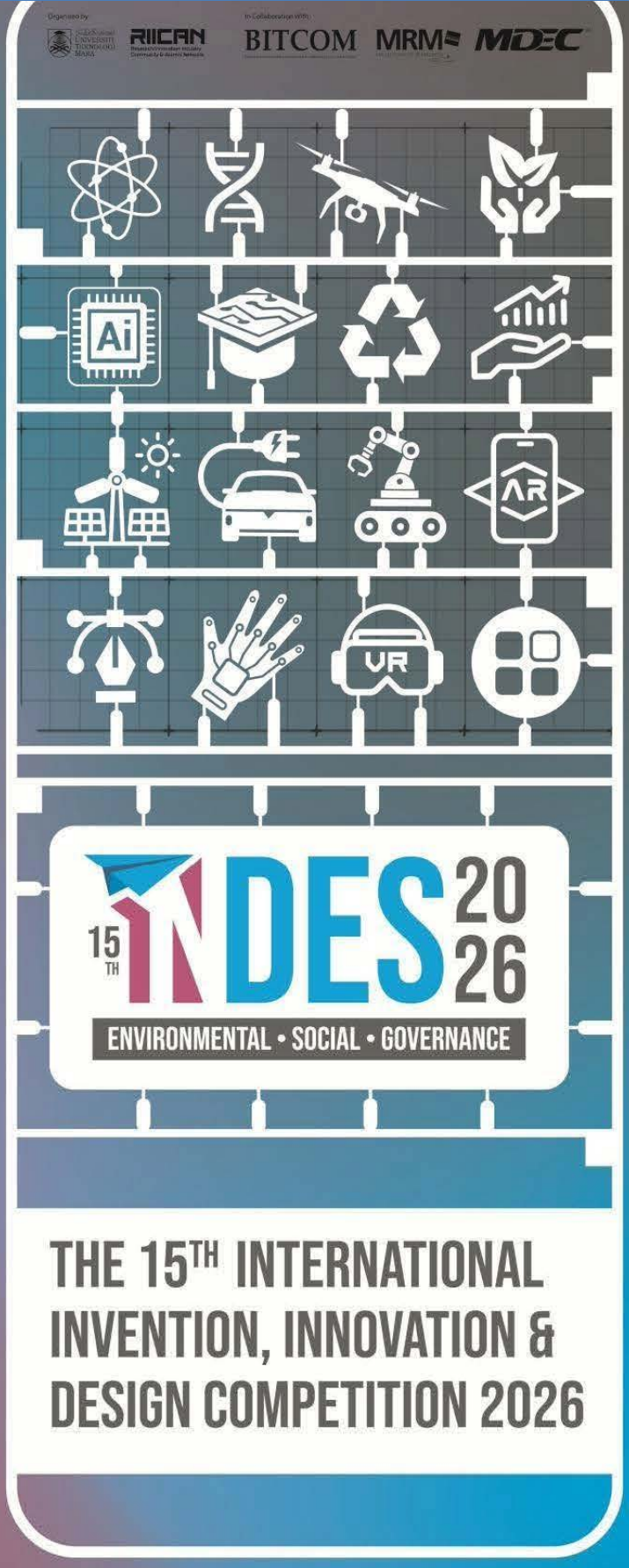


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THE 15th INTERNATIONAL
INVENTION, INNOVATION &
DESIGN COMPETITION 2026

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Ht2U: A GAME-BASED LEARNING APPLICATION FOR TOURISM EDUCATION

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ABSTRACT

Hospitality and Tourism to You (Ht2U) is a gamified educational innovation designed to improve teaching and learning within tourism studies. Originally introduced as a website in 2017, the platform has undergone continuous development, expanding into various formats such as a game book and board games in 2018, an online interactive environment utilising Google Jamboard and Google Meet in 2021, and a web-based system in 2024. Most recently, in 2026, Ht2U was transformed into a mobile application accessible via the Google Play Store, incorporating game-based learning elements including crossword puzzles and word search activities. The application aims to support vocabulary development, deepen conceptual understanding, and encourage active engagement with tourism-related content. Data were collected from 107 undergraduate students through open-ended responses submitted via a Google Form and subsequently analysed using thematic analysis. The results identified five main themes: increased engagement and motivation, enhanced knowledge acquisition and retention, the development of cognitive and collaborative competencies, user preferences for particular game features, and challenges associated with interface design and accessibility. Overall, participants perceived the application as an enjoyable, interactive, and effective learning tool. These findings suggest that Ht2U holds considerable promise as an innovative approach to gamified learning, effectively linking theoretical knowledge with practical application in tourism education. Future improvements will focus on enhancing usability and expanding interactive functionalities to further optimise user experience and learning outcomes.

Keyword: Gamified Learning; Educational Innovation; Tourism Education; Mobile Learning Application; Student Engagement

1. INTRODUCTION

In recent years, there has been a notable shift in learner expectations towards more interactive, engaging, and technology-enhanced educational environments. Modern students increasingly favour instructional approaches that are not only informative but also stimulating and enjoyable (Yin & Chen, 2024; Rahman & Noor, 2024). Within this evolving educational landscape, game-based learning has gained recognition as an effective pedagogical strategy for enhancing student engagement, motivation, and active participation. Existing studies suggest that the incorporation of game elements into digital learning environments can significantly improve learners' attention, interaction, and knowledge retention (Ruiz et al., 2024; Nguyen-Viet, 2025).

In the context of tourism education, mastering fundamental concepts and industry-specific terminology is particularly important, especially at the introductory stage. Nevertheless, the process of vocabulary acquisition is often perceived as monotonous and insufficiently engaging (Subon & Unin, 2023; Calafato & Clausen, 2025). This highlights the need for innovative pedagogical approaches that foster active participation and experiential learning (Lim & Hassan, 2024). To address this challenge, *Hospitality and Tourism to You (Ht2U)* was developed as a game-based learning tool designed to support the learning of tourism-related concepts. Since its initial development in 2017, Ht2U has undergone continuous transformation across multiple formats, ultimately

evolving into a mobile application released in 2026. The application incorporates crossword puzzles and word search activities to facilitate interactive, student-centred learning. Accordingly, this study aims to examine students' experiences and perceptions of the Ht2U application as a gamified learning tool.

2. METHODOLOGY

This study adopted a qualitative research approach utilising purposive sampling to gather insights from individuals who had prior experience with the trial version of the Ht2U application. The sample consisted of 107 undergraduate students from Universiti Teknologi MARA (UiTM), predominantly those enrolled in tourism-related programmes. Data were collected through an online questionnaire distributed via Google Forms following participants' completion of the application. The instrument comprised both demographic items and open-ended questions aimed at eliciting detailed responses regarding students' experiences, perceived learning outcomes, levels of engagement, encountered challenges, and recommendations for improvement. The collected qualitative data were analysed using thematic analysis, guided by the framework proposed by Braun and Clarke (2006; 2021). This process involved systematic coding, categorisation of responses, and the identification of recurring themes. Such an analytical approach facilitated a structured and in-depth interpretation of participants' experiences with the gamified learning application.

3. FINDINGS

The qualitative findings identified five principal themes: engagement and motivation, knowledge acquisition and retention, the development of cognitive and collaborative skills, preferences in game design for learning, and challenges related to usability and accessibility. Firstly, the results suggest that the Ht2U application serves as an effective gamified digital learning platform that enhances students' overall learning experiences. Participants frequently characterised the application as enjoyable, interactive, and engaging, indicating that gamification can foster intrinsic motivation and encourage active participation. This observation is consistent with prior studies emphasising the role of gamified learning environments in promoting engagement through elements such as challenge, enjoyment, and interactivity (Ruiz et al., 2024; Nguyen-Viet, 2025).

With regard to learning outcomes, the application appears to facilitate both knowledge acquisition and retention by promoting active recall and repeated engagement with instructional content. Activities such as crossword puzzles and word search exercises supported the memorisation of tourism-related terminology while simultaneously encouraging self-directed learning practices, including independent information seeking. These findings are in line with constructivist learning theory and existing research suggesting that gamified environments enhance deeper cognitive processing and improve retention (Zainuddin et al., 2020). Furthermore, the application contributed to the development of cognitive and collaborative competencies, as participants reported improvements in critical thinking, problem-solving abilities, and peer interaction. Additionally, the integration of diverse game mechanics, ranging from simple to more complex tasks, underscores the importance of varied design in accommodating different cognitive levels and learning preferences.

Despite these strengths, several challenges related to usability and accessibility were identified. Concerns regarding interface design, including small font sizes and difficulties in navigating game interactions, as well as platform-specific limitations, particularly among iOS users, highlight the necessity of adopting a user-centred approach in educational technology design. Although gamification can enhance engagement and learning outcomes, its overall effectiveness is contingent upon usability and accessibility considerations. As noted by Almufarreh (2026), technical constraints and suboptimal interface design may undermine the effectiveness of digital learning tools. Consequently, ongoing refinement of system design and functionality is deemed essential to ensure an inclusive, accessible, and effective learning environment.

4. CONCLUSION

In conclusion, the findings suggest that Ht2U is an effective gamified digital learning application that contributes positively to student engagement, motivation, and overall learning outcomes. The incorporation of interactive game-based features promotes active learning, enhances knowledge retention, and supports the development of both cognitive and collaborative skills. These results are consistent with recent literature highlighting the beneficial role of gamification in improving student engagement and academic performance (Ruiz et al., 2024; Nguyen-Viet, 2025). However, the study also emphasises the necessity of balancing engagement with usability considerations. Ongoing refinements in interface design, accessibility, and cross-platform compatibility are critical to ensuring that gamified learning applications remain both effective and inclusive.

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