

**Enhancing Critical Reading through Technology Integration:
Exploring the Effectiveness of Digital Tools in EFL Classrooms**

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Abstract

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EFL learners encounter many challenges in developing their reading abilities such as vocabulary gaps, grammatical difficulties, and cultural understanding. However, conventional instructional methodologies have demonstrated limitations to meet learning needs. This condition creating a compelling imperative for innovative technological solutions which personalize and optimize the reading comprehension learning experience. This research was intended to identify whether and to what extent Kahoot games as technology integration enhance learners ability in critical reading. The research implemented action research method. The research was conducted in one cycle which consisted of five meetings, started with pre-test, treatment, and post-test. The sample was taken by adopting purposive sample. Nine students from 2023/2024 academic year from a private public college in Pekanbaru were taken as the sample. The data were collected quantitatively by utilizing quiz feature in kahoot platform, and qualitatively by using interview. The data were analyzed by using three data analysis theory. After analyzing the data, it was found that the implementation of Kahoot as one of technology integration was able to motivate learners to enhance their ability in learning various text and make learners more enjoy in learning critical reading. However, the utilize of Kahoot was not advisable for test as it had limited time to think and synthesize information from the text. It can be concluded that the implementasion of technology integration through Kahoot provided positive result in learners' critical reading.

Kata Kunci:

Membaca kritis,

Integrasi Teknologi,

Piranti Digital,

Abstrak

Pembelajar EFL menghadapi banyak tantangan dalam mengembangkan kemampuan membaca mereka, seperti kesenjangan kosakata, kesulitan tata bahasa, dan pemahaman budaya. Namun, metodologi pembelajaran

konvensional yang digunakan selama ini menunjukkan keterbatasan untuk memenuhi kebutuhan pembelajaran. Kondisi ini menciptakan keharusan yang mendesak untuk mencari solusi teknologi inovatif yang mempersonalisasi dan mengoptimalkan pengalaman belajar yang beragam pada pemahaman bacaan. Penelitian ini dimaksudkan untuk mengidentifikasi apakah dan sejauh mana permainan Kahoot sebagai integrasi teknologi dalam meningkatkan kemampuan peserta didik dalam membaca kritis. Penelitian ini menerapkan metode penelitian tindakan. Penelitian dilakukan dalam satu siklus yang terdiri dari lima pertemuan, dimulai dengan pre-test, treatment, dan post-test. Pengambilan sampel penelitian dilakukan dengan menggunakan purposive sample. Sembilan mahasiswa tahun ajaran 2023/2024 dari salah satu perguruan tinggi swasta di Pekanbaru diambil sebagai sampel. Pengumpulan data dilakukan secara kuantitatif dengan memanfaatkan fitur kuis pada platform kahoot, dan secara kualitatif dengan menggunakan wawancara. Data dianalisis dengan menggunakan tiga teori analisis data. Setelah menganalisis data, ditemukan bahwa penerapan Kahoot sebagai salah satu integrasi teknologi mampu meningkatkan motivasi pembelajar untuk meningkatkan kemampuannya dalam mempelajari berbagai teks dan membuat pembelajar lebih menikmati pembelajaran membaca kritis. Namun, penggunaan Kahoot tidak disarankan untuk ujian karena waktu berpikir dan mensintesis informasi dari teks terbatas. Dengan demikian dapat disimpulkan bahwa penerapan integrasi teknologi melalui Kahoot memberikan hasil positif dalam membaca kritis peserta didik.

INTRODUCTION

In the rapidly evolving in education field, the use of technology and language learning has emerged as a pivotal area of scholarly investigation, especially for English as a Foreign Language (EFL) instruction. The digital revolution has transformed traditional pedagogical approaches, demanding educators and researchers to examine the potential of technological interventions in enhancing learners' linguistic competencies, with reading comprehension in academic discourse (Chen and Chen, 2022).

The global interconnectedness of the 21st century has increased the significance of English language proficiency, especially reading comprehension as a critical skill for academic, professional, and personal success. Critical reading as part of reading skill is one of mandatory lecture for EFL in university level. Critical reading skill requires analyzing a text's purpose, biases, and logical structure to develop independent judgment Fisher & Frey, (2015). This skill is crucial in academic contexts as it enables learners to engage critically with diverse perspectives and synthesize information effectively.

However, EFL learners consistently encounter many challenges in developing their reading abilities such as vocabulary gaps, grammatical difficulties, and cultural understanding, others than navigating complex linguistic structures, contextual nuances, and advanced comprehension strategies (Grabe and Stoller, 2019). Conventional instructional methodologies have demonstrated limitations to meet learning needs. This condition creating a compelling imperative for innovative technological solutions which personalize and optimize the reading comprehension learning experience.

Several educational research has highlighted the potential of digital tools in reducing the challenges encountered by EFL learners. These technological interventions covered a wide range of platforms, including interactive reading applications, adaptive learning systems, digital annotation tools, multimedia reading environments, artificial intelligence-powered comprehension assistants (Liu & Chen, 2021) and Gamified learning platforms. These technologies have potential ability to transform traditional reading educational paradigm by offering opportunities for learner engagement, personalized feedback, and dynamic interaction with textual content.

The use of gamified learning platform or gamification method in classroom benefits learners as it improve their motivation, engage learning, and solve problem (Kapp, 2012). Moreover, learners' motivational, cognitive, emotional, and social perspectives can be developed with the help of gamification (Owen and Licorish, 2020). Furthermore, gamification motivated learners to monitor their

own progress, interact with others, and achieve their learning objectives in enjoyable way (Hung et al., 2017)

One of gamification which can be mentioned is Kahoot. Kahoot is a game-based learning application from digital learning media which emerged in the era of the industrial revolution 4.0. The platform was first created in 2013 at the Norwegian University of Science and Technology (Chiang, 2020) and it has spread throughout the world in business training and educational settings. Kahoot!'s theoretical foundations are a complex fusion of interactive learning technology, educational psychology, and gamification concepts. Kahoot provides two addresses; kahoot.com for teachers to create quiz or surveys in teaching reading and kahoot.it for teachers, learners, and other users to play the quiz. In designing quiz, kahoot provides four types question such as discussion, survey, quiz in multiple choice, and jumble (Lona, 2017) and time needed for read the question can be set.

The implementation of kahoot in ELT had been studied in various research, Ismail and Mohammad, (2017); Medina and Hurtado, (2017) revealed that Kahoot game has been successfully improved learners' reading comprehension. Furthermore, Korkmaz & Öz, (2021) found that implemented kahoot was an effective way to motivate EFL learners by enhancing their ability to comprehend various reading materials. On the otherhand, Chiang (2020) concluded that although the participants had positive attitudes towards the application of Kahoot in the EFL reading class, but several learners gave negative perception about the use of Kahoot as a testing tool and complained about the internet connection.

There were many research about kahoot had been conducted to explore its effectiveness in reading comprehension. However, the research which focused in critical reading relatively scarce. Thus, to fill the missing gap, this research was carried out to enhance critical reading through technology, especially kahoot: exploring the effectiveness of digital tools in EFL Classrooms. Based on the previous description, the purpose of the research was to identify whether and to what extent Kahoot games as technology integration enhance learners' ability in critical reading.

METHOD

Action research was applied in this research. The research was conducted in one cycle in five meetings which consisted of pre-test, treatment, and post-test. The procedure of action research was conducted by adopting Wallace theory cited in Maspufah (2019) in the cycle of planning, action, reflection, and evaluation. In planning, the learners' information from pre-test was used as consideration in designing syllabus and lesson plan. The lesson plan was designed by implementing kahoot games, strategy and classroom activity, observation and interview, and also planning for the next action. In learning action step, all the planning designed were applied in the classroom. Observation was conducted along with learning action. Interview was carried out to learners after they play Kahoot. Collaborator for this research was also reading lecturer from different class. Reflection was made after data from observation and interview gathered. In this step, all the data were evaluated to find out learners' improvement in differing fact and opinion, making inferences, and understanding implied meaning. Evaluation was necessary to find out to see the factors influences the learners' improvement. Conclusion was drawn to make decision next activity and give revision the activity. This research was conducted in one cycle and it was stopped as there was an improvement in post-test result.

The research was carried out in a private public college in Pekanbaru. The population of the research was the fourth semester learners of 2023/2024 academic year which had 9 learners. The sample was taken by applying purposive sampling technique adopted from Creswell theory (cited in Maspufah, 2019) which intended to select sample which were most relevant to the research. Furthermore, the sample were the learners who studied critical reading in researcher's class which were available and willing to contribute to the research.

Two instruments used in this research. The quantitative instruments were in the form of critical reading tests which consisted of thirty items. The tests utilized kahoot quiz. The indicator for critical reading tests was the accuracy to differ fact and opinion, making inferences, and implied meaning. The qualitative instruments were in the form of interview and observation. Observation was

carried out by using a field note and interview guide. The observation guide was designed to observe learners' activities during the class and video production which conducted in one meeting. The collaborator also employed field notes to gather information about potential events during the teaching and learning process. The interview was carried out based on the factor which might affect teaching and learning process.

This research used quantitative and qualitative data. The quantitative data were collected by using critical reading test which implemented by using Kahoot. The tests were designed in true-false method, multiple choice, and survey. The qualitative data were collected from observation checklist, field note, and interview. This method included professional learning process. Using audio or video techniques along with a checklist or observation schedule regarded professional actions in the learning process (Wallace in Maspufah, 2019).

Quantitative data were analysed by counting and tabulating the score. Quantitative data were analysed by counting and tabulating the score. Since the test consisted of 30 words, the raw score was gaining by summing the correct score then divided by total score and multiplied by 100. So, the highest score was 100 if they got correct all numbers. On the contrary, they got 0 if they got incorrect all numbers. The sum of the total score was divided by the number of students to get the mean score. Then, the result was compared with the level of college ability criterion as the following:

Table 1. The Level of Learners' Score

No	Score	Category
1	80 - 100	Very Good
2	60 - 79	Good
3	40 - 59	Fair
4	0 - 39	Poor

The qualitative data were analysed by adopting (Miles, Matthew B, Huberman, A, Michael and Saldana, 2014) theory. The three analysis components called data condensation, data display, and conclusion drawing were applied to the research.

FINDINGS AND DISCUSSION

In this section, some findings and discussion were described to obtain the answer two research questions does and to what extent Kahoot enhance learners' critical reading skills, then what factors affecting the change. The research was conducted out in one cycle which includes pre-test, treatment, and post-test. The procedure of action research such as planning, action, observation, and reflection were implemented. The followings were the description of every meeting in the research.

The learners had a pre-test in differing fact and opinion, making inferences, and understanding implied meaning. The result showed that their average score was 58, 89 or in fair category. It can be inferred that the learners' ability in critical reading were needed to be improved by implementing gamification method through Kahoot games. Prior to the first meeting, some data regarding the learners' proficiency in critical reading had been collected and taken into account while creating the lesson plan.

For the first meeting, the instruction was about differing fact and opinion. It was explained briefly the characteristics and key words to identify fact and opinion. Then, the researcher displayed some texts and asked learners to identify fact and opinion. Next, the researchers distributed some papers and learners have to write some facts and opinion about the viral news from social media. The researchers and learners discussed the result. Then introduced kahoot as the learning media and how to play it. At the end of the session, the researcher gave first test of differing fact and opinion by using kahoot. The test was set in the true false mode. The time set was about 20 seconds for each question. Then, the interview was conducted for students who were in high, middle, and low score. The following figure was illustrated the first meeting raw score:

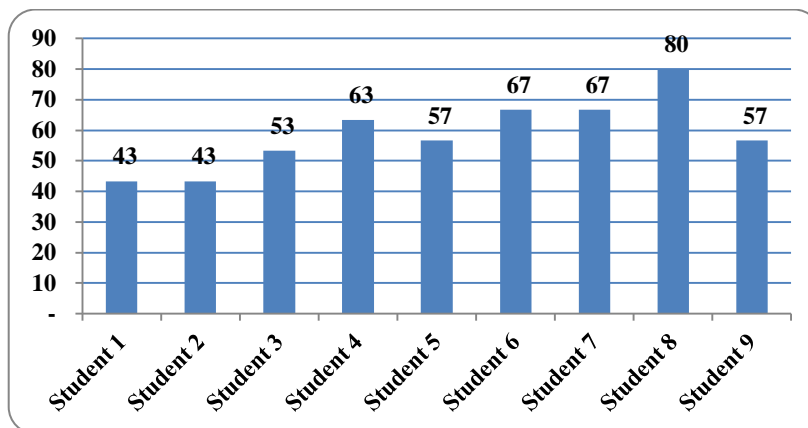


Figure 1. Learners' Score in Meeting 1

From the figure, it was found out that learners' score were still low. Only one student got 80. Their average score was 58,89. It meant that the criterion of success was not achieved.

The second meeting was started by discussing the result of learners' reading test result in the previous meeting. After that, she gave some explanations about making inferences. Then, she generated question about inferences to find learners' background knowledge. Next, the lecturer explained about inferences and guide learners to find inferences. After that, the lecturer started to play kahoot quiz with four optional multiple choice. The time set for every question was 30 seconds. When the game was ended, researcher and learners discuss the result. The interview was conducted to students who were in high, medium, and low score. The following figure was illustrated the learners second meeting raw score:

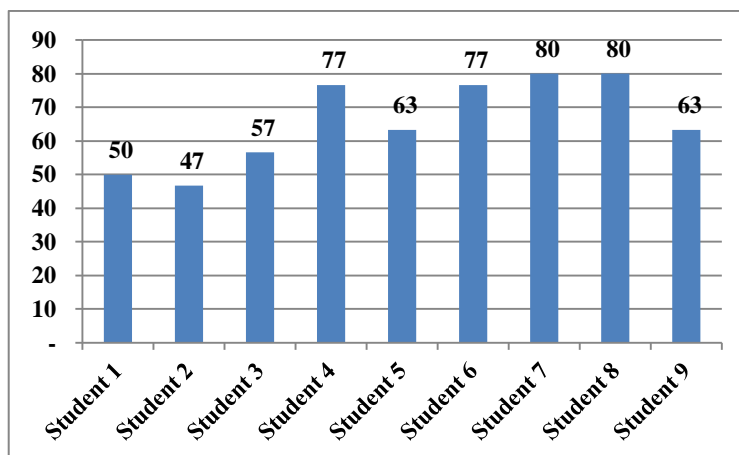


Figure 2. Learners' Score in Meeting 2

Based on the result, the learners' critical reading in the second meeting, there was an improvement. The result showed that there were two learners got score 80 or more. Their average score was 65,93. It was not satisfied enough. The researcher discussed to her collaborator about this phenomenon. They thought that the learners needed a lot practice and how to make inferences

The third meeting was expected that the learners were better than the two previous meetings. Therefore, the reading texts were well-prepared before the class. The researcher explained about the third material about implied meaning and how to make it. The researcher was also gave several examples to the learners. The next step, learners played kahoot in critical reading to find implied meaning. The question consisted of 30 numbers in survey mode. The time set about 30 seconds for every question. The interview was conducted to the learners who had high, middle, and low score. The following figure was illustrated the third meeting raw score:

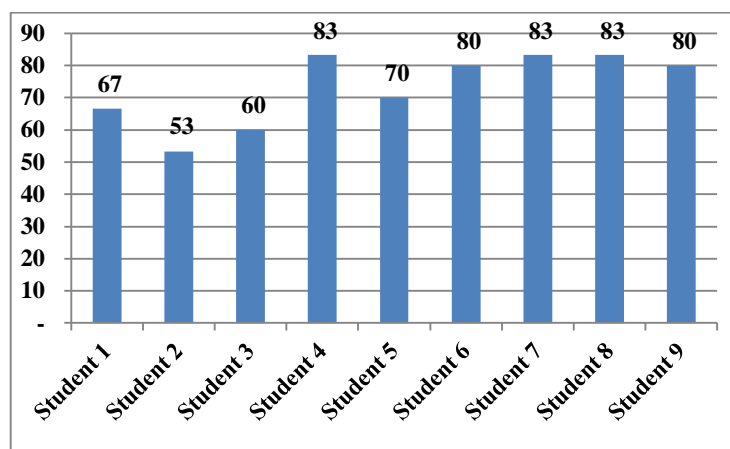


Figure 3. Learners' Score in Meeting 3

There was improvement on their critical reading skills. Five learners succeed in finding implied meaning in the third meeting. From the figure, it could be seen that there were six learners got score 80 or more. There was steady improvement from the previous meeting. Their average score was 78.89.

The fourth meeting was the post-test. It was given after the treatment for three meetings. The test consisted of 30 numbers which distributed equally into indentifying true and false, making inference, and implied meaning. The test was

conducted by using Kahoot. The question were set in several mode such as true-false, multiple choice, and short answer. The following figure was the result of the post-test.

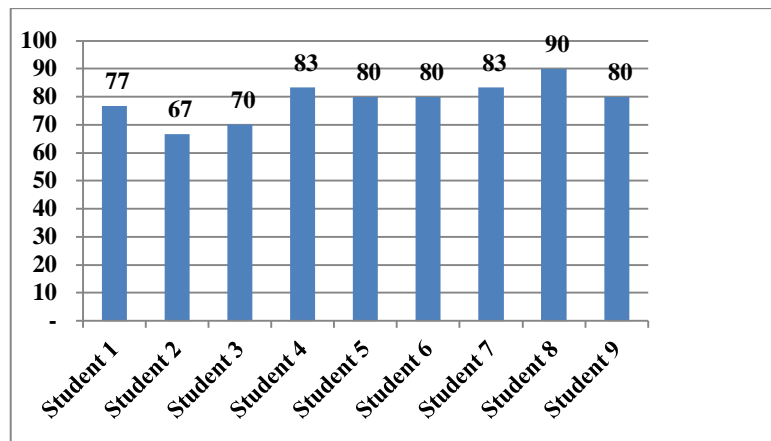


Figure 4. Learners' Score in Post-Test

The data were computed to determine each student's raw score after administering the post-test. The result showed that six learners got 80 score or more. Their average score was 78,89. It means that their mean score had been reached the minimum score and in good category.

The progress of the learners start from pre-test to the post was significant. Their score improved from 50.00 to 78.89 or 28.89 points. Their progress can be seen in the following figure:

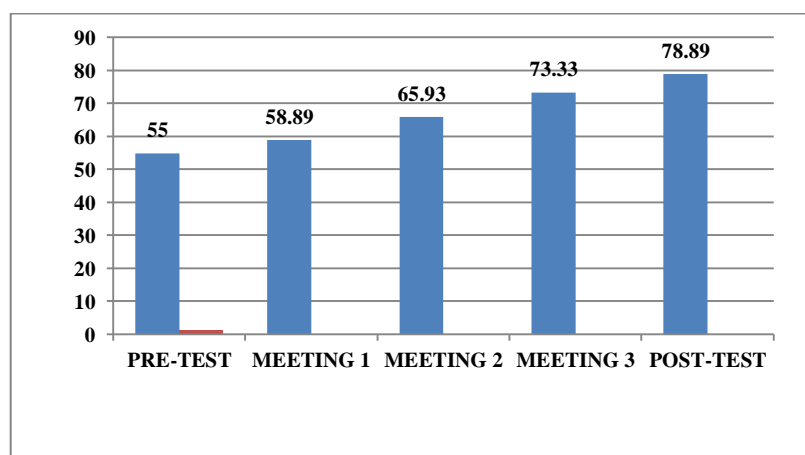


Figure 5. Learners' Progress in Critical Reading

From the figure, it can be seen that learners' average score in pre-test was 55.00. After treatment in the first meeting, learners' score increased 8,89 points to be 58.89. In the second meeting, the learners' average score also increased 7.04 points into 65.93 points. Then, in the third meeting or the last meeting in treatment, learners' average improved 7.46 points into 73.33. In the post-test, learners' average score also improved about 5.56 points into 78.89. It means that learners' ability in critical reading improved by enhancing kahoot as learning media.

To find learners' ability level, each of learners' raw score in post-test was compared to the specification table. The result of learners' level can be seen in the following figure:

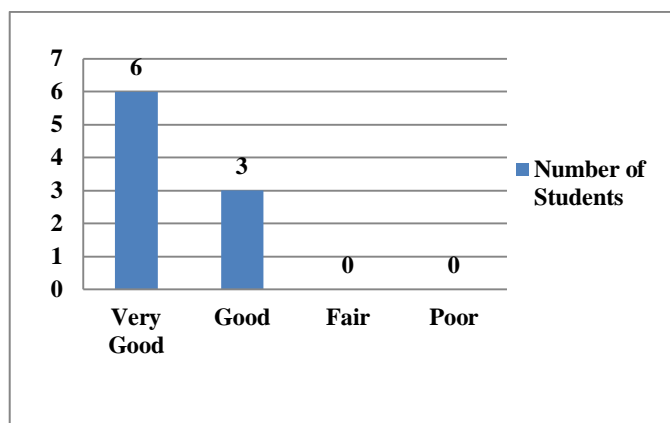


Figure 6. The Learners' Ability Level in Post-Test

From the figure, it can be seen that 3 learners or 33% were in good level, and 6 learners or 67% were in very good level. If the result in post-test was compared to the pre-test, it was found out if there was increased value in learners' ability level. In pre-test, none learners were in very good level, 3 or 33% learners in good category, and 6 or 67% learners in fair category. The result of pre-test can be seen in the following figure:



Figure 7. The Learners' Ability Level in Pre-Test

By comparing the result of post-test to the pre-test, it can be seen that the number of learners who were in very good level increased significantly from none into six learners. Then, learners who were in fair level decreased from six learners into none. And the last, the learners who were in poor category none in post-test.

From the finding, it can be concluded that implementing Kahoot games enhanced learners' ability in critical reading. The results were also supported by the previous research findings conducted by Ismail and Mohammad 2017; Medina and Hurtado 2017 revealed that Kahoot game has been successfully improved learners' critical reading skills.

From the interview, it was reported that factor affecting the improvement was the use of kahoot as the integrated technology media. The result of implementing Kahoot motivated learners to enhance their ability in learning various of text. This result was inline with previous research conducted by Korkmaz & Öz, (2021). Furthermore, the use of kahoot like other gamified learning platform made learners more enjoy in learning critical reading (Hung et al., 2017) However, the use Kahoot was not advisable for test, as it might had limited time to think and synthesize information from the text. This result was supported by the result of Chiang (2020) research

From the data gained from observation and field note, it can be inferred that learners motivated as they were able to see their score and monitor their own progress in every meeting. It was similar with the result of of research which conducted by Hung, Chen, and Huang (2017). However, the internet connection

made the games buffering and missed the chance to read the text or answer the quiz quickly. It was inline with the result of research conducted by Chiang (2020)

Based on the findings on the post-test, interview, observation, and field note, it can be concluded that technology integration in kahoot was able to enhance the fourth semester learners' critical reading in a good level with average score 83,3. Based on the result, the research was stop and not continou to the second cycle. This result was in line with the research conducted by Hung et al., (2017)

CONCLUSION

This research was intended to identify whether and to what extent the technology integration, Kahoot enhanced learners' critical reading skills. Based on the finding previous section, it can be concluded that the implementation of Kahoot as one of technology integration was able to motivate learners to enhance their ability in learning various text, make them more enjoy in learning critical reading. However, the utilize of Kahoot was not advisable for test as it had limited time to think and synthesize information from the text. Their average score level improved from "fair" into "good" category.

Since Kahoot platform was very useful to motivate learners and make them more enjoy in learning critical reading, it is suggested to lecturers to implement such gamified method in their class, especially to enhance their vocabulary gaps, grammatical difficulties, and cultural understanding. Furthermore, the result of this research hopefully could be useful for other researchers who interested to conduct a further research about kahoot as gamified method.

REFERENCES

- Chen, C. M., & Chen, F. Y. (2022). Technology-enhanced language learning: A comprehensive review. *Computer Assisted Language Learning*, 35(4), 567-592.
- Chiang, H. H. (2020). Kahoot! in an efl reading class. *Journal of Language Teaching and Research*, 11(1), 33–44. <https://doi.org/10.17507/jltr.1101.05>
- Fisher, D., & Frey, N. (2015). *Text Complexity: Raising Rigor in Reading*. Corwin Press.

- Grabe, W., & Stoller, F. L. (2019). *Teaching and researching reading*. Routledge.
- Hung, Y. H., Chen, C. H., & Huang, S. W. (2017). Applying Augmented Reality to Enhance Learning: A Study of Different Teaching Materials. *Journal of Computer Assisted Learning*, 33(3), 252-266.
- Ismail, M. A.-A., & Mohammad, J. A.-M. (2017). Kahoot: A promising tool for formative assessment in medical education. *Education in Medicine Journal*, 9(2), 19–26.
- Kapp, K. . (2012). *The Gamification of Learning and Instruction: Game-based Methods and Strategies for Training and Education* (1st editio). Pfeiffer.
- Korkmaz, S., & Öz, H. (2021). Using Kahoot To Improve Reading Comprehension of. *International Online Journal of Education and Teaching (IOJET)*, 8(2), 1138–1150. <https://files.eric.ed.gov/fulltext/EJ1294319.pdf>
- Liu, P. L., & Chen, C. J. (2021). Digital tools and reading comprehension: A meta-analysis. *Reading Research Quarterly*, 56(2), 245–267.
- Lona, J. (2017). Kahoot. *The School Librarian.*, 65(2).
- Maspuhah. (2019). Improving Students' Reading Skill Through the Use of Reciprocal Teaching Technique. *J-SHMIC : Journal of English for Academic*, 6(1), 26–32. <https://journal.uir.ac.id/index.php/jshmic/article/view/2639/1543>
- Medina, E. G. L., & Hurtado, C. P. L. (2017). Kahoot! A digital tool for learning vocabulary in a language classroom. *Revista Publicando*, 4(12), 441–449.
- Miles, Matthew B, Huberman, A, Michael and Saldana, J. (2014). *Qualitative Data Analysis: A Method Source Book*. In *Sage Publication Inc* (Third Edit). Sage Publication.
- Owen, H. E., & Licorish, S. A. (2020). Game-based student response system: The effectiveness of Kahoot! On junior and senior information science students' learning. *Journal of Information Technology Education: Research*, 19, 511–553. <https://doi.org/10.28945/4608>