International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Health Education in Malaysia: The Roles of Edutainment and Gamification

Draman Nen[1], Siti Nur Syuhada Musa[2]

[1]Health Education Division, Ministry of Health Malaysia
[2]Faculty of Educational Studies, Universiti Putra Malaysia

Abstract

The development of teaching approaches in Malaysia has had a remarkable change as gamification and edutainment have been adopted in health education. This paper discusses the role of these innovative methods in engaging students, motivating students and improving learning outcomes in health education. Based on the theoretical background in psychology and pedagogy, the research highlights the narrative-based edutainment and interactive game components as potent means of enhancing health literacy and sustainable behavioral modification. Edutainment uses entertainment media and narrative to make health messages more digestible by multiple audiences, and gamification has been used to make passive learning more active through features such as points, badges and challenges. The paper also points out the obstacles to the implementation of these strategies as equal access to digital tools and strong evaluation systems. Irrespective of these challenges, the results indicate that edutainment and gamification have enormous potential to make Malaysia a health-literate community when designed adequately and systematically assessed.

INTRODUCTION

The integration of technology in education creates new innovative learning methods which respond to developing student requirements (Swacha, 2021). The decline of traditional teaching methods has become apparent thus educators must adopt new educational strategies which promote student involvement (Dicheva et al., 2015). The application of gamification through game elements and mechanics in non-game educational settings yields excellent potential to boost student engagement and motivation according to Tenório et al. (2018). The creators of gamification strategies implement motivational elements through the game-based principles that turn uninteresting tasks into exciting experiences (Hamzah et al., 2015). Game-based elements used to boost motivation and learning serve as the main driver for gamification adoption in educational environments according to Alsadoon et al. (2022). This study examines how gamification and edutainment systems can enhance Malaysian health education through analyzing their effect on educational results and student involvement. The implementation of gamification through educational game components creates motivational learning platforms that boost academic success (Li et al., 2023).

The motivational elements from games serve as educational tools through gamification to build interactive learning environments (Kalogiannakis et al., 2021). The correct application of gamification principles remains essential to sustain educational user motivation since gamification continues to be examined through research and discussion across educational spheres (Hellín et al., 2023). Educational activities undergo transformation through the correct implementation of game elements like points badges

leaderboards and challenges (Dichev & Dicheva, 2017). The implementation of gamification concepts enables teachers to activate their students' internal learning drive which drives better educational response. The concept of gamification existed in educational settings since the 1980s when systems incorporating social capabilities and monitoring mechanisms and real-world activities were introduced (Paľová & Vejačka, 2022). Game designers apply game elements into non-game settings through the practice of gamification. The application of gamification in cultural heritage produces positive enhancements to this field through its interactive nature (Boboc et al., 2022).

Theoretical Foundations of Health Education

Health education derives its theoretical foundations from accepted principles of psychology and pedagogy. Health-related learning and behavior adoption follow these established principles which serve as learning frameworks. These frameworks show that successful health-related decision-making depends on addressing three main elements: cognitive aspects, emotional aspects and social aspects. Adding narrative elements with storytelling features enhances engagement because they produce constructive education outcomes together with entertaining value (Boboc et al., 2022). To achieve the best possible results health education programs which combine gamification with edutainment should use established theoretical frameworks as their foundation. The core feature of edutainment involves delivering educational content through enjoyable media experiences that people find constantly attractive. Health education programs need to combine these theoretical frameworks because they enhance both long-term behavior modifications and health results (Lithoxoidou et al., 2018).

The Role of Edutainment in Health Education

Edutainment representing the blend of education and entertainment serves as a highly effective method to spread health information while driving behavioral transformations (Boboc et al., 2022). Health-related information becomes easily understandable because Edutainment makes use of widely popular television shows combined with movie content plus interactive gameplay platforms. Edutainment programs achieve effective health education by delivering purposeful storytelling along with compelling characters to reach different audiences who normally reject standard educational methods. Digital storytelling enables people to interact differently with cultural heritage by uniting conventional storytelling with present-day technology according to Boboc et al. (2022). The Educational Entertainment concept employs art forms together with entertainment media as educational communication approaches (Williams & Swierad, 2019).

Gamification in Health Education Practices

Health education demonstrates increasing interest in gamification because this method uses game elements and principles in non-game environments to improve engagement and motivational outcomes (Kalogiannakis et al., 2021; Sardi et al., 2017). Educational activities receive a transformation into engaging interactive systems through gamification by implementing elements such as points, badges, leaderboards and challenges (Altmiller & Pepe, 2022). Research shows that implementing gamification principles brings positive effects to education systems and teaching methods and healthcare delivery systems (Prasad & Mangipudi, 2020). The instant feedback from gamified interventions shows learners their advancement levels which produces satisfaction and drives them to tackle difficult content and knowledge components. Through its multiplayer system and social features gamification specifically

drives students and healthcare providers to interact together in teams. Research needs additional investigation to understand the complete effects of gamification on health education motivation and achievement (Mora-González et al., 2020). The educational sector uses different work methods through new educational tools that support individual student learning requirements.

Enhancing Engagement and Learning Outcomes

The application of gamification strategies in e-Health brings promising outcomes that improve engagement levels and learning achievements particularly in chronic disease rehabilitation, physical activity and mental health scenarios (Sardi et al., 2017). The student engagement increases because gamification succeeds with clear objectives and reward structures (Melero-Cañas et al., 2021). Educational outcomes and student behavior transformation occur when educators select appropriate game mechanics that match learning targets to create compelling learning environments (Sardi et al., 2017). According to "Meneroka Cabaran Interaksi Sosial Guru Perdana Dalam Pengajaran Ke Atas Murid Inklusif Di Aliran Perdana (2023)", recent research established that gamification implementation actively influences student engagement. Through gamification in education students develop better retention skills while remaining creative and the approach works across diverse subject fields alongside behavior adjustment for participatory learning and self-guided work (Dichev & Dicheva, 2017).

Challenges and Considerations

Malaysia needs to address multiple challenges and considerations before fully utilizing edutainment and gamification techniques to improve health education in the country. The evaluation of gamified intervention impact on learning outcomes requires strict assessment through valid assessment tools according to Kalogiannakis et al. (2021). Proper evaluation strategies should address both access fairness and technological capability to guarantee all students receive equal educational opportunities with these new approaches. The process of successfully developing and promoting new models represents an uphill challenge for researchers to achieve widespread acceptance in their community as demonstrated by Boboc et al. (2022).

The implementation of gamification strategies in education proves more challenging than other fields of application (Hu & Shang, 2018). The concept involves adding game design elements to solve practical issues in professional fields (Redondo-Rodríguez et al., 2022). Gamification demonstrates strong educational capabilities yet researchers lack complete understanding regarding its correct classroom implementation (Dichev & Dicheva, 2017) according to Redondo-Rodríguez et al., 2022. Multiple research reviews have studied gamification potential in educational learning results. Researchers have deemed the positive results from studies as showing medium effects without reaching definitive conclusions (Kalogiannakis et al., 2021). According to Andrew Phelps gamification exists in its nascent stage because educational institutions are investigating fundamental matters about its functionality (Furdu et al., 2017). The concept of gamification faces the risk of losing its value because the term may turn into an empty buzzword without useful substance.

Conclusion

Health education in Malaysia can benefit significantly from edutainment and gamification but extensive research needs to be conducted according to Bai et al. (2020). The combination of entertaining content and gaming features enables educators to establish powerful learning opportunities through which learners

gain health literacy knowledge for better well-being decisions. Studies should explore how these digital strategies perform in actual conditions to develop programs that deliver financial empowerment for all people (Antwi et al., 2024). Edutainment combined with gamification strategies under systematic development and assessment frameworks will transform Malaysia into a society that becomes both informed and healthier (Boboc et al., 2022; Loos & Crosby, 2017; Porto et al., 2020; Ratinho & Martins, 2023).

References

1. Alsadoon, E., Alkhawajah, A., & Suhaim, A. B. (2022). Effects of a gamified learning environment on students' achievement, motivations, and satisfaction. Heliyon, 8(8). https://doi.org/10.1016/j.heliyon.2022.e10249
2. Altmiller, G., & Pepe, L. H. (2022). Influence of Technology in Supporting Quality and Safety in Nursing Education [Review of Influence of Technology in Supporting Quality and Safety in Nursing Education]. Nursing Clinics of North America, 57(4), 551. Elsevier BV. https://doi.org/10.1016/j.cnur.2022.06.005
3. Antwi, P. K., Addai, B., Duah, E., & Kubi, M. T. (2024). The impact of financial literacy on fi nancial well-being: a systematic literature review.
4. Bai, S., Hew, K. F., & Huang, B. (2020). Does gamification improve student learning outcome? Evidence from a meta-analysis and synthesis of qualitative data in educational contexts [Review of Does gamification improve student learning outcome? Evidence from a meta-analysis and synthesis of qualitative data in educational contexts]. Educational Research Review, 30, 100322. Elsevier BV. https://doi.org/10.1016/j.edurev.2020.100322
5. Boboc, R. G., Bãutu, E., Gîrbacia, F., Popovici, N., & Popovici, D.-M. (2022). Augmented Reality in Cultural Heritage: An Overview of the Last Decade of Applications. Applied Sciences, 12(19), 9859. https://doi.org/10.3390/app12199859
6. Dichev, C., & Dicheva, D. (2017). Gamifying education: what is known, what is believed and what remains uncertain: a critical review [Review of Gamifying education: what is known, what is believed and what remains uncertain: a critical review]. International Journal of Educational Technology in Higher Education, 14(1). Springer Nature. https://doi.org/10.1186/s41239-017-0042-5
7. Dicheva, D., Dichev, C., Agre, G., & Angelova, G. (2015). Gamification in Education: A Systematic Mapping Study. Educational Technology & Society, 18(3), 75. http://www.ifets.info/journals/18_3/6.pdf
8. Furdu, I., Tomozei, C., & Köse, U. (2017). Pros and cons gamification and gaming in classroom. arXiv (Cornell University). https://doi.org/10.48550/arxiv.1708.09337
9. Hamzah, W. M. A. F. W., Ali, N. H., Saman, M. Y. M., Yusoff, M. H., & Yacob, A. (2015). Influence of Gamification on Students' Motivation in using E-Learning Applications Based on the Motivational Design Model. International Journal of Emerging Technologies in Learning (iJET), 10(2), 30. https://doi.org/10.3991/ijet.v10i2.4355
10. Hellín, C. J., Calles-Esteban, F., Valledor, A., Gómez, J., Otón, S., & Tayebi, A. (2023). Enhancing Student Motivation and Engagement through a Gamified Learning Environment. Sustainability, 15(19), 14119. https://doi.org/10.3390/su151914119

11. Hu, R., & Shang, J. (2018). Application of Gamification to Blended Learning in Elementary Math Instructional Design. In Lecture notes in computer science (p. 93). Springer Science+Business Media. https://doi.org/10.1007/978-3-319-94505-7_7
12. Kalogiannakis, M., Papadakis, S., & Zourmpakis, A.-I. (2021). Gamification in Science Education. A Systematic Review of the Literature [Review of Gamification in Science Education. A Systematic Review of the Literature]. Education Sciences, 11(1), 22. Multidisciplinary Digital Publishing Institute. https://doi.org/10.3390/educsci11010022
13. Li, M., Ma, S., & Shi, Y. (2023). Examining the effectiveness of gamification as a tool promoting teaching and learning in educational settings: a meta-analysis [Review of Examining the effectiveness of gamification as a tool promoting teaching and learning in educational settings: a meta-analysis]. Frontiers in Psychology, 14. Frontiers Media. https://doi.org/10.3389/fpsyg.2023.1253549
14. Lithoxoidou, E. E., Paliokas, I., Gotsos, I., Krinidis, S., Tsakiris, A., Votis, K., & Tzovaras, D. (2018). A Gamification Engine Architecture for Enhancing Behavioral Change Support Systems. 7, 482. https://doi.org/10.1145/3197768.3201561
15. Loos, L. A., & Crosby, M. E. (2017). Gamification Methods in Higher Education. In Lecture notes in computer science (p. 474). Springer Science+Business Media. https://doi.org/10.1007/978-3-319-58509-3_37
16. Melero-Cañas, D., Morales-Baños, V., Ardoy, D. N., Manzano-Sánchez, D., & Valenzuela, A. V. (2021). Enhancements in Cognitive Performance and Academic Achievement in Adolescents through the Hybridization of an Instructional Model with Gamification in Physical Education. Sustainability, 13(11), 5966. https://doi.org/10.3390/su13115966
17. Meneroka cabaran interaksi sosial guru perdana dalam pengajaran ke atas murid inklusif di aliran perdana. (2023). 16, 45. https://doi.org/10.37134/bitara.vol16.sp.4.2023
18. Mora-González, J., López, I. J. P., Esteban-Cornejo, I., & Delgado-Fernández, M. (2020). A Gamification-Based Intervention Program that Encourages Physical Activity Improves Cardiorespiratory Fitness of College Students: 'The Matrix rEFvolution Program.' International Journal of Environmental Research and Public Health, 17(3), 877. https://doi.org/10.3390/ijerph17030877
19. Paľová, D., & Vejačka, M. (2022). Implementation of Gamification Principles into Higher Education. European Journal of Educational Research, 763. https://doi.org/10.12973/eu-jer.11.2.763
20. Porto, D. A., Jesus, G., Ferrari, F. C., & Fabbri, S. (2020). Initiatives and Challenges of Using Gamification in Software Engineering: A Systematic Mapping. arXiv (Cornell University). https://doi.org/10.48550/arxiv.2011.07115
21. Prasad, K., & Mangipudi, M. R. (2020). ENHANCED ACADEMICIANS ENGAGEMENT: EVIDENCE FROM GAMIFICATION INTERVENTIONS IN HIGHER EDUCATION INSTITUTES. International Journal of Engineering Technologies and Management Research, 7(9), 24. https://doi.org/10.29121/ijetmr.v7.i9.2020.779
22. Ratinho, E., & Martins, C. (2023). The role of gamified learning strategies in student's motivation in high school and higher education: A systematic review [Review of The role of gamified learning strategies in student's motivation in high school and higher education: A systematic review]. Heliyon, 9(8). Elsevier BV. https://doi.org/10.1016/j.heliyon.2023.e19033
23. Redondo-Rodríguez, C., Becerra-Mejías, J. A., Gil-Fernández, G., & Rodríguez-Velasco, F. J. (2022). Influence of Gamification and Cooperative Work in Peer, Mixed and Interdisciplinary Teams on

Emotional Intelligence, Learning Strategies and Life Goals That Motivate University Students to Study. International Journal of Environmental Research and Public Health, 20(1), 547. https://doi.org/10.3390/ijerph20010547

24. Sardi, L., Idri, A., & Fernández-Alemán, J. L. (2017). A systematic review of gamification in e-Health [Review of A systematic review of gamification in e-Health]. Journal of Biomedical Informatics, 71, 31. Elsevier BV. https://doi.org/10.1016/j.jbi.2017.05.011
25. Swacha, J. (2021). State of Research on Gamification in Education: A Bibliometric Survey. Education Sciences, 11(2), 69. https://doi.org/10.3390/educsci11020069
26. Tenório, M. M., Reinaldo, F., Góis, L. A. de, Lopes, R. P., & Santos, G. dos. (2018). Elements of Gamification in Virtual Learning Environments. In Advances in intelligent systems and computing (p. 86). Springer Nature. https://doi.org/10.1007/978-3-319-73204-6_12
27. Williams, O., & Swierad, E. (2019). A Multisensory Multilevel Health Education Model for Diverse Communities. International Journal of Environmental Research and Public Health, 16(5), 872. https://doi.org/10.3390/ijerph16050872