GAMIFICATION METHOD IN TEACHING AND LEARNING: A CASE OF RETAILING MANAGEMENT SUBJECT

Mohd Hafizie Suhaimi[1]
Azyanee Luqman[2]
Mohd Afifie Mohd Alwi [3]
Md Zaki Muhamad Hasan[4]
Afwan Hakim Md Mahdzir[5]
Muhammad Naqib Mat Yunoh[6]

[1,3,4,5,6]Universiti Malaysia Kelantan, Pengkalan Chepa, 16100 Kota Bharu, Kelantan
[2]Universiti Teknologi MARA, Bukit Ilmu, 18500 Machang, Kelantan

To cite this document: Suhaimi, M. H., Luqman, A., Alwi, M. A. M., Hasan, M. Z. M, Mahdzir, A. H. M., & Yunoh, M. N. M. (2018). Gamification Method in Teaching and Learning: A Case of Retailing Management Subject. *International Journal of Education, Psychology and Counseling*, *3*(18), 33-37.

_____

Abstract: Currently, the use of gamification element in teaching and learning has become dominant. Generation Y students are more receptive to this technique as it is easier for them to grasp the information either inside or outside of the classrooms. With regards to this, a research on students' engagement has been conducted in order to compare between traditional method and gamification method of teaching and learning among 150 students at a public university in the East Coast of Peninsular Malaysia. The result indicates that students' engagement is higher when using gamification method. As a conclusion, the use of gamification element has been proven to increase the students' interest in learning difficult subjects as well as improve the ability of lecturers to communicate information in a more efficient and effective manner.

Keywords: Gamification, Generation Y, Retailing Management, Teaching and Learning
_____

Introduction
Teaching and learning in education industry has reached to the new method in terms of interaction and assessment. Gamification element is one of the new methods to enhance the students' engagement in class session (Nah, Zeng, Telaprolu, Ayyappa, & Eschenbrenner, 2014). In this study, positive engagement of students was found in terms of communication, engagement, interaction, involvement and participation. This finding managed to support a study by Hamari, Koivisto, and Sarsa (2014) which found that the students will get involve in class activities which are embedded with the gamification element. Therefore, the academicians should be creative in delivering teaching and learning method to ensure more participation (Bishop, 2014). Moreover, the world that we are living in is changing rapidly especially in the area of science, technology and economy. Hence, in order to put ourselves at par in the entire

globe, one should be creative in all areas and become a reformist to cope with domestic, national and global problems (Tarman, 2016).

Problem Statement
Traditional method of teaching and learning is notably famous for its one-way approach as less interaction involved among educators and students. Davis (1993) concurs that traditional lecturing is a one-way communication in which the student is a passive participant. As a matter of fact, lectures still remain as one of the most common higher learning educational approaches in college teaching (Mulryan-Kyne, 2010). A recent study by Goyal and Krishnamurthy (2018) revealed that the same methodology is used to teach all categories of students in traditional learning systems. Therefore, researchers from all over the world have come out with many methods, which include gamification, in order to inculcate active learning (Su & Cheng, 2015). This further highlights the need for a more engaging approach in teaching and learning activities.

Objective
The objective of this article is twofold. Firstly, to empirically assess students' engagement before and after the implementation of gamification method. Secondly, to produce a model of gamification method based on the Input-Process-Output model of serious game design introduced by Garris, Ahlers, and Driskell (2002).

Research Scope
The scope of this study is based on the Input-Process-Output model of serious game design (Garris, Ahlers, & Driskell, 2002). For the purpose of this study, an empirical assessment of students' engagement and involvement is done among full time university students studying at a public university located in the East Coast region of Malaysia.

Literature Review
A study conducted by Su and Cheng (2015) suggests that the gamified course led to greater students' engagement and participation in online course activities based on the number of downloads of the lecture slides and number of online posts (online discussions of class materials and online queries related to course content). Furthermore, Buckley and Doyle (2016) demonstrate through a research that a statistically significant increase in students' general knowledge of the national taxation system was found after the gamified learning intervention.

Implementation of gamification method has become popular and is being practically practiced among the academicians in the classroom environment (Hanus & Fox, 2015). Additionally, the application of gamification totally suits to the Generation Y within the class session (Epema & Iosup, 2014). The motivation model of this study was adapted from the Input-Process-Output model of serious game design (Garris, Ahlers, & Driskell, 2002). Practically, current teaching technique impacts the students' interest in the classroom. Thus, instructional content and game characteristics are the inputs to a recurring game cycle that will ultimately produce learning.

Additionally, this model reflects the other available technologies which include learning resources, learning theories, learning tasks, and intended learning outcomes (Elgazzar, 2014). Therefore, the implementation of gamification element is relevant so as to instil the excitement mode in the learning environment (Doherty, Sharma, & Harbutt, 2015). However, this innovation would be more significantly successful with constructive support from the institution and the top management (Schneckenberg, 2009). Thus, the academicians should take this

opportunity to enhance their teaching commitment with gamification element embedded in teaching and learning activities.

Undoubtedly, the gamification method is highly relevant to be implemented in teaching and learning regardless of any disciplines of study. In a study by Abdullah, Sahari, and Husain (2014) found that the practice of gamification method in teaching and learning engineering course has been proven to increase the students' engagement. Hence, this method is suitable to be practiced across multi-discipline background.

Prior studies reveal many potential advantages of gamification in education such as immediate feedback and productive learning (Gee, 2003). Furthermore, Connolly, Boyle, MacArthur, Hainey, and Boyle (2012) present a systematic literature review on game-based learning and serious gaming focusing on positive outcomes to the learning activities. Accordingly, many researchers conducted theoretical and empirical studies on gamification approach. Gamification in e-learning platform seems to have the potential to increase students' motivation and big effort is required in the design and implementation of the experience for it to be fully motivating for participants (Domínguez et al., 2013).

Theoretical Framework
Figure 1 shows the process of Input-Process-Output model as introduced by Garris, Ahlers, and Driskell (2002). Concurrently, this model has the potential value to be implemented in higher learning institutions in Malaysia by embedding gamification perspective towards a new approach in teaching and learning. This initiative will definitely steer the Generation Y as well students to get involve in class participation.
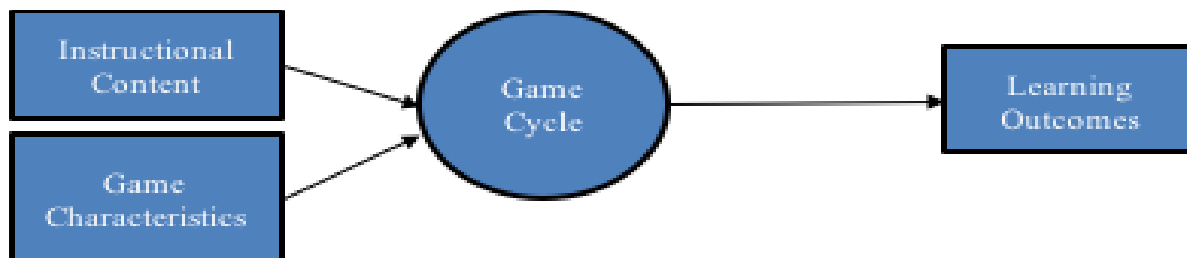

Figure 1: Input-Process-Output Model

Methodology and Result
An empirical survey was conducted at a public university situated in the East Coast of Peninsular Malaysia involving 150 full time students. The method of the survey started with one question regarding the definition of merchandising which was asked to the students verbally. As a result, none of the student responds to the question. Subsequently, the students were asked once again by using the online discussion in Padlet application. At the end of the class session, the researcher ended up by using the Kahoot application so as to test the understanding level after the lecture session. Surprisingly, the engagement of the students increased to 98 percent compared to the previous method. The gamification element by Kahoot application further impacted the students' interest. Table 1 displays the result of students' engagement before and after gamification method.

Table 1: Students' Engagement Before and After Gamification Method

Assessment	Percentage
Before	5%
After	98%

Conclusion

This study manages to produce the model of gamification method that is very much suitable to be implemented by academicians regardless of disciplines in order to increase students' engagement and involvement in classrooms. The findings of this study have definitely verified the fact that by implementing gamification method, the perspective of delivering knowledge of Retailing Management subject has successfully changed from one-way communication to two-way communication that further supports the process of teaching and learning environment. This method certainly suits the characteristics of Generation Y students.

The use of technology influences students' engagement especially among the Generation Y. Specifically, gamification indeed plays a significant role in embarking the students' engagement and interest in Retailing Management subject. Hence, the academicians should apply various techniques in teaching and learning which includes gamification method. This would undoubtedly enliven the teaching and learning process of any subjects.

References

Abdullah, S. R. S., Sahari, J., & Husain, H. (2014). *Amalan pengajaran dan pembelajaran berkesan dalam pendidikan kejuruteraan dan alam bina* (1st ed.). Bangi: Penerbit Universiti Kebangsaan Malaysia.

Bishop, A. (2014). Innovation in education. *The Sunday*.

Buckley, P., & Doyle, E. (2016). Gamification and student motivation. *Interactive Learning Environments*, *24*(6), 1162–1175. https://doi.org/10.1080/10494820.2014.964263

Connolly, T. M., Boyle, E. A., MacArthur, E., Hainey, T., & Boyle, J. M. (2012). A systematic literature review of empirical evidence on computer games and serious games. *Computers and Education*, *59*(2), 661–686. https://doi.org/10.1016/j.compedu.2012.03.004

Davis, B. G. (1993). *Tools for Teaching* (First). San Francisco: JOSSEY-BASS PUBLISHERS San Francisco.

Doherty, I., Sharma, N., & Harbutt, D. (2015). Contemporary and future eLearning trends in medical education. *Medical Teacher*, *37*(1), 1–3. https://doi.org/10.3109/0142159X.2014.947925

Domínguez, A., Saenz-De-Navarrete, J., De-Marcos, L., Fernández-Sanz, L., Pagés, C., & Martínez-Herráiz, J. J. (2013). Gamifying learning experiences: Practical implications and outcomes. *Computers and Education*, *63*, 380–392. https://doi.org/10.1016/j.compedu.2012.12.020

Elgazzar, A. E. (2014). Developing E-Learning Environments for Field Practitioners and Developmental Researchers: A Third Revision of an ISD Model to Meet E-Learning and Distance Learning Innovations. *Open Journal of Social Sciences*, *02*(02), 29–37. https://doi.org/10.4236/jss.2014.22005

Epema, D., & Iosup, A. (2014). An Experience Report on Using Gami fi cation in Technical Higher Education. *Proceedings of the 45th ACM Technical Symposium on Computer Science Education - SIGCSE '14 (2014)*, (2008), 27–32.

Garris, R., Ahlers, R., & Driskell, J. E. (2002). Games, motivation, and learning: A research and practice model. *Simulation and Gaming*, *33*(4), 441–467. https://doi.org/10.1177/1046878102238607

Gee, J. P. (2003). What video games have to teach us about learning and literacy. *Computers in Entertainment (CIE)*, *1*(1), 20. https://doi.org/10.1145/950566.950595

Goyal, M. & Krishnamurthy, R. (2018). Optimizing student engagement in online learning environment: Intuitionistic fuzzy logic in student modeling. In A. V. Senthil Kumar (Ed.), *Optimizing Student Engagement in Online Learning Environments* (pp. 187-219). Pennsylvania: IGI Global. DOI: 10.4018/978-1-5225-3634-5.ch009

Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work? - A literature review of empirical studies on gamification. *Proceedings of the Annual Hawaii International Conference on System Sciences*, 3025–3034. https://doi.org/10.1109/HICSS.2014.377

Hanus, M. D., & Fox, J. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers and Education*, *80*, 152–161. https://doi.org/10.1016/j.compedu.2014.08.019

Mulryan-Kyne, C. (2010). Teaching large classes at college and university level: Challenges and opportunities. *Teaching in Higher Education*, *15*(2), 175–185. https://doi.org/10.1080/13562511003620001

Nah, F. F.-H., Zeng, Q., Telaprolu, V. R., Ayyappa, A. P., & Eschenbrenner, B. (2014). Gamification of Education: A Review of Literature, 401–409. https://doi.org/10.1007/978-3-319-07293-7_39

Schneckenberg, D. (2009). Understanding the real barriers to technology-enhanced innovation in higher education. *Educational Research*, *51*(4), 411–424. https://doi.org/10.1080/00131880903354741

Su, C. H., & Cheng, C. H. (2015). A mobile gamification learning system for improving the learning motivation and achievements. *Journal of Computer Assisted Learning*, *31*(3), 268–286. https://doi.org/10.1111/jcal.12088

Tarman, B. (2016). Innovation and Education. *Research in Social Sciences and Technology*, *1*(1), 77–97.