz Application

In the picture above is an onlien quizizz application. The form of this quizizz application is in the form of questions that discuss science, especially in the field of education. This application can be downloaded on the child's androit which is easy to carry everywhere. The questions in this quizizz can help children in learning, with this quizizz application children can access various questions from the lessons they have learned. Teachers are also greatly helped by this quizizz application because teachers no longer need to manually create questions that will be tested on children, but teachers can type any questions that will be tested on children so that they can access various existing questions. This onlien quizizz can also help make children creative in learning, and can also help children to understand how much a child's ability is. Quizizz is a fun and interactive learning media because it allows children to do it on time and can get the right results.

The characteristics of this learning media are that the material in this quizizz application is displayed very clearly, not wordy, the purpose of this quizizz application media is very clear, the instructions for use are clearly explained and the learning flow is also very clear. So in this quizizz application it has been explained clearly. In modern times the quizizz application is very necessary, because teachers and children are more dominant on the internet than answering questions on white paper, using androit teachers and children are helped in the learning process, especially teachers or lecturers in the learning process with this quizizz application. This quizizz application has its own appeal for children, the positive impact of using this quizizz application is that children are easier to find lessons and can keep up with the times in the modern era at this time. Therefore, children and teachers must be able to use quizizz properly and correctly. In order to make both parents and the name of the school proud. Educators can use the application quizizz in the following way: first the teacher must log in to the account via Google www.quizizz.com, then click on the log in

text, click on the teacher's writing as a step for teachers in the quizizz application, the teacher can immediately enter complete personal data such as username, email and especially password, if the quizizz application already displays the teacher's login text, the teacher can quiz on the create a quiz text, then the writing will appear create a quiz. And for children, they can join the quizizz application in the following way: The first step is to ask students to enter the game code and enter a name. Students who have joined will be visible on the teacher's laptop, and the quiz can begin after all students have joined, after which the teacher only needs to click start, and the online quiz can begin.

The results of this study are the impact of using the quizizz application in increasing motivation and interest in early childhood learning. This quizizz application is used to test how much learning ability children understand. The use of this application also makes it easy for teachers to test the child's ability to understand the lessons that have been learned. The advantage of this quizizz application is that it is very easy to carry anywhere and also real time which is more important, this application is very practical. The use of this quizizz really makes children who were originally not excited about taking the exam by recognizing this quizizz application the child becomes excited about taking the exam. As for the shortcomings of this quizizz application media, namely this quizizz depends on the internet network, if it has a good internet network, this quizizz application will run well too but if it has a bad internet network, this quizizz application will not run well and cannot revise the answers that have been filled in automatically.

Researchers who studied this quizizz application were many children who liked this quizizz application in learning activities. This research method uses a qualitative method in which the data is taken by distributing questionnaires and making observations at the research site in order to obtain correct and valid data. With this qualitative method, researchers can explain in detail how many people or how much data the researchers have examined in the field. This method can also facilitate researchers in making tables, line diagrams or graphs in a scientific work with the provision of data that has clear provisions and sources based on the place under study. The advantage that exists in this qualitative method is that the results obtained are more accurate and reliable if their use is in accordance with the rules This qualitative method can simplify complicated problems and also the information obtained is clearer and more detailed. And the disadvantages of this method are if the reality of the event is distorted, cannot guarantee assumptions, cannot be used for small sample analysis, data collection starts from the highest value, and this method is not subjective.

The use of Quizizz media is one proof to improve student learning based on collaborative and fun learning. This quizizz application is also suitable for use in the distance learning process which is only by entering email. The quizizz application is an application that is provided free of charge which can be used as easily as possible for children and teachers. The types of quiz questions are multiple choice, fill in the blank, checkbox and optional. In the quiz app, the number of live quiz participants can reach hundreds or even 500 people. The purpose of conducting this research is to facilitate teachers and children in learning activities, some kindergartens have used this quizizz application but there are also

some kindergartens that have not used the quizizz application but are still using it using manual learning. Usually kindergartens that have not used the quizizz application are kindergartens in rural areas that are still unexplored by modern technology. And kindergartens that have used the quizizz application are kindergartens located in urban areas that have been exposed to technology, therefore it is hoped that the government can provide good facilities to kindergartens that are still unexplored by the latest technology and can apply the quizizz application in learning. So researchers hope that future researchers can introduce this quizizz application as an onlien quizizz media so that they can use this media easily according to the times at this time.

CONCLUSION

Based on the results of the above research, it can be concluded that a quizizz application learning media can make a reference for children to make it easier for teachers and parents to find out how much thinking ability is done through testing contained in this quizizz application. The results of this study indicate that there are 20 children in the graph who think strongly agree, agree, disagree and disagree with the use of this quizizz application learning media. Therefore the results of the study, namely the achievement of the quizizz application onlien, fall into the category of very feasible to use for learning media that can help children understand a lesson and increase children's motivation and interest in learning. With this quizizz application, learning is very fun, the effectiveness of learning is very good, the quizizz application is very practical so that anywhere will be able to use this quizizz application, many questions can be seen in this quizizz application and make early childhood will not be bored in learning activities.

REFERENCES

- Abu-Ali, H., Nabok, A., & Smith, T. (2019). Development of Novel and Highly Specific ssDNA-Aptamer-Based Electrochemical Biosensor for Rapid Detection of Mercury (II) and Lead (II) Ions in Water. *Chemosensors*, 7(2), 27. https://doi.org/10.3390/chemosensors7020027
- Alawida, M., Samsudin, A., Teh, J. S., & Alkhawaldeh, R. S. (2019). A new hybrid digital chaotic system with applications in image encryption. *Signal Processing*, 160, 45–58. https://doi.org/10.1016/j.sigpro.2019.02.016
- Angjeliu, G., Coronelli, D., & Cardani, G. (2020). Development of the simulation model for Digital Twin applications in historical masonry buildings: The integration between numerical and experimental reality. *Computers & Structures*, 238, 106282. https://doi.org/10.1016/j.compstruc.2020.106282
- Ball-Damerow, J. E., Brenskelle, L., Barve, N., Soltis, P. S., Sierwald, P., Bieler, R., LaFrance, R., Ariño, A. H., & Guralnick, R. P. (2019). Research applications of primary biodiversity databases in the digital age. *PLOS ONE*, *14*(9), e0215794. https://doi.org/10.1371/journal.pone.0215794
- Berber, S. M., & Sowerby, K. W. (2018). Visual presentation of abstract theoretical concepts using animations in communication systems courses. *Computer*

- Applications in Engineering Education, 26(1), 49–61. https://doi.org/10.1002/cae.21860
- Bjørkvold, T., & Blikstad-Balas, M. (2018). Students as researchers: What and why seventh-grade students choose to write when investigating their own research question. *Science Education*, 102(2), 304–341. https://doi.org/10.1002/sce.21324
- Cimino, C., Negri, E., & Fumagalli, L. (2019). Review of digital twin applications in manufacturing. *Computers in Industry*, 113, 103130. https://doi.org/10.1016/j.compind.2019.103130
- Cohen, A., Alden, J., & Ring, J. (2021). Using a "Gateway Game" to Stimulate Student Interest and Build Foundational Knowledge. *Journal of Political Science Education*, 17(sup1), 104–115. https://doi.org/10.1080/15512169.2021.1921588
- Deagle, B. E., Thomas, A. C., McInnes, J. C., Clarke, L. J., Vesterinen, E. J., Clare, E. L., Kartzinel, T. R., & Eveson, J. P. (2019). Counting with DNA in metabarcoding studies: How should we convert sequence reads to dietary data? *Molecular Ecology*, 28(2), 391–406. https://doi.org/10.1111/mec.14734
- Department of Computer Education and Instructional Technology, Necmettin Erbakan University, Konya, Turkey, Atun, H., Usta, E., & Department of Computer Education and Instructional Technology, Necmettin Erbakan University, Konya, Turkey. (2019). The effects of programming education planned with TPACK framework on learning outcomes. *Participatory Educational Research*, 6(2), 26–36. https://doi.org/10.17275/per.19.10.6.2
- Ding, W., Lin, C.-T., & Cao, Z. (2019). Shared Nearest-Neighbor Quantum Game-Based Attribute Reduction With Hierarchical Coevolutionary Spark and Its Application in Consistent Segmentation of Neonatal Cerebral Cortical Surfaces. *IEEE Transactions on Neural Networks and Learning Systems*, 30(7), 2013–2027. https://doi.org/10.1109/TNNLS.2018.2872974
- Faculty of Education Sciences of the Universidad Nacional de San Augustin de Arequipa, Peru, Ccoa, N. M. Q., Choquehuanca, M. E. F., & Paucar, F. H. R. (2023). An Application of the Quizizz Gamification Tool to Improve Motivation in the Evaluation of Elementary School Students. *International Journal of Information and Education Technology*, 13(3), 544–550. https://doi.org/10.18178/ijiet.2023.13.3.1837
- Farquharson, L. M., Romanovsky, V. E., Cable, W. L., Walker, D. A., Kokelj, S. V., & Nicolsky, D. (2019). Climate Change Drives Widespread and Rapid Thermokarst Development in Very Cold Permafrost in the Canadian High Arctic. *Geophysical Research Letters*, 46(12), 6681–6689. https://doi.org/10.1029/2019GL082187
- Gale, C. M., Eikeseth, S., & Eikeseth, F. F. (2023). Effects of enthusiastic and non-enthusiastic voice in praise on the behavior of children with autism and typically developing children. *Behavioral Interventions*, 38(1), 26–38. https://doi.org/10.1002/bin.1901
- Gever, V. C., Tunca, E. A., Boluwatife, A. A., Nwogbo, V. C., Chinweobo-Onuoha, B. N., Ugwuoke, J. C., & Talabi, F. O. (2021). Visual media and learning: Effect of interactive television instruction as an intervention strategy for improving the critical thinking skills and disposition of out-of-school nomadic children in Nigeria. *Learning and Motivation*, 76, 101767. https://doi.org/10.1016/j.lmot.2021.101767

- Harris, B., Eyles, J., Munyewende, P. O., & Goudge, J. (2018). Something Happened: Storytelling in a Violent Field. *International Journal of Transitional Justice*, 12(2), 356–367. https://doi.org/10.1093/ijtj/ijy007
- Holmes, A. F., & Rasmussen, S. J. (2018). Using Pinterest to stimulate student engagement, interest, and learning in managerial accounting courses. *Journal of Accounting Education*, 43, 43–56. https://doi.org/10.1016/j.jaccedu.2018.03.001
- Horovitz, T., & Mayer, R. E. (2021). Learning with human and virtual instructors who display happy or bored emotions in video lectures. *Computers in Human Behavior*, 119, 106724. https://doi.org/10.1016/j.chb.2021.106724
- Huang, Y.-M., & Hsieh, M.-Y. (2020). An Interdisciplinary Research on Students' Employability in Technology Education to Advance Higher Education Enrollment Sustainability. *Sustainability*, 12(5), 1806. https://doi.org/10.3390/su12051806
- Jambou, M., Herbelin, A., & Chebbi, A. (2018). Écologie industrielle, écologie territoriale: Les jeunes chercheurs s'emparent des questions épistémologiques et d'interdisciplinarité. *Natures Sciences Sociétés*, 26(4), 454–462. https://doi.org/10.1051/nss/2019010
- Janković, A., & Lambić, D. (2022). THE EFFECT OF GAME-BASED LEARNING VIA KAHOOT AND QUIZIZZ ON THE ACADEMIC ACHIEVEMENT OF THIRD GRADE PRIMARY SCHOOL STUDENTS. *Journal of Baltic Science Education*, 21(2), 224–231. https://doi.org/10.33225/jbse/22.21.224
- Katemba, C. V., & Sinuhaji, G. V. (2021). Can ESA Method Through Quizizz Games Enhance Vocabulary Knowledge?: *International Journal of Game-Based Learning*, 11(3), 19–37. https://doi.org/10.4018/IJGBL.2021070102
- Kaufhold, M.-A., Bayer, M., & Reuter, C. (2020). Rapid relevance classification of social media posts in disasters and emergencies: A system and evaluation featuring active, incremental and online learning. *Information Processing & Management*, 57(1), 102132. https://doi.org/10.1016/j.ipm.2019.102132
- Khalaf, S., Kilani, H., Razo, M. B., & Grigorenko, E. L. (2022). Bored, Distracted, and Confused: Emotions That Promote Creativity and Learning in a 28-Month-Old Child Using an iPad. *Journal of Intelligence*, 10(4), 118. https://doi.org/10.3390/jintelligence10040118
- Khotimah, N., Riyanto, Y., & Bachri, B. S. (2022). Implementation of Blended Learning to Improve Motivation and Learning Outcomes of Pre-Service Early Childhood Teachers. *Journal of Educational and Social Research*, *12*(5), 263. https://doi.org/10.36941/jesr-2022-0139
- Lady, A., Utomo, B. T., & Chikita, L. (2018). Improving mathematical ability and student learning outcomes through realistic mathematic education (RME) approach. *International Journal of Engineering & Technology*, 7(2.10), 55. https://doi.org/10.14419/ijet.v7i2.10.10954
- Leacock, C. J., & Warrican, S. J. (2020). Helping teachers to respond to COVID-19 in the Eastern Caribbean: Issues of readiness, equity and care. *Journal of Education for Teaching*, 46(4), 576–585. https://doi.org/10.1080/02607476.2020.1803733
- Li, L., V., M., S., R., G., E., & Gonzalez, G. R. (2019). Metaheuristic FIR filter with game theory based compression technique- A reliable medical image compression technique for online applications. *Pattern Recognition Letters*, 125, 7–12. https://doi.org/10.1016/j.patrec.2019.03.023

- Li, S. (2018). Innovations in Chinese engineering education with digital technologies: A brief review of recent advances. *Computer Applications in Engineering Education*, 26(5), 1081–1088. https://doi.org/10.1002/cae.21978
- Loveys, B. R., & Riggs, K. M. (2019). Flipping the laboratory: Improving student engagement and learning outcomes in second year science courses. *International Journal of Science Education*, 41(1), 64–79. https://doi.org/10.1080/09500693.2018.1533663
- Marhavilas, P. K., Filippidis, M., Koulinas, G. K., & Koulouriotis, D. E. (2019). The integration of HAZOP study with risk-matrix and the analytical-hierarchy process for identifying critical control-points and prioritizing risks in industry A case study. *Journal of Loss Prevention in the Process Industries*, 62, 103981. https://doi.org/10.1016/j.jlp.2019.103981
- McLean, G., & Wilson, A. (2019). Shopping in the digital world: Examining customer engagement through augmented reality mobile applications. *Computers in Human Behavior*, 101, 210–224. https://doi.org/10.1016/j.chb.2019.07.002
- Moè, A., Katz, I., & Alesi, M. (2018). Scaffolding for motivation by parents, and child homework motivations and emotions: Effects of a training programme. *British Journal of Educational Psychology*, 88(2), 323–344. https://doi.org/10.1111/bjep.12216
- Mohamed, A. A., & Alawna, M. (2020). Role of increasing the aerobic capacity on improving the function of immune and respiratory systems in patients with coronavirus (COVID-19): A review. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, 14(4), 489–496. https://doi.org/10.1016/j.dsx.2020.04.038
- Murillo, P., Sebastián, M. S., Vives-Cases, C., & Goicolea, I. (2018). Factores asociados a la respuesta a la violencia del compañero íntimo en atención primaria de salud en España. *Gaceta Sanitaria*, 32(5), 433–438. https://doi.org/10.1016/j.gaceta.2017.03.003
- Nandiyanto, A. B. D., Oktiani, R., & Ragadhita, R. (2019). How to Read and Interpret FTIR Spectroscope of Organic Material. *Indonesian Journal of Science and Technology*, 4(1), 97. https://doi.org/10.17509/ijost.v4i1.15806
- Ninghardjanti, P., & Dirgatama, C. H. A. (2022). The perception on mobile-based interactive learning media use in archiving course completion. *International Journal of Evaluation and Research in Education (IJERE)*, 11(2), 516. https://doi.org/10.11591/ijere.v11i2.22131
- 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 (IJET)*, 17(19), 278–290. https://doi.org/10.3991/ijet.v17i19.32235
- Po-Yan Leung, T., Phillips, L., Bryant, C., & Hegarty, K. (2018). How family doctors perceived their 'readiness' and 'preparedness' to identify and respond to intimate partner abuse: A qualitative study. *Family Practice*, *35*(4), 517–523. https://doi.org/10.1093/fampra/cmx109
- Tangonan, A. (2022). Utilization of 'Quizizz' a Game-based Assessment: An Instructional Strategy in Secondary Education Science 10. *European Journal of Educational Research*, 11(4), 1959–1967. https://doi.org/10.12973/eu-jer.11.4.1959
- Ukritchon, B., Wongtoythong, P., & Keawsawasvong, S. (2018). New design equation for undrained pullout capacity of suction caissons considering combined effects

- of caisson aspect ratio, adhesion factor at interface, and linearly increasing strength. *Applied Ocean Research*, 75, 1–14. https://doi.org/10.1016/j.apor.2018.03.007
- Wang, W., Yi, L., Wu, M.-Y., Pearce, P. L., & Huang, S. (Sam). (2018). Examining Chinese adult children's motivations for traveling with their parents. *Tourism Management*, 69, 422–433. https://doi.org/10.1016/j.tourman.2018.06.024
- Wijana, N., Nyoman, N., Gede, I., Made, I., Wayan, I., & Gede, D. (2018). The Measurement of Rare Plants Learning Media using Backward Chaining Integrated with Context-Input-Process-Product Evaluation Model based on Mobile Technology. *International Journal of Advanced Computer Science and Applications*, 9(8). https://doi.org/10.14569/IJACSA.2018.090834
- Williams, C., Perlis, S., Gaughan, J., & Phadtare, S. (2018). Creation and implementation of a flipped jigsaw activity to stimulate interest in biochemistry among medical students: Creation and Implementation of a Flipped Jigsaw Activity. *Biochemistry and Molecular Biology Education*, 46(4), 343–353. https://doi.org/10.1002/bmb.21126

Copyright Holder:

© Siti Noor Aini et al. (2024)

First Publication Right:

© Journal International of Lingua and Technology (JILTECH)

This article is under:





