

Article Info:

Published Date: 18 August 2022

*Corresponding Author: gladystagie@uitm.edu.my

GAMIFICATION IN ART AND DESIGN APPRECIATION

Gladys Tagie¹, Hairulnisak Merman², Nurul Shima Taharuddin³, Noor Aileen Ibrahim⁴

^{1,2,3}College of Creative Art, Perak branch, Campus Seri Iskandar, Universiti Teknologi MARA

⁴Academy of Language Studies, Perak branch, Campus Seri Iskandar,
Universiti Teknologi MARA

To cite this article (APA): Tagie, G., Merman, H., Taharuddin, N. S., & Ibrahim, N. A. (2022). Gamification in Art and Design Appreciation. *KUPAS SENI*, 10, 93-103. <https://doi.org/10.37134/kupasseni.vol10.sp.2.9.2022>

To link to this article: <https://doi.org/10.37134/kupasseni.vol10.sp.2.9.2022>

ABSTRACT

Nowadays, teaching becomes a big challenge when facing a revolution of education 4.0 to 5.0. This research conducted on the subject VCS 105 (An appreciation of art and design history), a compulsory subject for the first semester Diploma of Creative art. When the pandemic Covid-19 hit the world, the teaching and learning also changed drastically from traditional method to Online based education. The biggest problem in teaching and learning in the new norm is to attract attention from students along with the rapid development of technology. Secondly is less feedback and responds from students. Thirdly, this subject requires deeply understanding, memorize history, facts, and characters of art globally throughout the ages. The revolution of the culture of learning and thinking is not just from the cultural and societal point of view, but also having a revolution on the culture of study in class from the conventional lecture-based method. Gamification proposed as an effective approach to gain a short-term attention span among students. The researcher used the Quiz Whizzer online application as a main pillar in this study. Quiz Whizzer is website-based applications as an online educational game that provide easy means in the learning process. Furthermore, Quiz Whizzer is a game-based learning platform, used as educational technology in educational institutions. The focus of this activity is the use in making interactive games, developing the social skills, and relationships among group members. This gamification creatively combines the technology of QR code and after that creating origami techniques to produce a paper airplane as a creative craft. At the same time students use their basic theory of principle and element of art into a product design skill and psychomotor. An indicator of success is obtained when more than 85% of participants can answer the question correctly. Then, the fastest group who can create an airplane craft reach the destination (planet earth) counted as the winner. Overall, the idea to combine Quiz whizzer with origami technique is a great tool for lecturer and students for three reasons which are easily differentiate reviews for your students, incorporate collaboration and teamwork into your classes and students can apply their knowledge into skills and practice.

Keywords: Gamification, Quiz Whizzer, QR code, origami

INTRODUCTION

Gamification

Nowadays, teaching the history of art and design subjects have become more challenging in line with the rapid revolution of technologies. According to Boudadi and Gutierrez-Colon (2020), stated that nowadays educators are educating a generation of students who have more access to technology, media, information, and communication than any previous generation. According to Deterding et al. (2011), gamification has applied to be a new method in the history of education. It has started to be used in multidiscipline to enhance and encourage students more interested in learning process. When pandemic Covid 19 hit the world, the pedagogy and approach in education are drastically changed due to effect of global health issue. Teaching and learning are totally based on an online basis and facing a severe problem which is students have a short-term attention span, minimal feedback and this theory subject has too many facts and terms to study. Gamification in teaching and learning is one of new approach in art and design subject to help students to remember the history of art in general. According to Neil A. Bradbury (2016), the implementation of multiple approaches should apply not only to remember material but also to have deep understanding of physiological and mechanism and able to utilize such knowledge in various applications.

According to Furdu, Tomozei and Kose (2017), Gamification appears to be a new approach that has started to be used in a variety of disciplines to enhance and motivate learning, it incorporates fun into learning activities. Gamification is easy to implement as it only focusses on specific goals must be achieved in specific area. It does not require students to have toys or any specific electronic devices. Moreover, it also not replaces the learning process itself, but in turn it helps to make learning a more collaborative activity. Gamification enhances motivation and engages learners cognitively and behaviorally and emotionally which will facilitate the learning process of students. Çeker and Ozdami (2017) believed that through gamification in learning, student could understand the knowledge in different perspective and more creative. Treiblmaier and Putz (2020), stated that gamification works as an important element for the impact of basic motivation for learning as it helps learners to feel pleased, be friendly and imaginative, and self-actualized. Gamification basically motivating students because of decision making processes involved in learning; fun because goals allow student to see the direct impact of their efforts by instant feedback offered; authentic because fantasy provides a compelling background that allows students to experiment with skills without suffering the consequences of failure in real life.

On the other hand, gamification can increase their social value as they must cooperate with their group members. Najjar and Salhab (2022), believed that gamification influences motivation positively by offering competition, challenge, and socialization elements. Additionally, gamifications have high positive impact to students. Based on several studies from (Zainuddin et al., 2020; Amado, & Roleda, 2019) supported this position that gamification increases student engagement and has positive effects on students' behavioral, emotional, and cognitive engagement by the features it offers like: persistence, time-on-task, flow, immersion, and commitment. Moreover, according to Carlson et al. (2017), by adding fun to game activities, this help to motivate players and increase interaction, which leads to positive behavioral outcomes by practicing real life situations and challenges. So, this innovation of gamifications was created based on the problem statement and hopefully can achieve the focus to creating an interesting class, easier to understand the topic and increasing the involvement and relationships among group members.

Quiz whizzer

Quiz whizzer is a game based that can boost student engagement with real-time, classroom quiz racing. Quiz Whizzer makes it easy to get students excited about formative assessment, questions, and can be used to revise topics for every lesson. The Quiz Whizzer game is divided into 2 options which are live race or homework based. Live race is the most intuitive format, where the first player to get to the finish (last space) wins. For this gamification innovation, researchers make 5 groups in a class and all group players must reach planet earth from the sun. For this style to work well, conductors must make sure all students have

good internet coverage before starting the game on the game board. This Live race mode can run up to 30 students suitable for one class session. Homework mode is more focused on the question and less focused on the race. The player's progress will appear through all questions, so in this homework mode it's more suitable to revise topics for the final exam or assessment. This means when the player reaches the finish (last space on planet earth), they might have questions remaining in which case they continue through them. The result of this is that the first player (individually) to finish might not be the winner because rather than choosing based on who got there first, it selects the winner based on the highest score on that space.

QR Code

According to Collins English Dictionary Online in British English (2022), QR Code is a type of barcode that can be read both horizontally and vertically, allowing large amounts of information to be encoded in it. The question provided at Quiz whizzer; students are required to find the hidden QR code around the classroom. Figure 1 below, is the sample of QR Code that has been used in this gamification innovation.



Figure 1: QR Code

Origami

According to Cambridge Online Dictionary (2022), Origami is the art of making objects for decoration by folding sheets of paper into shapes. Origami is an ancient Japanese art that still widely practiced. The Subject elementary of Creative Art for Diploma first semester is one of compulsory subjects where students need to deeply understand the differences of principles and the elements of art and design. From this basic knowledge it leads to student's creativity to create meaningful artwork in future. Furthermore, this subject has too many facts, artist's name, and history of art that they must study. So, Origami is the best way to apply the knowledge into skill in a way to understand the subject. By creating Origami of paper airplanes as shown at figure 2 below, students are actively involved in class and most importantly they enjoy creating origami as if they are brought to their childhood games.

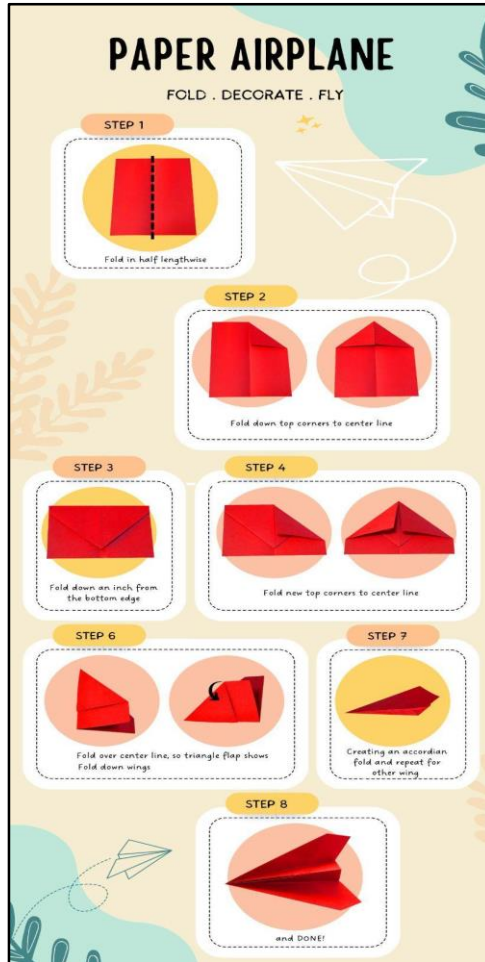


Figure 2. Origami of paper airplane guideline

METHODS

There are a lot of free and interesting online games that normally used in online education namely Quizziz, kahoot! Quizlet, Quizz whizzer and others. The implementation of games makes students eager to learn and encourage them to study more deeper in every topic. This gamification is unique and difference from the existing online game-based Quizz whizzer. The QR Code approach applied as a new technology application combine with the Origami technique, where the students are required to create a creative origami of paper airplane. In addition, the process of creating origami (paper airplanes) will create the skill and psychomotor of students, from the basic theories of art, and finally they will enjoy the racing game through the question. The gamification approach on this subject has been conducted and implemented on Diploma of Fine art students, Colej of Creative Art, Universiti Teknologi Mara, Perak Branch, Kampus Seri Iskandar Perak. The execution of this gamification only for one group of students to investigate the effectiveness of this research in class. So, as an educator we can help our students in many ways to make students success at theories and social skill. The main goals to this creative innovation in teaching and learning is to provide easy means in learning history of art and its appreciation. Besides that, gamification method is more interesting to attract attention from students along with the rapid development of technology. A suitable gamification software and using strategy, students can become more active and participating for challenging complex and difficult tasks. (Ceker & Ozdamli, 2017, p.226). A quantitative approach through a and report

from the game was used in collecting the data to investigate effectiveness of games in subject. The topic includes the understanding of principle and element of art and design and the method how to appreciate art appropriately.

RESULTS AND DISCUSSION

Result from Quiz whizzer report

The result from the Quizwhizzer question, it shows that every group can answer the following question very well. The maximum number of incorrect answers are 5 questions out of 16 questions. Team 01 and team 02 successfully got the highest score which were 13 correct answers and 3 incorrect answers. While team 03 and team 04 answered 11 correctly, and 5 incorrect answers. Finally group 05 can answer 12 correct answers and 4 incorrect answers. Based on the statistics of the result, it can be concluded that all teams successfully understand the topics of the principle and the elements of art and design as a one of the challenging topics from the subject art and design appreciation. The understanding and achievement of the subject through this gamification can clearly be shown in the figure 03 below.



Figure 3: Result and analysis of question from Quizwhizzer

Result of the race overall

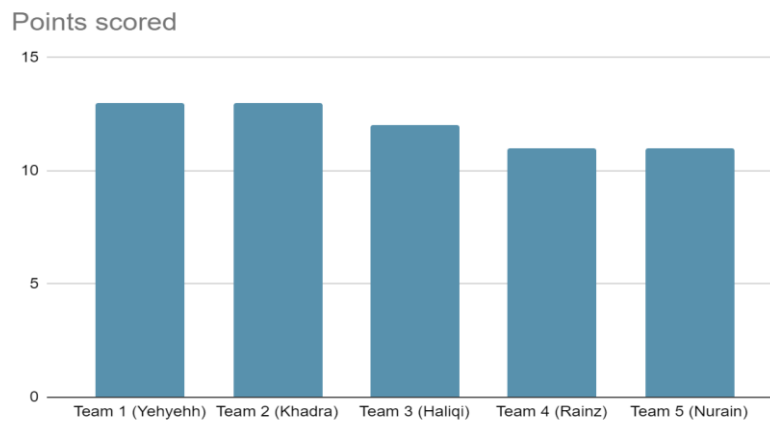


Figure 4: Result of the Race Game

Gamification in Art and Design Appreciation

Figure 4 shows the result of the race game overall of the teams. There are three criteria of winner for this race: firstly, are the highest score of the correct answer, secondly the fastest group who can find the QR code and lastly successfully create the paper airplane image appears at QR code as mentioned at figure 01 above. The winner is team 1 ('Yehyehh'), second is team 2 (Khadra), Third is Team 3 (Haliqi as a Leader) and then followed by team 4 and team 5 which were led by Rainz and Nurain.

Analysis of the toughest question

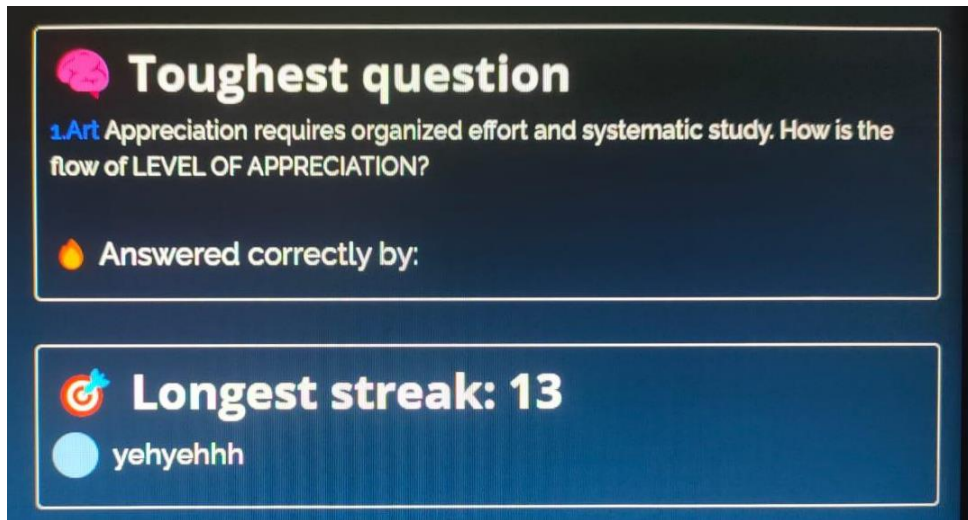


Figure 5: The toughest question on the Race Game

Results are out!

Player names	Time Taken	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
06:13	Art History: Art appreciation: Art criticism: Philosophy of Art / Aesthetics	physical materials used	element and principle	describes the size, location or amount of one element to another (or to the whole) in a work	refers to the tactile quality of a surface (actual) or to the visual representation of such surface qualities	category of subjects	is a mark that moves across a space and surface. It can be horizontal, vertical or diagonal.	Look at works thoroughly and form your own opinions. Art is a sensuous experience	Repeating the same shape but in different sizes.	True	2	paper airplane	movement	Balance- the paper must be fold in balance .the consideration of visual weight.	Primary colour	
04:59	Art criticism: Art appreciation: Art History: Philosophy of Art / Aesthetics	content of the artwork	image writing	center of interest. About dominance & influence	refers to the tactile quality of a surface (actual) or to the visual representation of such surface qualities	category of subjects	is a mark that moves across a space and surface. It can be horizontal, vertical or diagonal.	Look at works thoroughly and form your own opinions. Art is a sensuous experience	Can be created with the use of colours, shapes, or lines	True	1	paper airplane	movement	Balance- the paper must be fold in balance .the consideration of visual weight.	Primary colour	
05:38	Art criticism: Art appreciation: Art History: Philosophy of Art / Aesthetics	physical materials used	image writing	when nothing distracts from the whole, we have unity	refers to the tactile quality of a surface (actual) or to the visual representation of such surface qualities	physical materials	is a mark that moves across a space and surface. It can be horizontal, vertical or diagonal.	Look at works thoroughly and form your own opinions. Art is a sensuous experience	Can be created with the use of colours, shapes, or lines	True	5	paper airplane	movement	Balance- the paper must be fold in balance .the consideration of visual weight.	Primary colour	
08:22	Art History: Art appreciation:	physical materials	image writing	center of interest. About	refers to the tactile quality of a surface	category of	is a mark that moves across	Look at works thoroughly	Can be created with	True	1	paper airplane	movement	Balance- the paper must be	salah	

Figure 06: Result of the toughest question on the race game.

Figure 5 and 6 above is the analysis of the toughest question from the Quizwhizzer question. From the result it can conclude that all groups could not answer question number 01. The question is regarding the flow of the art and design appreciation. 3 groups chose art history as the first level of appreciation while another group chose art criticism as the first flow to appreciate an artwork in art and design. Based on the result

above, the lecture would be easier to find out the weakness and level of their understanding of the certain topic. On the other hand, to achieve the objective of the subject successfully, the lecture should be more focused on the toughest topic so that students can understand how to appreciate art properly.

Sample of picture in Classroom during gamification



Figure 7: Discussion in group




Figure 8: Discussion in group

Figure 7 and 8 shows that the students are discussing with each other in a group. The question on the Quiz whizzer have required them to communicate to each other in other to build and improve their social and communication skill among the students. So, this race game purposely created not only to gain knowledge of appreciating artwork but also to appreciate the relationship between them. Figure 9 below is the real situation where the team members working together finding the QR code pasted in some hidden place in the classroom only as mentioned at question 11 as mentioned at figure 12 below. The most challenging part from this racing game is to find the hidden QR Code. The students compete to be able to find the QR code, and each group is required to find a different QR code.



Figure 9: Finding Hidden QR Code

Sample of Race game question


Name: _____ Date: _____

coming back home
COMING BACK HOME

1. 1. Art Appreciation requires organized effort and systematic study. How is the flow of LEVEL OF APPRECIATION?

A Art appreciation; Art criticism; Art History; Philosophy of Art / Aesthetics
B Art History; Art appreciation; Art criticism ; Philosophy of Art / Aesthetics
C Art criticism; Art appreciation; Art History; Philosophy of Art / Aesthetics

2. 2. Form consist of all EXCEPT

A physical materials used
B content of the artwork
C element of design
D principle of design

3. 3. Iconography means.....

A subject
B element and principle
C physical materials
D image writing

4. 4. Proportion

A center of interest. About dominance & influence
B describes the size, location or amount of one element to another (or to the whole) in a work
C consideration of visual weight and importance
D when nothing distracts from the whole, we have unity

5. 5. Texture...

A can be positive or negative, open or closed, shallow or deep, and two-dimensional or three-dimensional
B a mark that moves across a space and surface. It can be horizontal, vertical or diagonal
C refers to relatives lightness and darkness and is perceived in terms of varying levels of contrast
D refers to the tactile quality of a surface (actual) or to the visual representation of such surface qualities

Figure 10: Sample of question 1-5



6. 6. Historical, Religious, Landscape, Still Life, Literary, Genre, Mythological, Portrait, Allegory, Personification Those mentioned are...

A category of subjects
B list of a meal's ingredient
C element and principle
D physical materials

7. 7. definition of Line..

A refers to relatives lightness and darkness and is perceived in terms of varying levels of contrast
B can be positive or negative, open or closed, shallow or deep, and two-dimensional or three-dimensional.
C is a mark that moves across a space and surface. It can be horizontal, vertical or diagonal.
D has a depth, length, width and resides in spaces. It is perceived as three dimensional

8. 8. HOW DO WE APPRECIATE ART ?

A critic art generally
B aware about the history and the changes of art and keep it for self satisfaction.
C Look at works thoroughly and form your own opinions, Art is a sensuous experience

D pay attention to nature and manipulate nature as your works


9. 9. Variety means?

A Center of interest. About dominance & influence
B Can be created with the use of colours, shapes, or lines
C Repeating the same shape but in different sizes.

10. 10. Emphasis is Center of interest. About dominance & influence

A True
B False

Figure 11: sample of question 6-10



11. Find the QR code at the classroom. if you successfully found it click number below (the fastest group click no.1 and followed by the other group) take the QR code' paper and keep it with you.

A 1
B 2
C 3
D 4
E 5

12. 12. Do the task on the QR code. choose the correct image

A boat
B car
C paper airplane
D space ship

13. 13. Try to fly your paper airplane. What is the principle of art that you can relate to it?

A line
B colour
C movement
D form

14. 14. The most important principles of art and design to create paper airplane?

A line- must draw a line to make a functional paper airplane.
B texture- the texture of the paper must be smooth
C Balance- the paper must be fold in balance ,the consideration of visual weight.

15. 15. The colour of paper airplane is

A secondary colour
B tertiary colour
C Primary colour
D salah

16. well done! u have arrived at home. Say "we are coming back home" and click true.

A True
B False

Figure 12: Sample of question 11-16

Figures 10,11 and 12 are samples of questions that were created at Quiz whizzer. Each groups needs to answer the questions in the sequence shown at Figure 13. The first question starts at the planet Sun until they arrive at the planet earth at the question 15.

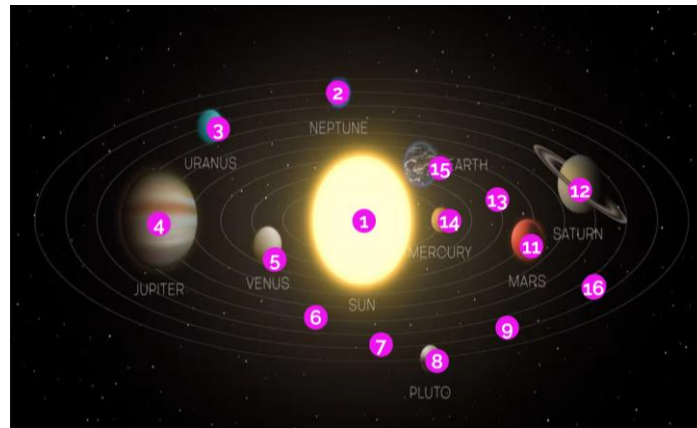


Figure 13: Game board

Students feedback

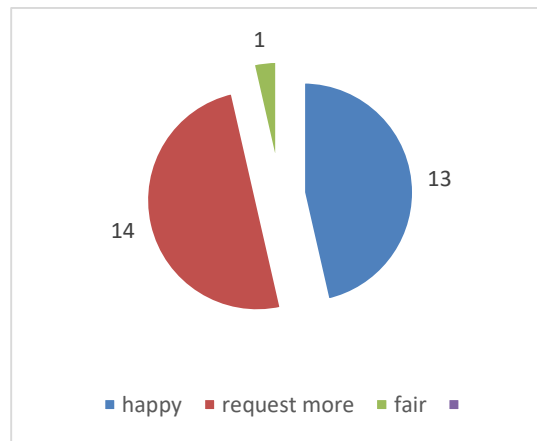


Figure 14: Feedback from students

Figure 14 clearly shows that majority of the students are happy and enjoy the race game applied on subject of art and design appreciation. There are 14 students in total for department of Fine Art Diploma 2022 have been involved on this gamification innovation in teaching and learning. Based on the data, it appears that most of the students would like more games but there is only one student mentioned that this game is not fun due to the slow internet network access.

CONCLUSION

In conclusion, this racing game was successfully applied, and the students gave a very positive response. The combination of online learning through Quiz whizzer with QR code and Origami are the perfect game based for this subject. From this innovation the teaching and learning process become one of their favourite subjects because they not only learn, but they also play games, build their relationship through a good

cooperation with each other and finally they can apply the knowledge into social skill. The appropriate teaching method will lead to appropriate learning and become an interactive classroom. Based on the result and the feedback from this research, gamification is a suitable and effective method in online learning especially in subject art and design appreciation. Its mechanisms and approach can be applied in other theory subject as one of an interactive teaching and learning in a way to increase students attention span.

ACKNOWLEDGEMENT

Special thanks of gratitude to my team members as well as Hitel innovators competition who gave us the golden opportunity to do this wonderful project on the “Coming Back Home”. Not to forget my beloved students from department of fine Art CAA1181A who are actively participating on this project and many more new projects to come.

REFERENCES

- Aisyah, & Siti. (2007) *Perkembangan Dan Konsep Dasar Pengembangan Anak Usia Dini*. Jakarta: PT. Indeks
- Amado, C., & Roleda, L. (2019). Student Engagement in a Gamified Physics Course. *Proceedings of the International Conference on Future of Education*, 2(1), 85-95. <https://doi.org/10.17501/26307413.2019.2109> [11] retrieved from https://www.researchgate.net/publication/336812055_Student_Engagement_in_a_Gamified_Physics_Course
- Anisah, Nur. (2009) *Mahir Membuat Origami Bentuk Binatang: Mengasah Kreativitas Dan Motorik Halus Anak*. Jakarta: Demedia,
- Boudadi, N. A., & Gutiérrez-Colón, M. (2020). *Effect of Gamification on students' motivation and learning achievement in Second Language Acquisition within higher education: A literature review 2011-2019* Cambridge Online Dictionary
- Carlson, J., Harris, R. B., & Harris, K. (2017). *Coin counter: Gamification for classroom management*. *Information Systems Education Journal*, 15(5), 4. Retrieved from: <http://isedj.org/2017-15/n5/ISEDJv15n5p4.html>
- Çeker, E., & Ozdaml, F. (2017). *What" Gamification" Is and What It's Not*. *European Journal of Contemporary Education*, 6(2), 221-228. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1146137.pdf> DOI: 10.13187/ejced.2017.2.221
- Collins English Dictionary. (2022). HarperCollins Publishers retrieved from <https://www.collinsdictionary.com/dictionary/english/qr-code>
- Deterding, S., Sicart, M., Nacke, L., O'Hara, K., & Dixon, D. (2011, May). Gamification. using game-design elements in non-gaming contexts. *Proceedings of ACM CHI 2011 Conference on Human Factors in Computing Systems* retrieved from <https://dl.acm.org/doi/pdf/10.1145/1979742.1979575>
- Furdu, I., Tomozei, C., & Kose, U. (2017). *Pros and cons gamification and gaming in classroom*. arXiv preprint arXiv:1708.09337. retrieved from https://www.researchgate.net/publication/318726293_Pros_and_Cons_Gamification_and_Gaming_in_Classroom
- HASANAH, Uswatun; PRIYANTORO, Dian Eka. (2019). *Pengembangan Kreativitas Anak Usia Dini melalui Origami. Elementary : jurnal ilmiah pendidikan dasar*, Retrieved from <https://e-journal.metrouniv.ac.id/index.php/elementary/article/view/1340>
- Meaning of origami*, Cambridge Online Dictionary (2022). retrieved from <https://dictionary.cambridge.org/dictionary/english/origami>
- Najjar, E. A., & Salhab, R. A. (2022). Position Paper: Gamification in the Learning Process. *International Journal of Online and Biomedical Engineering (iJOE)*, 18(01), pp. 148–153. Retrieved from <https://online-journals.org/index.php/i-joe/article/view/26609/10625>
- Neil A. Bradbury, *Attention span during lectures: 8 seconds, 10 minutes, or more?*, (2016). *Advances in Physiology Education* Vol 40: retrieved from <https://journals.physiology.org/doi/epdf/10.1152/advan.00109.2016>
- Quizwhizzer meaning*. (2019). retrieved at <https://blog.quizwhizzer.com/>

- Steinkuehler C. (2007). *Massively Multiplayer Online Games & Education: An Outline of Research* (2007) International Society of the Learning Sciences, Inc. retrieved from <https://repository.isls.org/bitstream/1/3428/1/674-684.pdf>
- S. Snezana, Z. Nada, & T. Tripo. (2015). "Gamification in Higher Education Learning – State Of The Art, Challenges And Opportunities," The Sixth International Conference on e-Learning (eLearning-2015), Belgrade, Serbia retrieved from <http://elearning.metropolitan.ac.rs/files/pdf/2015/23-Snezana-Scepanovic-Nada-Zaric-Tripo-Matijevic-Gamification-in-higher-education-learning-state-of-the-art-challenges-and-opportunities.pdf>
- Treiblmaier, H., & Putz, L. M. (2020). *Gamification as a moderator for the impact of intrinsic motivation: Findings from a multigroup field experiment*. Learning and Motivation, Science Direct, 71, 101655. <https://doi.org/10.1016/j.lmot.2020.101655>
- Zainuddin, Z., Chu, S. K. W., Shujahat, M., & Perera, C. J. (2020). *The impact of gamification on learning and instruction: A systematic review of empirical evidence*. Educational Research Review, 100326. <https://doi.org/10.1016/j.edurev.2020.100326>