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“Optimizing Innovation in Knowledge, Education and Design”

EXTENDED ABSTRACT



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Assalamualaikum warahmatullahi wabarakatuh,



First and foremost, I would like to express my gratitude to the organizing committee of i-Spike 2023 for their tremendous efforts in bringing this online competition a reality. I must extend my congratulations to the committee for successfully delivering on their promise to make i-Spike 2023 a meaningful event for academics worldwide.

The theme for this event, 'Optimizing Innovation in Knowledge, Education, and Design,' is both timely and highly relevant in today's world, especially at the tertiary level. Innovation plays a central role in our daily lives, offering new solutions for products, processes, and services. By adopting a strategic approach to 'Optimizing Innovation in Knowledge, Education, and Design,' we have the potential to enhance support for learners and educators, while also expanding opportunities for learner engagement, interactivity, and access to education.

I am awed by the magnitude and multitude of participants in this competition. I am also confident that all the innovations presented have provided valuable insights into the significance of innovative and advanced teaching materials in promoting sustainable development for the betterment of teaching and learning. Hopefully, this will mark the beginning of a long series of i-Spike events in the future.

It is also my hope that you find i-Spike 2023 to be an excellent platform for learning, sharing, and collaboration. Once again, I want to thank all the committee members of i-Spike 2023 for their hard work in making this event a reality. I would also like to extend my congratulations to all the winners, and I hope that each of you will successfully achieve your intended goals through your participation in this competition.

Professor Dr. Roshima Haji Said
RECTOR
UiTM KEDAH BRANCH



WELCOME MESSAGE (i-SPIKE 2023 CHAIR)



We are looking forward to welcoming you to the 3rd International Exhibition & Symposium on Productivity, Innovation, Knowledge, and Education 2023 (i-SPIKE 2023). Your presence here is a clear, crystal-clear testimony to the importance you place on the research and innovation arena. The theme of this year's Innovation is "*Optimizing Innovation in Knowledge, Education, & Design*". We believe that the presentations by the distinguished innovators will contribute immensely to a deeper understanding of the current issues in relation to the theme.

i-SPIKE 2023 offers a platform for nurturing the next generation of innovators and fostering cutting-edge innovations at the crossroads of collaboration, creativity, and enthusiasm. We enthusiastically welcome junior and young inventors from schools and universities, as well as local and foreign academicians and industry professionals, to showcase their innovative products and engage in knowledge sharing. All submissions have been rigorously evaluated by expert juries comprising professionals from both industry and academia.

On behalf of the conference organisers, I would like to extend our sincere thanks for your participation, and we hope you enjoy the event. A special note of appreciation goes out to all the committee members of i-SPIKE 2023; your dedication and hard work are greatly appreciated.

Dr. Junaida Ismail

Chair

3rd International Exhibition & Symposium Productivity, Innovation, Knowledge, and Education 2023 (i-SPIKE 2023)

MFRS 137 PROVISIONS, CONTINGENT LIABILITIES AND CONTINGENT ASSETS: SMART GAME APP

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ABSTRACT

Gamification and game-based learning (GBL) may be applied as effective teaching and learning strategies to meet the requirements in various educational settings. MFRS 137 Smart Game App is an accounting game-based learning that provides a revolutionary new way of quickly and easily understanding specific financial accounting reporting standards in one day. The Malaysian Financial Reporting Standards (MFRS 137) particularly highlighted accounting treatment for Provisions, Contingent Liabilities and Contingent Assets. Learning with MFRS 137 Smart Game App is an incredibly versatile study tool because it enhances self-learning activities for students to remember accounting terms, concepts or treatment. Students nowadays are employing educational games as a tool for learning to improve their experience. As a result, educational institutions are faced with the task of meeting the rising demand for quality learning tools. Studies have shown that the use of educational games allows for more efficient processing and memory recall. Hence, a simple survey has been conducted, asking for students' opinion regarding other preferable tools to help them in learning. The results showed that students demand game-based learning to further understand the subject matter. Educational institutions can gain great autonomy by using game-based learning to reach their broad audience. Therefore, game-based learning is believe to be more effective, faster and easy to use as compared to lengthy accounting standards or printed handouts. Furthermore, this game-based learning is accessible at the student convenience to assist with coursework and skill development. Given the huge benefit offered by MFRS 137 Smart Game App, it will be one of the most preferable learning methods and potential to bring immersive experiences for accounting students on MFRS 137.

Keywords: MFRS 137, gamification, game-based learning, accounting education

INTRODUCTION

Gamification is one of several innovative constructivist learning approaches (Roodt & Ryklief, 2019) that has gained significant attention in recent years in a variety of discipline areas including accounting. Gamification refers to the use of game design elements or mechanisms in order to promote desired behaviors (Luo, 2021). In the realm of education, gamification has revolutionized teaching methods by providing students with more engaging and motivating learning experiences compared to traditional approaches (Westera, 2019). Saleem, Noori and Ozdamli (2022) conducted a study to govern the advantages and challenges of gamification applications in learning and indicated that gamification can be a valuable tool for gaining knowledge and can improve necessary capabilities such as decision-making, cooperation, and communication.

Game-based learning (GBL) or educational gamification, which involves designing learning activities by using actual games as educational tools, is now widely employed in both physical and online settings. GBL has been recognized as an innovative method that fosters student motivation, active participation, and comprehensive knowledge acquisition (Chen et al., 2019). It incorporates elements such as rules, goals, interactivity, competition, problem-solving challenges, and enjoyment, which enhance motivation, creativity, and self-esteem. GBL can be used to motivate students and to prepare learners to deal with uncertainty, as in real-life projects (Jääskä et al., 2022). According to a study by Asniza et al. (2021), the implementation of GBL has been proven to enhance students' engagement and promote active learning. Furthermore, the competitive aspect of GBL motivates learners to dedicate more time to their learning tasks, fostering a state of flow that ultimately results in improved learning performance (Chen & Chang, 2020). Camacho-Sánchez et al. (2023) conclude that gamification and GBL can be identified as significant learning methods due to their impact on student motivation, academic performance, and commitment.

RESEARCH PROBLEM AND OBJECTIVE

In the field of accounting, understanding the concept of Provisions, Contingent Liabilities and Contingent Assets is crucial for students. This topic is emphasized under the Malaysian Financial Reporting Standards (MFRS 137). However, comprehending lengthy accounting standards can be challenging for students. To address this issue, we have developed a GBL called MFRS 137 Smart Game App. This app serves as an interactive teaching and learning tool, enabling accounting students to delve deeper into the topic of MFRS 137. The primary goals of this MFRS 137 gamification app are to help students solidify their understanding of the topic, improve the quality of learning and introduce a new educational approach. By using games like MFRS 137 Smart Game App, students can effectively and accurately learn how to recognise Provisions, Contingent Liabilities and Contingent Assets while receiving immediate feedback on their progress. The application of GBL in MFRS 137 Smart Game App is believed to be an effective teaching resource that enhances students' confidence, fosters a positive attitude towards accounting, and promotes a deeper understanding of accounting principles (Phillips & Graeff, 2014).

Based on analysis done from previous final examination (July 2022) results, the majority of accounting students, particularly in UiTM, experienced difficulty in scoring marks for accounting treatment questions for topic MFRS 137. This is because they have a problem memorizing all the relevant accounting standards and principles to apply back in the questions. Basically, most students (72%) only manage to get marks below 8 from a total of 16 marks which indicates poor understanding of MFRS 137 concepts and principles. Due to the

development of this application, students believed that it is relevant for them to have MFRS 137 Smart Game App leaning tools in order to improve their level of understanding.

The innovation of MFRS 137 Smart Game App offers flexibility and convenience for students to learn about provisions, contingent liabilities and contingent assets topics anytime and anywhere, without the need to carry around extensive reference textbooks and financial reporting standards. With just a digital device and internet access, such as a laptop, tablet, or smartphone, students can engage with this new learning experience. MFRS 137 Smart Game App proves to be more effective, efficient, and user-friendly compared to lengthy explanations found in accounting standards and traditional hardcopy notes. These interactive MFRS 137 Smart Game App also serve as valuable revision tools, making it easier for students to comprehend MFRS 137 topics, which ultimately motivates them to perform better in assessments and prepare for final exams. Moreover, a study by Silva, Rodrigues and Leal (2021) also supports the perception that the use of educational games positively influences students' motivation, attitudes toward studying, and perceived learning in accounting.

METHOD

Before we developed the prototype for the game, we already drafted a timeline for MFRS 137 Smart Game App. The timeline assists us to set clear directions as well as to track the progress during the game development period. A simple survey was conducted, asking for students' opinion regarding other preferable tools to help them in learning. The total number of respondents is 252 diploma students taking the accounting subject from Universiti Teknologi MARA, Perak Branch. To develop the prototype of MFRS 137 Smart Game App, we created a set of questions on different subcategories of MFRS 137 in the form of interactive games. Justifications for each correct answer will be provided to increase the level of understanding and once level completed, students with the highest score can redeem their special prizes from their instructor.

RESULTS AND DISCUSSION

Devices that you use for online learning.
252 responses

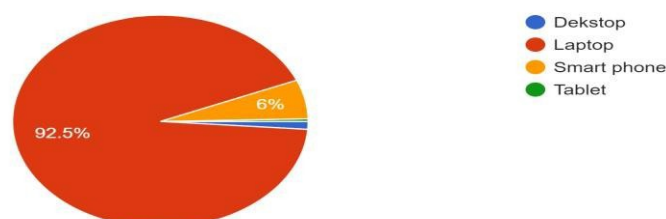


Figure 1. Preferred Learning Devices

As per Figure 1, the majority of accounting students (92.5%) preferred to learn through digital devices such as laptops followed by smartphones. MFRS 137 Smart Game App was found to be the right tool to match students' preferences in learning courses since this GBL can be supported effectively using laptop and smartphones.

What do you currently use the internet and digital device for?

252 responses

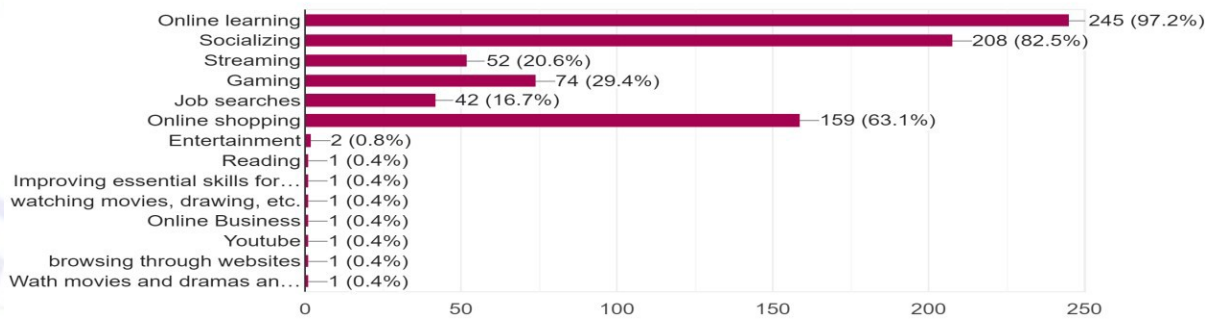


Figure 2. Different Usage of Internet and Digital Device

Figure 2 reported that accounting students did use the internet and digital device for gamification purposes (29.4%). This kind of usage was probably because gamification arrangement is interactive, highly engaging, and encourages thinking since it involves text, moving images and sound. Therefore, MFRS 137 Smart Game App was discovered to be the suitable instrument to fit students' preferences in learning the subject matter. Students can learn anytime and anywhere as long as there is internet connectivity.

Table 1. Analysis of Preferred Learning Tools

Preferred learning tools	Frequency	Percentage
Game-based learning	356	39%
Videos	296	32%
Digital Flashcards	268	29%

Student can choose more than one preferred learning tools

According to Table 1, most accounting students (39%) favored learning through educational games followed by videos. Students favour this type of learning tools most probably because it is easier for them to digest, memorize all the learning objectives of accounting such as classification, recognition, measurement, presentation, and disclosure through utilization of interactive features. This GBL was believed to be more effective, faster, and easy to use as compared to lengthy accounting standards or printed handouts. Due to the development of this game, it is relevant for students to have MFRS 137 Smart Game App as part of their learning tools since it incorporates elements of competition, problem-solving challenges, and enjoyment, which enhance motivation.

CONCLUSIONS

The MFRS 137 Smart Game app has been proposed as an interactive medium for teaching and learning accounting subjects. This app caters to students' needs by providing an easily understandable way to grasp the technical complexities of topics such as learning provisions, contingent liabilities, and contingent assets through realistic games. Advantages of the MFRS 137 Smart Game App are likely to make it a preferred learning method for accounting students and beneficial for aspiring entrepreneurs. Future research could explore a larger sample size, including accounting students from various institutions, to compare their perceptions of learning provisions, contingent liabilities, and contingent assets using educational games (such as the MFRS 137 Smart Game App).

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