

Experimental Study of The Effectiveness of Gamification Module for Arabic Language in Primary School

Mohd Nazmi bin Jaafar¹, Nik Mohd Rahimi Nik Yusoff²

¹Postgraduate Student, Faculty of Education, Universiti Kebangsaan Malaysia, SK Demang Taha Masjid Tanah Melaka, ²Profesor, Faculty of Education, Universiti Kebangsaan Malaysia
Email: nazmijaafar88@gmail.com, nik@ukm.edu.my

To Link this Article: <http://dx.doi.org/10.6007/IJARBS/v12-i6/14220>

DOI:10.6007/IJARBS/v12-i6/14220

Published Date: 21 June 2022

Abstract

The teaching and learning of Arabic in primary schools was officially introduced in the Malaysian education system through the j-QAF program (Jawi, al-Quran, Arabic, and fardhu ain) beginning in 2005. Therefore, teachers need to use a centralized approach and strategy. Gamification is an alternative approach to strengthening students' knowledge, cultivating attitudes, increasing motivation as well as improving their achievement and language skills. The implementation of gamification can be through online applications, card games, board games, or even hands-on without using technology. This Gamification Modelling in Arabic Language Learning (MGdPBA) module was guided by GaML (Gamification Modelling Language) elements and applied hands-on in the classroom. The design of this study uses quasi-experimental and SPSS software for quantitative data analysis. The t-test was used to evaluate the effectiveness of MGdPBA between the control and treatment groups involving 60 students through pre-and post-tests. The results of the study showed a positive impact between the achievement of students in the treatment group and the control group. It is hoped that this study will be a motivation for teachers to use a hand on gamification in teaching and learning sessions in the classroom.

Keywords: Gamification Module, Arabic, Hands-on, Gamification Modelling Language, Primary School.

Introduction

In the era of Industrial Revolution 4.0, various external factors such as gadgets, social media, and games have become ingrained in the life patterns of students. This also has an impact on the education system which needs to be more interactive, flexible, and innovative in line with this revolution to increase student creativity and teacher delivery innovation. Therefore, Arabic language teachers also need to move forward by giving a new breath to innovation in teaching and learning (Majid & Ismail, 2017; Rohani et al., 2018). Efforts to find methods,

approaches, or innovations through creative creativity in the process of improving students' understanding of learning objectives need to be improved.

Since 2018 the trend of education has changed with the application of new approaches that have inspired teachers' teaching planning. However, Gamification is the highest approach as the latest educational trend because it is considered the "heart" of cooperative learning that can motivate and involve students in teaching and learning (Azizan et al., 2018; Rosilawati, 2018). However, the convenience of the device, whether telephone or laptop, must be taken into account when implementing face-to-face learning in the classroom.

Lughbah lughowiyah (language play) in the Curriculum and Assessment Standards Document of the Ministry of Education Malaysia (2018) for primary school Arabic subjects has been compiled in a systematic, orderly and structured manner following the teaching of four language skills. The goal is to create a deep, harmonious, relaxed, and enjoyable learning environment. The concept of relaxed and non-stressful learning could influence positive behaviour and student psychology (Almarshedist et al., 2017; Ismail et al., 2018; Kannamah Mottan, 2019; Suhaila et al., 2017). Gamification can reduce anxiety, motivate students to interact, and improve their social and communication skills (Furdu et al., 2017; Mohamad et al., 2020). Thus Arabic language teachers need to think outside the box by using a gamification approach to improve student achievement and their language abilities.

Problem Statement

Gamification aims to apply the mechanics and dynamics of games used to increase student motivation and engagement (Hadafi et al., 2017). The concept of gamification is often implemented in learning and facilitation processes (pdpc) aimed at enhancing student experience (Marlissa et al., 2022), improving achievement (Fathi & Khadijah 2021), fostering attitudes (Adrian & Elena, 2019; Bassanelli et al., et al., 2022; Imran Basha, 2020), creating relationships (Rafidah et al., 2018), raising their motivation to learn (Faruze & Norah, 2020; Fikruddin et al., 2022; Roy et al., 2018; Rohani et al., 2018; Sun & Hsieh, 2018; Werbach & Hunter, 2012), and as an educational innovation (Rohaila & Fariza, 2017; Zuraihah et al., 2021).

Through hands-on gamification, students will feel the real experience first-hand and feel as if the concepts and skills learned are as close to their lives. GaML (Gamification Modeling Language) according to Nah et al (2014) forms the basis of the entire Gamification Module in Arabic Language Learning (MGdPBA). The eight elements of gamification mechanics are Points System, Levels/Stages, Badges, Leader boards/Progress Bars, Prizes and Rewards, Quests/Challenges, Storyline (Storyline), and Feedback.

Many studies about the effectiveness of the gamification approach from within and outside the country, especially for Arabic language subjects, among them (Siti Rohani et al., 2019) related to the gamification literature review, (Che Ku Nor Asiah et al., 2020) parsed al Adad wa al-Madud using flashcards, dice as well as virtual snake and ladder while (Boumediene et al. 2014) Arabic game development with Game Maker Studio software for sentence construction teaching. In addition (Annindita et al., 2021) use the gamification of Arabic quiz games to improve vocabulary mastery and (Farihah et al., 2019) Funnun Taqdim

Al-Arabi Technique in teaching grammar using toxic boxes. While (Dian, 2017) applied gamification using android with 3 two-dimensional flashcard games for vocabulary, picture, and word matching puzzles as well as Role Playing Game as well as vocabulary, (Mezan et al., 2021) also highlighted gamification in android-based the Arabic language online.

Based on these studies, gamification is not limited to just learning using online application technology. It can even be used with the application of gamification elements in the form of playing cards, board games, or even hands-on in the classroom (Zamzami et al., 2021). Many gamification board games as well as modules such as the study of A-Smart Lu'Bah Gamification (Saipolbarin et al., 2021). This explains that there are still not many hands-on gamification modules, especially those produced to help primary school Arabic teachers implement this approach in their classrooms. Barata et al (2013) explained "a conventional learning experience can be designed as a game without using technology, where students are awarded experience points instead of using traditional grading systems". Zamzami et al (2021) in their study also stated that gamification can also be applied using pen, paper, cards, and so on without using technology.

The advantages of hands-on gamification can stimulate children's affective, cognitive and psychomotor skills as well as allow them to feel the teaching aids created as well as a long-lasting learning experience compared to online (Mushfi, 2020). Thus, the study of the effectiveness and development of hands-on gamification modules is needed as one of the teacher references to create fun 21st-century learning. This is in line with the theory of constructivism which supports the practice of learning through student centralization. This theory encourages students to be actively involved and experience learning hands-on (Siti Rohani et al., 2018). Involvement of students in the learning process can indirectly improve students' memory and comprehension (Furdu et al., 2017) for the long term and ensure that learning remains active.

This study evaluates the effectiveness of Arabic language learning and facilitation using gamification modules on students in terms of achievement, motivation, and attitude. The objectives of this study are to:

1. Identify the effectiveness of gamification module in learning Arabic from the aspect of student achievement.

Research Methodology

Research Design

This type of study is quantitative in nature with a quasi-experimental study design. In this study, the dependent variable (DV) is student achievement in Arabic while the independent variable (IV) is the approach using Gamification Module in Arabic Language Learning (MGdPBA). To find out the changes caused by treatment, two observations were made through pre and post-tests.

Table 1

Pre and Post Test Design for Treatment Group and Control Group

	Pre-Test	Metode	Post-Test
Treatment Group	A1	X1	A2
Control Group	B1	X2	B2

In this design, A1 and B1 are pre-test implementations. A2 and B2 are post-test implementations. While X1 and X2 are the learning methods given on the treatment group and the control group. Pre-tests were conducted to see the equivalence between the groups. The post-test was conducted after both groups finished following the teaching method, that is for the treatment group, students will be exposed to hands-on gamification module, while the control group uses conventional learning methods. Both groups received the same teaching materials and the amount of teaching time was also the same. The difference in mean scores of pre-test compared to post-test can prove the effectiveness of the hands-on gamification module.

Study Sampling

The sampling technique used is purposive sampling. A total of 60 Year 4 students at SK Demang Taha, Masjid Tanah Melaka. Researchers have grouped students into two groups of respondents, namely the treatment group and the control group. The treatment group was 30 students while the control group was 30 students. Both groups have very similar characteristics.

Research Instruments

The instruments used in carrying out this study are as follows:

- a) Pre-test: Preliminary data are collected using pre-tests that have been conducted in advance. These preliminary data are an important reference before implementing this method. Both groups of respondents were required to sit a pre-test.
- b) Post-test: Post-test is conducted after both teaching and learning sessions are implemented. This post-test is equivalent to a pre-test administered before the implementation of teaching and learning is done.
- c) Study data analysis procedure: The data obtained were analysed using Statistical Package for Social Science (SPSS). Descriptive analysis and dependent T-Sample Test were used to analyse the differences in student achievement between pre and post-test.

Implementation of Gamification Module in Arabic Language Learning (MGdPBA)

MGdPBA contains four types of hands-on gamification covering four listening, speaking, reading, and writing language skills that cover the second topic of Year 4 Arabic entitled Who's in School? Implemented for four weeks with a total of 6 hours of the study period. The teachers involved in this study were teachers who taught both the control and treatment groups. After the pre-test is implemented for the first chapter, then the teacher teaches the second chapter using MGdPBA hands-on.

the teacher can ask a student as a teacher's assistant to display the picture. Pupils look at the picture displayed by the teacher and give immediate feedback by saying the Arabic word for the picture. For example, the display of a picture of the library supervisor, then the student must immediately say (امين المكتبة). Pictures for 8 more sentences are displayed and after finishing finding 10 players holding the catch board then the teacher can arrange the players.

The third level of gamification: 10 students who managed to get an achievement badge were asked to stand horizontally with a distance of 1 meter between them in the rattan hoop provided. Then all students who were not on the baseball board holding team were asked to stand opposite their favourite catch board player at a distance of 3 meters. They are also called baseball throwers. Now each catch board holder with a baseball thrower standing opposite is considered a group. The teacher will crown the best group with the highest number of points collected as well as the best singles player selected from the catch board holders who successfully catch or take his friend's ball.

The handle of the catch board must not come out of the rattan loop while catching the ball. If he leaves, a penalty of 5 marks will be imposed on him. The teacher will display the picture and only students who are baseball throwers are allowed to say the Arabic word for the picture displayed. The holder of the catch board is not allowed to say the sentence. Pupils who answer and pronounce the sentence correctly are given a ball by the teacher and immediately he or she has to toss or throw the ball to the holder of their group's catch board. If the catch board holder manages to catch the ball then the group is awarded 5 points. As a challenge, while the ball is being tossed by the thrower, the catcher board holders can take a chance by trying to stick the ball to their plate. This will test the level of agility of the players as well as their psychomotor. If any other group's catch board holder manages to get the ball then 5 points are given by the teacher to him. If someone plays roughly, then a 5 -point penalty is deducted from their group.

The fourth level of gamification: The game continues with a higher level of questions, this time the teacher asks students to differentiate by saying the words and individuals that exist for a place or area. For example, the teacher displays a picture (الإدارة) which means an office, then the answer that can be mentioned by the student is (مدير ، مساعد المدير) because this individual is in the office. As in level 3, the students who successfully mentioned are allowed to toss the ball and the catcher board holders will fight to get the ball. 10 points are awarded for those who successfully catches the ball as the questions get more challenging. The second picture displayed is (المكتبة) the library and the sentence that needs to be mentioned is (أمين المكتبة ، أمينة المكتبة) and the last picture is (الفصل) class then the correct answer is (عريف ، رئيس الفصل ، تلميذ).

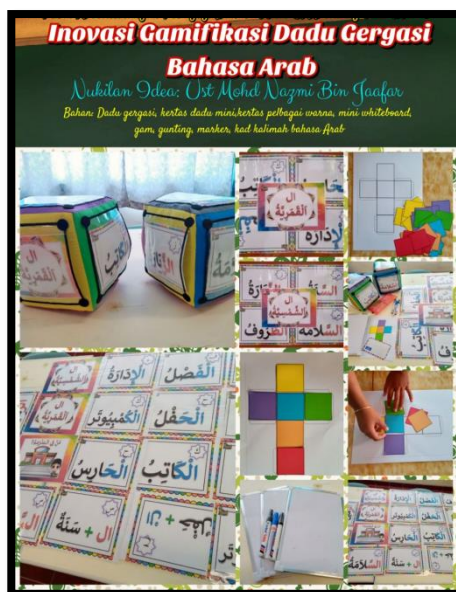


Figure 2: Gamification 2: Giant Dice لعبة النرد العملاق.

This hands-on gamification is used for listening and speaking, reading and writing skills to achieve the learning standards 1.1.1, 1.1.2, 1.1.3, 1.1.4, 2.1.4, 2.1.1, 3.1.1 contained in DSKP Bahasa Arabic Year 4 primary school. This hands-on gamification involves eight mechanical elements like The Baseball Game. This gamification also focuses on learning to compare the differences between alif lam qomariah and alif lam syamsiah in sentences. The following is the procedure for the implementation of the Giant Dice gamification module.

The first level of gamification: A scoreboard is displayed in front of the class. All students are asked to stand to facilitate movement at this first level. The teacher brought 2 large dice. The walls of the dice contain the words alif lam qomariah (الفصل، الإدارة، الحارس، الكاتب) while another dice contains the words alif lam syamsiah (الزيارة، السنة، الظروف، السلامة). The teacher rolls the first dice. Pupils who successfully pronounce the kalimah on the dice correctly and could stick the kalimah card on the alif lam qomariah or alif lam syamsiah space on the whiteboard are given 5 marks correctly. Pupils who successfully mentioned earlier are allowed to roll the dice and they are welcome to sit down. Other students who uttered the words as soon as the dice stopped and managed to stick and determine whether alif lam qomariah or alif lam syamsiah were given marks. Repeat until you have completed 3 sentences and continue with the alif lam syamsiah dice.

The second level of gamification: Pupils see the Arabic word displayed by the teacher in front of the class (الصحّة، الزهور، الظهر، الكلام). A student is asked to hold the sentence card. If using PowerPoint slides and LCD, students only see the words on the display. Rehearse the pronunciation of the sentence 3 times. Marks are given for each group. A clear pronunciation with the correct nabar will get a full mark of 5. Pupils are required to distinguish whether the word spoken is alif lam qomariah or alif lam syamsiah. 5 additional marks are awarded and written on the scoreboard.

The third level of gamification: The teacher distributes a mini whiteboard and markers to each group. The teacher asks two students to come forward to match the alif lam card with

the kalimah card (example الكمبيوتر+ال) and show it to their friends. All students researched well and each group was asked to immediately write a combination of letters alif lam and kalimah (example الكمبيوتر) on the mini whiteboard. After finishing writing, all members of the group mentioned SNAP Mumtaz. A representative of the group recited the recitation of the kalimah which contained alif lam qomariah and alif lam syamsiah. If the pronunciation is correct, 5 marks are given on the scoreboard for the successful group.

The fourth level of gamification: Each group is given dice and paper of various colours. For this fourth level, they have to build a dice that contains the words alif lam qomariah and alif lam syamsiah. Each group is free to determine whether the dice constructed contains the words alif lam qomariah or alif lam syamsiah. If students mix words in one dice it means they have not mastered learning. Scores are given for the most neatly constructed dice, completed quickly and sentences are written correctly. It is up to the teacher whether to give 20 or 25 marks. The teacher asks a student to roll the dice that have been built and in groups say the words on the wall of the dice. If the sentence is correct either alif lam qomariah or alif lam syamsiah without any mispronunciation, then 10 bonus marks are given to their group. This step is repeated for all other groups.



Figure 3: Gamification 3: The Train of Knowledge لعبة قطار المعرفة.

This hands-on gamification is used for reading skills to achieve the learning standards 1.3.2, 1.3.4, 1.3.6, 2.3.2, 2.3.3, 2.3.5 contained in the DSKP Arabic Year 4 primary school. This gamification also focuses on learning to read simple Arabic sentences which are implemented according to the train stations traversed by the students throughout the learning session. The following is the procedure for the implementation of the Science Railway gamification module.

The first level of gamification: All students are asked to stand at the back of the class. The male students were given the first opportunity to play in the time battle phase i.e. they had to move quickly from the back to the front of the class to get the word cards that the teacher had placed randomly on the friends' table near the whiteboard. Among the sentence cards placed by the teacher are as follows (مدیر، مساعدة المدير، عريف، كاتب). The sound of a car siren

was installed to add to the spirit of the learning session. Only 4 male students will be able to pass the challenge of this time because there are only 4 sentence cards placed by the teacher. The teacher asked the student who got the sentence card earlier to read the word on the sentence card and repeated it to the whole class. Then the female students will go through the time battle phase by getting 4 more words, namely (أمين المكتبة ، رئيس الفصل ، تلميذ ، تلميذة). Automatically these 8 students are selected as 8 train stations. The rule during the time battle phase is that students are not allowed to push a friend while trying to get a sentence card.

The second level of gamification: Pupils see pieces of Arabic sentences displayed by the teacher in front of the class through an LCD projector. The teacher will read the verse fragments and the students follow the reading. Practice reading the verse 3 times. Marks are given for each group. Group of male and female students. A clear pronunciation with the correct nabaar will get a full mark of 5 points. Upon completion of the verse fragment reading session, it is now a battle of time on the second level to find out who will hold the verse fragment card at the 4 train stations? The selected students will stand in pairs with 4 students who were successful in the first level. The teacher's questions are related to the meaning of the vocabulary learned such as (عظيم-عريف-من فضلك-أريد-طبعاً-مساعدة المدير-مدير-هل). Pupils who successfully give the correct answer will be selected as the holder of the sentence cut-out card.

The third level of gamification: The rest of the students selected as the train station are real players in this game. If the class has 30 students that means there are 8 boys and 8 girls at the train station, the rest are 14 students who were not selected. Have students line up in the middle of the class. 1 female row and 1 male row. A wagon hat is given and the pupils wear it on their heads. This game is a reading duel between male and female students. The game started with the male students first, after finishing followed by the female students. 8 students were asked to stand in pairs according to the hiwar text found in the textbook around the class. The teacher only needs to sound the train siren and the students will make the sound and then move with their hands placed on the shoulders of a friend like a train carriage. Upon arriving at the first station, a group of male carriages will recite verses at that station followed by all the other students. Upon completion of the repetition of the reading, the train siren is sounded. Pupils in the male group will move again to the second station with the right hand placed on the shoulder of a friend while the left hand will be rotated in a circle to follow like a train wheel. Get to all 4 stations. Each verse reading is given 5 full points if the reading is correct with the correct nabaar and tanghim. 3 points are awarded if less accurate.

The fourth level of gamification: In front of the teacher's desk are placed word cut cards to be arranged by the train carriages. The time given is only 60 seconds. Students are asked to compose sentences into perfect sentences. 5 marks are given for the order of the sentences into the correct sentence and another 5 marks are the correct reading by the group of players. The successful group was given a prize while the unsuccessful group was given a round of applause for their commitment to study on the day.



Figure 4: Gamification 4: Horror Station لعبة محطة الرعب.

This hands-on gamification is used for writing skills to achieve the learning standards 3.2.1, 3.2.2, 3.3.1, and 3.4.1 contained in the DSKP Arabic Year 4 of primary schools. Horror Station Gamification is complementary to the learning topics in this study because it involves the assessment of writing skills based on the content that has been learned over the four weeks. The following is the implementation procedure of the Horror Station gamification module.

The first level of gamification: The selection of the group leader is based on the first slot Who's Behind the Mask? The slot begins with the teacher playing horror music and the mask (in the gift box) is distributed. When the music is stopped, students are asked by the teacher to select one mask in the box. Pupils need to say the Arabic word for the mask. Teachers give badges (achievement badges) as a sign of the selection of the team leader on the day to students who can pronounce Arabic words. Ask the student to get out of the chair and to the front of the class on the right.

The music continues to find the second team leader. After successfully pronouncing the Arabic word for the second mask, the teacher asked the leader of the second team to stand on the left in front of the class. Next, the leader of the third group is on the right side of the back of the class while the leader of the fourth group is on the left side of the back of the class. At an immediate rate, the group leader has to call 4 members of their favourite group. The masks found in the box are male clerks, female headmasters, female guards, and male security guards. Teachers arrange the learning materials for the day according to stations. At the first station are 4 pictures and 4 sentence cards with a blank space along with a marker. Pupils say the Arabic word for the picture raised. The picture is of a female supervisor, a male headmaster, a female clerk, and a male security guard, so the student has to pronounce the Arabic word. Marks are given on the scoreboard according to groups 1 to 4. The teacher explains what needs to be answered for the first station which is to choose the answer provided to complete the picture-guided sentence card. The answer needs to be written immediately because when the game starts the time is given only 3 minutes before the horror music resumes.

The second level of gamification: At the second station, the teacher places 4 sentence cards on page 52 of the Year 4 Arabic textbook. On the card, there is a blank picture area. Pupils need to read the text and select and complete the appropriate picture puzzle and then enter it in the blank space next to the sentence. In the verse there is a sentence whose writing is intermittent, students have to follow the writing using a marker. This explanation is communicated by the teacher to the student. Questions are given by asking the meaning of *عريف*, *نشيط*, *مدير*, *الوالدين*, and 5 points are given to students through their respective groups if they succeed in giving the correct answer. Meanwhile, at the third station, there are two pictures, namely a female teacher and a male class leader with 2 sentence cards. The teacher explains to the students when they get to the third station they need to identify the picture and put the appropriate sentence to form a perfect sentence. Students are asked to write the sentence well and marks will be given. The teacher showed back the 2 pictures and immediately the student had to say the Arabic word. 5 marks were added to the scoreboard. At the last station, there is a large manila paper with hiwar text written on it along with 2 pictures of a father and also a clerk. Pupils are asked to complete this hiwar text as soon as they reach the fourth station with the correct answer and neat writing. The teacher shows a picture of a clerk and a pupil's father. Students who can pronounce Arabic words are given 5 points.

The third level of gamification: The real challenge of the game takes place during the third level. The group leader is allowed to choose his team members. Teachers ensure that the number of students for all four groups is equal. Students are asked to be in the middle of the class. When the horror music is played then they will move to their respective stations. For example group one will move to station one, group two will move to station second, and so on. When the music is stopped it means the time to complete the task begins. Give a period of 3 minutes for students to complete the challenge, 1 minute is movement and 2 minutes is the assessment of teacher scores at each station. The teacher will not state the actual answer just take the marks of each group. When the sound of horror is sounded then slowly the pupil in station 1 will move to station 2, while the pupil of station 2 will move to station 3 until the completion of station 4. Scores were taken by the teachers for the four groups and the stations. Each time completed 1 score station is displayed on the scoreboard of each group as a fuel of enthusiasm to complete the task even better.

The fourth level of gamification: The teacher will explain the answers for each station for a clearer understanding. Throughout the description, the teacher can still make assessments and add marks for the group that understands what was learned that day. Prizes are given to the group that succeeds in the first place.

Study Findings and Discussion

- 1) Identify the effectiveness of gamification module in learning Arabic from the aspect of student achievement.

To answer this question, inferential statistical analysis using t-test was performed on the treatment group and the control group after both answered the given test questions. This test was implemented after the teaching and facilitation process for the control group and the use of the gamification module in the treatment group. A comparison of the distribution of post-test scores obtained from both groups has shown that the treatment group has

obtained better performance. Table 5 details the post-test findings for student achievement between the treatment group and the control group.

Table 5

Post-Test Achievement Differences for Control and Treatment Groups Using Independent-T test

Group	No.	Min	Standard Deviation	t-Value	Significance Level
Control	30	13.57	2.223	-6.549	.000
Treatment	30	17.23	2.112	-6.549	.000*

Based on Table 5 shows that the control group recorded a mean score of 13.57 while the treatment group recorded a mean score of 17.23. This mean value indicates that the treatment group has obtained a large value compared to the control group. It was found that the t-test value for the control group recorded 6.549 similar to the treatment group which is 6.549. Thus, the significant value (p) obtained is $p = 0.00$. This significance level was smaller than 0.05 ($p < 0.05$). Thus, these findings indicate that there is a significant difference between the achievement of students in the treatment group and the control group.

Conclusion

Hands-on gamification is a Game-Based Learning-based learning approach that is an alternative

for teachers to apply the elements and mechanics of games in teaching, especially for students in

rural areas, limited technological facilities and innovations are easy to implement. Hand-on gamification encourages students to interact and collaborate to collect play points while stimulating students' cognitive, affective, and psychomotor throughout the learning session. The hands' on gamification approach allows students to experience an intensive learning experience, improving students' psychomotor skills through teaching aids used thereby building their self-confidence (Hamizul & Rahimi, 2015; Oktavia et al., 2019). Through gamification, teachers will also receive an immediate response and know the level of students' understanding of the content of learning so they can make classroom assessments (PBD) directly. Therefore, the level of achievement and mastery of students can be monitored continuously.

The Gamification Module in Arabic Language Learning (MGdPBA) in a hands-on manner has succeeded in improving student achievement as well as attracting their interest in learning Arabic. Even without the use of technology and applications, students can still feel like being in a game set. The difference is they can feel, hold, move and communicate hands-on. This study only involved one school and 60 study participants, perhaps in the future, its effectiveness can be evaluated in many schools throughout Malaysia.

References

- Abdullah, F., & Razak, K. A. (2021). Tahap minat dan penerimaan pelajar terhadap gamifikasi dalam bidang sirah: Level of interest and acceptance of students towards gamification in Islamic history. *Journal of Quran Sunnah Education & Special Needs*, 5(1), 27-38.
- Adrian, S.-R., & Elena, P.-G. M. (2019). Active methodologies in health. Scientific production on gamification in health sciences. *Science for Education Today*, 9(3).
- Ahmad, S., & Hashim, U. R. (2018). The effectiveness of gamification technique for higher education students engagement in polytechnic Muadzam Shah Pahang, Malaysia. *International Journal of Educational Technology in Higher Education*, 15(1), 1-16.
- Almarshedi, A., Wanick, V., & Wills, G. B. (2017). Gamification and Behaviour. Dlm. Gamification: More Than Just Games! Using Game Elements in Serious Contexts. t.tp.: Springer.
- Annindita, H. P., Fira, E. P., Athiyah. L. H., Lailatul, M. (2021). Arabic quizzes game to improve arabic vocabulary. Tanwir Arabiyyah: Arabic as *Foreign Language Journal*, 1(1): 45-54.
- Azizan, M. T., Mellon, N., Ramli, R. M., & Yusup, S. (2018). Improving teamwork skills and enhancing deep learning via development of board game using cooperative learning method in Reaction Engineering course. *Education for Chemical Engineers*, 22, 1-13.
- Bahagian Pembangunan Kurikulum (BPK). (2018). *Dokumen Standard Kurikulum Dan Pentaksiran Bahasa Arab tahun 4*.
- Bali, M. M. E. I., & Musrifah, M. (2020). The problems of application of online learning in the affective and psychomotor domains during the Covid-19 pandemic. *Jurnal Pendidikan Agama Islam*, 17(2), 137-154.
- Barata, G., Gama, S., Fonseca, M. J., & Gonçalves, D. (2013). Improving student creativity with gamification and virtual worlds. *Proceedings of the First International Conference on Gameful Design, Research, and Applications*, 95–98.
- Bassanelli, S., Vasta, N., Bucchiarone, A., & Marconi, A. (2022). Gamification for behavior change: A *Scientometric Review*.
- Belkhouche, B., Al Darei, N. S., Ali, S. A. S., Al Mandhari, S. H., & Al Mehairi, M. A. (2014, January). Learning Arabic with games. *Computer Games Multimedia and Allied Technology Conference, Singapore*.
- Dian, A. S. (2017). *Efektifitas Aturan Main Untuk Game Edukasi Kosa kata Bahasa Arab Berbasis Mobile*. Dissertation, Institut Teknologi Sepuluh Nopember. 32–50.
- Furdu, I., Tomozei, C., & Kose, U. (2017). Pros and cons gamification and gaming in classroom. *arXiv preprint arXiv:1708.09337*.
- Hamizul, M., & Rahimi, N. M. (2015). Design and development of Arabic online games—a conceptual paper. *Procedia-Social and Behavioral Sciences*, 174, 1428-1433.
- Hussain, F., Yusoff, N. M. R. N., & Lubis, M. A. (2019). Funnun Taqdim Al-Arabi Technique in Teaching Grammar for Integrated Dini Curriculum. *Creative Education*, 10(12), 2769-2774.
- Iberahim, M. F., & Noor, N. M. (2019). Amalan Gamifikasi dalam Pengajaran dan Pemudahcaraan Guru-Guru Sekolah Rendah di Negeri Johor (Gamification Practices in Teaching and Learning among Primary School Teachers in Johor). *Innovative Teaching and Learning Journal*, 3(2) : 8–14.
- Ismail, M. E., Sa'Adan, N., Samsudin, M. A., Hamzah, N., Razali, N., & Mahazir, I. I. (2018). Implementation of the gamification concept using KAHOOT! among TVET Students: An observation. *Journal of Physics: Conference Science*.

- Jasni, S. R., Zailani, S., & Zainal, H. (2019). Pendekatan gamifikasi dalam pembelajaran bahasa Arab. *Journal of Fatwa Management and Research*, 358-367. <https://10.33102/jfatwa.vol13no1.165>
- Jaramillo, S. G. (2014). Werbach, K.; Hunter, D. (2012). For the Win. How Game Thinking Can Revolutionize your Business. USA, Wharton Digital Press, 149 p.
- Kannamah, M. (2019). Kesan Kg (Kineasthetic, Gamification) Terhadap Tingkah Laku Disruptif Dalam Kalangan Kanak-Kanak (Add/Adhd) Sekolah Rendah Masalah Pembelajaran Muallim. *Journal of Social Science and Humanities* 3(4) :398 – 405.
- Kapp, K. (2012). *The Gamification of Learning and Instruction*. San Francisco, CA: Pfeiffer.
- Kesuma, M. E. K., Kesuma, G. C., & Saputra, D. (2021). Rancangan Media Pembelajaran Kosa Kata (Mufrodat) Bahasa Arab Berbasis Game Android. *Sienna*, 2(1), 32-42.
- Majid, M. R. B. A., & Ismail, Z. (2017). Kreativiti Pengajaran Guru Bahasa Arab Di Malaysia. *JuPiDi: Jurnal Kepimpinan Pendidikan*, 4(4):27-38.
- Mohamad, C. K. N. A. B. C. K., Hassan, A. R. B., Mohamad, A. H., & Mustafa, N. F. (2020). Effect of Gamification Approach towards Mastery of Alcadad wa al-Macdūd among Secondary School Students. *International Journal of Academic Research in Business and Social Sciences*, 10(10), 360-376.
- Mohamad, M., Arif, F. K. M., Alias, B. S., & Yunus, M. M. (2020). Online Game-Based Formative Assessment: Distant Learners Post Graduate Students' Challenges Towards Quizizz. *International Journal of Scientific and Technology Research*, 9(4).
- Mohd Hadafi, S., & Ahmad Zamil, A. K. (2017). Mohd. Amir, MS, Muhammad Syahir, AW, & Rahaiza, MR (2017). Gamification in Accounting Education: A Literature Review. In *International conference on accounting studies (ICAS)*.
- Nah, F. F. H., Zeng, Q., Telaprolu, V. R., Ayyappa, A. P., & Eschenbrenner, B. (2014). Gamification of Education: A Review of Literature. In *International Conference on HCI in Business* (pp. 401-409). *Springer International Publishing*.
- Oktavia, D. M., Bali, M. M. E. I., Rahman, H. F., Umar, U., Syakroni, A., & Widat, F. (2019). Exploration of Fine Motor Skills through the Application of Paint. *Proceedings of 1st Workshop on Environmental Science, Society, and Technology, WESTECH 2 Medan, Indonesia*.1-6.
- Omar, M., Ali, D. F., Adam, N. A. I. M., Adnan, M., & Saari, M. A. Gamification in vocational teaching and learning: Perception and readiness among lecturers. *International Journal of Education* 14(1):140-152. <http://dx.doi.org/10.5296/ije.v14i1.19507>
- Ramli, S., Ghani, M. T. A., & Hamad, M. Z. A. (2020). A-Smart Lu'bah Model to Enhance Arabic Language Skill for Non-Native Speaker in Malaysia. In *3rd International Conference On Language, Education And Culture (ICLEC)* (p. 78).
- Rohaila, M. R., & Fariza, K. (2017). Gamifikasi : Konsep dan Implikasi dalam Pendidikan. In M. R. Rohaila, R. Nabila Atika, & J. Nur Atikah (Ed.), *Pembelajaran Abad ke-21: Trend Integrasi Teknologi*: 144–154.
- Roy, R., & Zaman, B. (2018). Need-Supporting Gamification in Education: An Assessment of Motivational Effects Over Time. *Computers & Education*, 127: 283-297.
- Sun, J. C. Y., & Hsieh, P. H. (2018). Application of a Gamified Interactive Response System to Enhance the Intrinsic and Extrinsic Motivation, Student Engagement, and Attention of English Learners. *Journal of Educational Technology & Society* 21(3):104-116.
- Zainuddin, Z., & Keumala, C.M. (2021). Gamification concept without digital platforms: a strategy for parents on motivating children study at home during Covid-19 pandemic. *Pedagogik Jurnal Pendidikan*. 8(1):123-155. <https://doi.org/10.33650/pjp.v8i1.2174>

Zin, M. F. M., Abd Wahid, N., Yusoff, A. S. M., Yusoff, S. H. M., & Yusoff, Z. J. M. (2022). Relationship between gamification implementation and student motivation in learning and facilitation jawi in Terengganu. *International Journal of Islamic Products and Malay Civilization*, 1(1), 17-28.