

Research Article

History Education: Interactive and Collaborative Learning Through Gamification (Based on Malaysian Curriculum)

Norhasimah Shari¹*, Nurul Atiqah Zulkifle², Diane Christine Fernandez³, Muhamad Syahmi Mohamad Santosa⁴, Nur Suhaina Izzati Zaini⁵, Pasumitha Krishnamoorthy⁶, Yeow Hui En⁷ and Fazdlina Jamaludin⁸

- ¹ Melaka International College of Science and Technology; norhasimah@micost.edu.my;  0000-0002-6627-9193
- ² Planetarium International School; nurulatiqahzulkifle@gmail.com;  0000-0002-1054-5739
- ³ Melaka International College of Science and Technology; diane@micost.edu.my;  0000-0001-7622-7840
- ⁴ Melaka International College of Science and Technology; muhamadsyahmi@micost.edu.my;  0000-0002-7874-0135
- ⁵ Melaka International College of Science and Technology; suhaina@micost.edu.my;  0000-0001-7413-7120
- ⁶ Planetarium International School; palysia057@gmail.com;  0009-0002-9789-011X
- ⁷ Planetarium International School; enzyxxxx@gmail.com;  0009-0008-0685-9334
- ⁸ Melaka International College of Science and Technology; fazdlina@micost.edu.my;  0009-0009-6323-2574
- * Correspondence: norhasimah@micost.edu.my; 013-66055617.

Abstract: *The number of students passing History in secondary school has shown a downward trend recently. Among the factors contributing to the downward trend are that students think that History subject is difficult to learn as students require knowing many facts, and History is considered boring among school students. The younger generation is known to live with multiple devices, such as computers and mobile phones. However, using these devices in learning activities has not been actively adopted in the Malaysian school environment, and the system still uses a conventional method to deliver the syllabus. Using teaching aids such as interactive videos and gamification techniques helps teaching and learning activities become more interesting and effective through blended learning. The integration of gamification techniques in non-game settings, especially education, has rapidly increased to enhance learner motivation, engagement, performance and provide a better learning experience. The innovation in history education through gamification can be used in formal and informal education settings. History education through gamification techniques can contribute to a more flexible, innovative, and creative syllabus that can be used for face-to-face and online learning. Moreover, it is recommended that such education gamification be commercialized and included as a free source for all Malaysian students to ensure education reachability and accessibility. With this idea put forward, it is hoped that the policymakers and government may subsidize such applications to spark students' interest in learning History in a fun and interactive manner.*

Keywords: History Education; Collaborative Learning; Gamification; Interactive Learning.

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1. INTRODUCTION

The number of students passing History in secondary school has shown a downward trend recently. Among the factors contributing to the downward trend is that students think that the History subject is difficult to learn as students must know many facts, and History is considered a boring subject

among students at school (Woei et al., 2021). The younger generation is known to live with multi devices, such as computers and mobile phones. However, using these devices in learning activities has not been actively adopted in the Malaysian school environment and the system still uses the conventional method to deliver the syllabus (Mokhsin et al., 2019). Educational institutions must apply innovative teaching methods focusing on student-centred learning and digital technology to overcome challenges surrounding the education industry while equipping students with the necessary 21st-century skills (Soubra et al., 2022), especially in learning History subject. In implementing interactive and flexible teaching and learning, instructors, students, and educational institutions play an important role (Barrera et al., 2020). Therefore, educational institutions and academic staff must provide learning aids and assessment materials so students can master a skill independently and effectively. Using teaching aids such as interactive videos and gamification techniques helps teaching and learning activities become more interesting and effective through blended learning. Using various techniques in teaching and learning activities aligns with current technological developments and promotes student-centred learning that can make students more disciplined and independent. In addition, it is also one of the effective learning methods (Abu Hasan et al., 2021), which can increase student motivation and performance (Wang, 2018). The gamification technique in learning is developed not only for the learner's fun experience but is a systematic teaching approach to increase the effectiveness of student learning. Besides that, it helps to improve students' motivation, involvement, and academic achievement and helps monitor students' performance while enhancing collaborative learning between students (Kim et al., 2018). Thus, interactive gamification on the History subject based on the Form 5 Malaysian syllabus must be developed to overcome the downward trend in students passing History at the secondary level.

2. LITERATURE REVIEW

A special role belongs to information and communication technologies (ICT), which catalyzes interactive learning. Information technology combines modern computer technology, telecommunications equipment and software tools that provide interactive support for contemporary learning technologies. ICT tools contribute to forming a new information and educational environment for developing and improving the education system (Lee et al., 2022). The integration of gamification techniques in non-game settings, especially education, has rapidly increased to enhance learner motivation, engagement, performance (Rahman et al., 2018; Halifax et al., 2019) and provide a better learning experience to learners (Halloluwa et al., 2018). The gamification technique can also be used as a new learning method to improve group cohesion and performance (Uz Bilgin et al., 2020), thus ensuring effective collaborative learning among students (Boverman et al., 2018). Rahman et al. (2018) highlighted that leaderboards and digital badges are the most applied gamification elements that can guide designing gamified collaborative learning activities.

Woei, Bikar, Rathakrishnan, and Rabe (2021) discovered that using Word Wall games in History enhanced the motivation of Malaysian Form 4 students and resulted in attitude changes among the students learning History subject. Meanwhile, Syed and Zaini (2020) developed a 2D interactive game called Merdeka! Learn the History of Malaysia in which respondents ranging from age 13 to 17 years old favorably enjoyed the game learning experience. It was also suggested that future game improvement could include fighting and climbing features to increase engagement. Besides, the study by Mokhsin et al. (2019) utilized Augmented Reality based on Learning about Malay Patriots targeted to students between 10 to 15 years old who studied History at school. Although several studies have shown that technology in the learning and teaching process has sparked students' motivation in academics, interactive gamification in the context of the Malaysian curriculum on History subjects is rarely used. Gamification in education incorporates game design elements and experiences in the learning process. Components are the most fundamental level of the gamification process, such as achievements, avatars,

badges, content unlocking, virtual rewards, etc. (Dichev & Dicheva, 2017). Thus, the idea proposed is interactive gamification on the History subject based on the Form 5 Malaysian syllabus.

3. INNOVATION BACKGROUND

To propose the interactive gamification idea, the syllabus is first researched by viewing the topics from the *Kurikulum Standard Sekolah Menengah (KSSM) Form 5 History* textbook in which there are a total of 10 chapters (*Bab 1 Kedaulatan Negara, Bab 2 Perlembagaan Persekutuan, Bab 3 Raja Berperlembagaan dan Demokrasi Berparlimen, Bab 4 Sistem Persekutuan, Bab 5 Pembentukan Malaysia, Bab 6 Cabaran Selepas Pembentukan Malaysia, Bab 7 Membina Kesejahteraan Negara, Bab 8 Membina Kemakmuran Negara, Bab 9 Dasar Luar Negara* and *Bab 10 Kecemerlangan Malaysia di Persada Dunia*). Thus, the idea is narrowed and focused primarily on these chapters, whereby the interactive games will be reflected based on each chapter. Players who completed the mini-games from each chapter can unlock the games for the following chapter. For instance, players who completed the mini-games from *Bab 1 Kedaulatan Negara* can unlock the mini-games of *Bab 2 Perlembagaan Persekutuan*. Virtual rewards, such as badges, diamonds, etc., will be awarded to players who complete the mini-games within the time frame. The virtual diamonds can be used to upgrade the avatar, such as slowing down the time feature, unlocking additional hints, etc.

Through the innovation, students can experience systematic, interactive learning for History Education as the Game is designed according to the syllabus, and they are guided with information, explanation, guideline and tips for each chapter before starting the mini-games. The learning process started with the information provided for each chapter that is relevant and needed by the students at each level. The information and facts for each chapter can be presented in the form of storytelling to make the learning process more interesting and easier to understand by the student. In addition, if the students face problems completing the mini-games, a hint based on the chapter information will guide them throughout the adventure

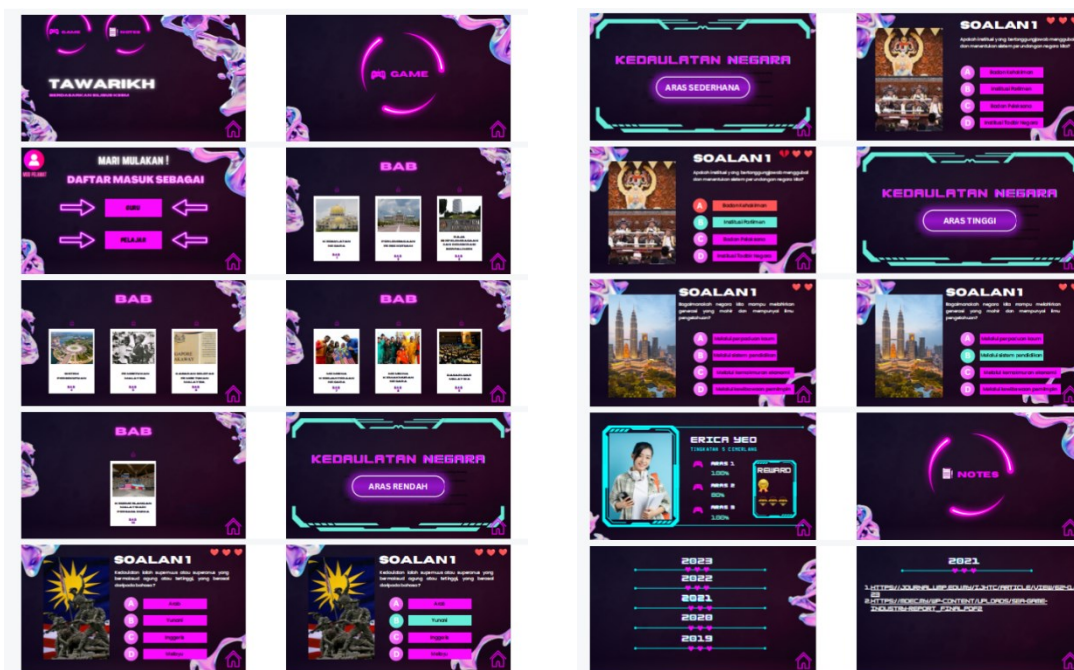


Figure 1 : Example of Game Interface

Table 1: Component of History Education through gamification

Component	Method
Teaching	<ol style="list-style-type: none"> i. Information on each chapter provided at the beginning of every level ii. Guided learning through hints for every level iii. Summarize for each chapter is provided at the end of every Game in the form of an infographic
Learning	<ol style="list-style-type: none"> i. The mini-games are based on the History Subject Syllabus ii. For Games played in a group serves as revision opportunities for the students
Assessment	<ol style="list-style-type: none"> i. Students will be assessed through mini-games covering each chapter in the syllabus ii. Students' performance is based on the score at each level
Collaborative Learning	<ol style="list-style-type: none"> i. The Game can be played individually or in a group ii. It can be played as a competition between different schools

4. DISCUSSION

4.1 Commercialization Potential

The innovation in history education through gamification can be used in formal and informal education settings. It can be used in school as a teaching and learning tool, and at the same time, it can be utilized in informal settings to enhance knowledge of Malaysian History Education through interactive and fun methods. The innovation aligns with the current lifestyle, where most individuals live with multiple devices, such as laptops and mobile phones. Thus, it can be used in different mobile gadgets and applications that are convenient for the user to access anytime and anywhere. Besides that, in comparison to other South East Asia countries, it is noted that Malaysia was the only country providing sensible access to government funds as it is committed to invigorating the game industry development (Malaysian Digital Economy Corporation, 2021). Hence, there is a prospect for such software as functional games (e.g., education) to be marketable with the added support of funds by the government.

4.2 Novelty

Through the innovation in Malaysian History Education, the syllabus has become more flexible and interactive, enhancing students' experience and involvement in learning. Besides that, competition between schools using the history game enables collaborative learning between students from different schools. Furthermore, through gamification, history education enables students to learn according to the syllabus in Form 5 History Textbook as it is divided according to the game level. At the same time, it enables teachers to track students' learning progress and performance for every chapter in the Game. In addition, the innovation is also suitable for formal and informal learning among students.

Table 2: Comparison before and after innovation

Element	Before Innovation	After Innovation
Teaching and learning	Traditional method and limited opportunities for interactive learning	Flexible learning can be used in both formal and informal setting
Collaborative learning	Limited collaborative learning among students from different school	Gamification technique provide opportunities for collaborative learning among students and can be used for collaborative learning between different schools
Student assessment and performance	Tracked and monitored using formal assessment	<ol style="list-style-type: none"> i. Student was assessed based on the game level ii. Performance record and students' progress is easily tracked based on the achievement in every game level

4.3 Impacts

Through innovation in Malaysian history Education, we can introduce flexible, creative, and innovative teaching and facilitation methods (PdPc) for historical subjects. Using technology and teaching aids such as mobile applications and appropriate gamification techniques in Malaysian History Education can improve students' involvement and motivation to ensure an effective learning process in History, especially for Form 5 students. Besides that, it helps to enhance the use of information and communication technology in teaching and facilitation (PdPc) activities which align with the needs of 21st-century skills among students. The use of technology in the teaching and facilitation process enables to form students who are more creative, independent and competitive in the learning environment. In addition, it can facilitate evaluating and monitoring student performance, where student response and development can be monitored more effectively through the achievement at each game level.

5. CONCLUSION

History education through gamification techniques can contribute to a more flexible, innovative, and creative syllabus that can be used for face-to-face and online learning. In addition, it can help teachers to develop students who are more creative, independent and competitive in the learning environment. Moreover, it is recommended that such education gamification be commercialized and included as a free source for all Malaysian students to ensure education reachability and accessibility. With this idea put forward, it is hoped that the policymakers and government may subsidies such applications to spark students' interest in learning History in a fun and interactive manner.

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