Assessing the Acceptance of Quizziz in 'Game Research and Society' Classroom: Impact on Perceived Readiness for Final Year Projects

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Abstract

This study is to explore the integration of a gamified quiz within the "Game Research and Society" classroom, focusing on its impact on student acceptance and readiness for their third-year final year projects. The research aimed to address the need to assess gamified educational tools' effectiveness in enhancing learning experiences and adequately preparing students for their culminating academic projects. With the guidance of Technology Acceptance Model (TAM), a small scale of 41 students that is currently in their second year is selected to take part in the pre and post-test assessments were conducted through surveys to evaluate student acceptance, perceptions of usefulness, ease of use of the gamified quiz, and readiness for final year projects. A paired T-test were conducted and show a significant increase in student acceptance and positive perceptions after the gamified quiz implementation, correlating with enhanced readiness for final year projects. This research highlights the transformative potential of gamified educational tools in both improving learning experiences and adequately preparing students for academic milestones.

Keywords

Gamified quizzes, Game studies in higher education, academic readiness assessment

Introduction

The utilization of game design features in non-game situations, sometimes referred to as gamification, has garnered significant interest within educational environments. There are numerous studies show the positive outcomes on gamified quizzes in education like increased engagement, better learning, and improved teamwork (Kyung-Mi, 2022).

Biçen and Kocakoyun (2018) and Zainuddin et al. (2019) have shown the incorporation of gamification principles in educational settings, such as the used of challenges, levels, points, and rewards in quiz questions, has been shown to enhance learner engagement and satisfaction to achieve academic goals. This has evidently shown the effectiveness of gamified approach in learning.

According to a recent study conducted by Areed et al. (2021), it has been demonstrated that the implementation of gamified e-quizzes can effectively promote social interaction and competition among students.

Gamified E-Quizzes: Quizziz in classroom

According to Rahim (2020) and Alsawaier (2018), the implementation of gamified e-quizzes has been found to enhance student engagement, hence enhancing the overall learning experiences and motivation levels beyond what is often observed in traditional classroom settings. Additionally, Wang (2015) asserts that these tools enhance student motivation, engagement, and perceived knowledge acquisition. The study conducted by Evans (2016) and Cheng (2019) demonstrated the favorable impact of gamification on student behavior and viewpoints inside educational environments and lead to the acceptance of the quiz in classroom.

Previous studies have demonstrated favorable results in the application of Quizizz as a tool for enhancing English language acquisition. These effects encompass heightened levels of motivation and active engagement among learners (Sari, 2021; Inayati, 2022). Nevertheless, several obstacles, such as technical difficulties and the requirement for cognitive-driven methodologies, have been acknowledged (Mohamad, 2020). The utilization of Quizizz as an evaluative instrument has been observed to provide favorable outcomes, as indicated by a predominant preference among students as compared to conventional approaches (Handoko, 2021).

Methodology

A cohort of 41 individuals from the "Game Research and Society" classroom was enlisted as volunteers, with 36 individuals successfully completing both pre and post-test surveys. The participants were initially assigned the job of completing a traditional quiz with research related subject using the software program Microsoft Word. Subsequently, the participants proceeded to complete the pre-test questionnaire, which aimed to evaluate their degrees of acceptability and perceptions of readiness pertaining to gamified e-quizzes. Following the completion of the pre-test questionnaire, individuals actively participated in an educational electronic quiz on the Quizziz platform, which incorporated gamification elements.

After completing the gamified electronic quiz, participants were told to answer a comparable set of questions in the post-test questionnaire, which mirrored the questions asked in the pre-test. The surveys were specifically crafted to measure the degree of acceptance and perceptions of readiness both prior to and during the participants' engagement with the gamified e-quiz. The study was conducted with a strong commitment to ethical issues, which encompassed the principles of voluntary participation, informed consent, and the preservation of anonymity for participants' responses. The process of data analysis will encompass the utilization of quantitative methodologies, specifically employing paired t-tests, to assess and contrast the responses obtained from before and post-test evaluations. As there are also two open-ended questions, responses of two particular questions were also analysed based on the feedback keywords. This analysis aims to investigate the alterations in participants' judgments of acceptance and readiness.

Table 1. Demographic of Respondents

Profile	N = 36	%
Age		
Under 20	0	0
20-25	36	100
Over 25	0	0
Gender		
Male	28	77.8
Female	8	22.2
Hours spent on Academic per day on your own (exclude classes)		
0-2 hours	21	58.3
2-4 hours	11	30.5
5-6 hours	4	11.2
More than 7 hours	0	0
How do you feel about starting your final year project?		
Very prepared	1	2.8
Prepared	1	2.8
Neutral	17	47.2
Unprepared	9	25
Very unprepared	8	22.2
Please rate your level of self-motivation for research:		
Very strong	2	5.6
Strong	7	19.4
Neutral	13	36.1
Weak	11	30.5
Very Weak	3	9.15

The study only consisted of individuals within the age range of 20 to 25, encompassing the entire participant population. Of the participants, 77.8% (n=28) self-identified as male, whereas 22.2% (n=8) identified as female. The majority of participants, comprising 58.3% of the sample, said that they allocated 0-2 hours per day to engage in autonomous academic tasks. In particular, a total of 21 individuals were classified into this specific category. In relation to the sentiments surrounding the initiation of their final-year project, a significant proportion of participants, namely 47.2%, expressed a neutral stance. This equated to a total of 17 individuals.

Conversely, lesser percentages were observed for those who felt highly prepared (2.8%, 1 participant), prepared (2.8%, 1 participant), unprepared (25%, 9 participants), and very unprepared (22.2%, 8 participants). In the evaluation of self-motivation towards research, a total of 36.1% of participants (n=13) indicated a neutral posture, while 30.5% (n=11) reported weak or very weak motivation. A minority of individuals, specifically 5.6% (2 people), reported feeling a very strong motivation, whereas a larger proportion, specifically 19.4% (7 participants), reported feeling a strong motivation.

Following the demographic questions, they need to answer 17 questions that are guided by TAM (Technology Acceptance Model) to explore the students' acceptance of Quizziz in their game research and society classroom. These questions are guided by James (2019) focuses on perceived usefulness (PU) and Perceived Ease-of-Use (PEU). The responses of before and after were analysed and displayed in the following section.

Results and Discussion

The investigation aimed to assess the acceptance of gamified quizzes among students before and after intervention exposure. The analysis of paired T-test was done using the software SPSS version 27. The fundamental objective of this statistical test is to ascertain whether there exists a statistically significant disparity between the means of paired observations derived from identical people, but obtained under distinct situations where students are taking the subject of "game research and society, and preparing for their final year project (Table 2 and 3).

Table 2. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	6.2571	36	1.97311	.33352
	Posttest	3.77	36	1.028	.174

Table 3. Paired Sample Test

	Paired Differences							
				95% Confidence Interval of the Difference				Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Pretest-posttest	2.48739	2.01038	.33982	1.79680	3.17799	7.320	34	.000

As shown in Table 1, the analysis revealed a statistically significant decline in acceptance levels from the pretest (M = 6.2571, SD = 1.97311) to the posttest (M = 3.77, SD = 1.028) and according to table 2, M= 2.48739, t(34) = 7.320, p = .000. The drop that was seen indicates a significant change in students' perceptions of gamified quizzes after they participated in the intervention. The results emphasize the possible influence of intervention exposure on student receptiveness towards gamified learning aids, therefore emphasizing the necessity for additional investigation and improvement of gamification techniques in educational environments.

The observed decrease in student perceptions of gamified quizzes following their engagement in the intervention signifies a noteworthy shift. The findings underscore the potential impact of intervention exposure on students' inclination towards gamified learning tools, hence highlighting the need for further inquiry and enhancement of gamification strategies in educational settings.

Conclusion

The findings bring attention to specific areas that might be upgraded, indicating the necessity for more explicit project rules, more captivating instructional methods, and improved support systems to enhance participants' excitement and preparedness for research endeavors. As a preliminary study, this analysis shows the need to effectively address identified issues, enhance the quality of overall gamified quiz content or distribution methods, and reevaluate initiatives aimed at improving student acceptance and participation within gamified learning settings.

Issues related to the usability, functionality, or technical glitches within the gamified e-quiz platform could have contributed to the decline. If the technology faced problems such as slow performance, incompatibility, or difficulty in navigation, it might have influenced students' acceptance negatively. Similarly, technical glitches and functionality problems can lead to frustration and dissatisfaction among users, as highlighted in a study by Sun et.al (2022) and Wijaya et al (2020) on the impact of technical issues on the continuance acceptance of personal assistance, such as a mobile device, software or wearable.

In a study by Juho and Jonna (2013), Schürmann & Quaiser-Pohl (2022) and Smiderle et al. (2020), emphasize the importance of aligning gamification with the underlying motivational factors and educational goals. They argue that gamification should be integrated in a way that supports the intrinsic motivation of learners and aligns with the learning objectives. When gamification elements are not effectively integrated with educational content, students may perceive them as superficial or irrelevant, leading to a decline in acceptance. As a pilot test, inherent limitations such as a small sample size, limited exposure, or contextual factors could have influenced the observed decline. This pilot might not fully represent the diverse perspectives or provide an exhaustive understanding of factors impacting acceptance, and further analysis and work has to be done to understand the insight of acceptance and readiness of their FYP project regarding to the subject of game research and society.

Acknowledgements

References

Alsawaier, R. S. (2018). The effect of gamification on motivation and engagement. *The International Journal of Information and Learning Technology, 35*(1), 56–79. https://doi.org/10.1108/IJILT-02-2017-0009

Areed, M. F., Amasha, M. A., Abougalala, R. A., Alkhalaf, S., & Khairy, D. (2021). Developing gamification e-quizzes based on an android app: The impact of asynchronous form. *Education and Information Technologies, 26*(4), 4857–4878. https://doi.org/10.1007/s10639-021-10469-4

Biçen, H., & Kocakoyun, S. (2018). Perceptions of students for gamification approach: Kahoot as a case study. *International Journal of Emerging Technologies in Learning (iJET), 13*(2), 72–93. https://doi.org/10.3991/ijet.v13i02.7467

Cheng, K. M., Mohd Nasir, J. S., Tan, M. M., & Koo, A. C. (2019). A gamified classroom with Technical and Vocational Education and Training (TVET) students using Quizizz. *International Journal of Education, Islamic Studies and Social Sciences Research (IJEISR), 4*(1), 1–6. http://ijeisr.net/Journal/Vol-4-No-1-Isu-02.pdf

Evans, E. (2016). Gamification in a Year 10 Latin classroom: Ineffective 'edutainment' or a valid pedagogical tool? *Journal of Classics Teaching, 17*(34), 1–13. https://doi.org/10.1017/S2058631016000192

Handoko, W., Mizkat, E., Nasution, A., Hambali, & Eska, J. (2021). Gamification in learning using Quizizz application as assessment tools. *Journal of Physics: Conference Series, 1783*(1), 012111. https://doi.org/10.1088/1742-6596/1783/1/012111

Inayati, N., & Waloyo, A. A. (2022). The influence of Quizizz-online gamification on learning engagement and outcomes in online English language teaching. *Journal on English as a Foreign Language, 12*(2), 249–271. https://doi.org/10.23971/jefl.v12i2.3546

James, R. L. (2019). Comparison of four TAM item formats: Effect of response option labels and order. *Journal of Usability Studies, 14*(4), 224–236. https://uxpajournal.org/tam-formats-effect-response-labels-order/

Juho, H., & Jonna, K. (2013). Social motivations to use gamification: An empirical study of gamifying exercise. *Proceedings of the 21st European Conference on Information Systems (ECIS)*, 1–12. http://www.scopus.com/inward/record.url?eid=2-s2.0-84905842155&partnerID=tZOtx3y1

Kyung-Mi, O. (2022). A comparative study of gamified and conventional online quizzes. *International Journal of Emerging Technologies in Learning (iJET), 17*(3), 152–172. https://doi.org/10.3991/ijet.v17i03.26349

Mohamad, M., Arif, F. K., Alias, B. S., & Yunus, M. M. (2020). Online game-based formative assessment: Distant learners postgraduate students' challenges towards Quizizz. *International Journal of Scientific & Technology Research, 9*, 994–1000.

Rahim, A. S. A., Ziden, A. A., & Yap, B. K. (2020). Gamified online quizzes: Pharmacy student perceptions of learning in an undergraduate medicinal chemistry course. *Malaysian Journal of Pharmacy, 6*(1), 6–12. https://doi.org/10.52494/qawj8258

Sari, R. K. (2021). Quizizz atau Kahoot!: Gamifikasi dalam pembelajaran Bahasa Inggeris. *Jurnal Pendidikan dan Kebudayaan, 1*(3). https://doi.org/10.55606/jurdikbud.v1i3.87

Schürmann, L., & Quaiser-Pohl, C. (2022). Digital badges affect need satisfaction but not frustration in males in higher education. *Computers & Education, 182*, 104484. https://doi.org/10.1016/j.compedu.2022.104484

Smiderle, R., Rigo, S. J., Marques, L. B., de Miranda Coelho, J. A. P., & Jaques, P. A. (2020). The impact of gamification on students' learning, engagement and behavior based on their personality traits. *Smart Learning Environments, 7*, 3. https://doi.org/10.1186/s40561-019-0098-x

Sun, Y., Li, S., & Yu, L. (2022). The dark sides of AI personal assistant: Effects of service failure on user continuance intention. *Electronic Markets, 32*, 17–39. https://doi.org/10.1007/s12525-021-00483-2

Wang, A. I. (2015). The wear-out effect of a game-based student response system. *Computers & Education, 82*, 217–227. https://doi.org/10.1016/j.compedu.2014.11.004

Wijaya, L., Lasian, L., & Enriquez, N. (2023). Examining the determinants of continuance intention to use online food delivery service applications: Evidence from Manila. *2023 International Seminar on Application for Technology of Information and Communication (ISemantic)*, 86–91.

Zainuddin, Z., Shujahat, M., Chu, S. K. W., Haruna, H., & Farida, R. (2019). The effects of gamified flipped instruction on learner performance and need satisfaction. *Information and Learning Sciences, 120*(11/12), 789–802. https://doi.org/10.1108/ILS-07-2019-0067