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HARNESSING CANVA INFOGRAPHICS TO ENHANCE ENGAGEMENT IN ONLINE LEARNING

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ABSTRACT

The rapid shift toward online learning has intensified the challenge of sustaining student engagement and ensuring meaningful comprehension. Traditional lecture slides and text-heavy resources often fail to capture learners' attention, resulting in reduced motivation and cognitive overload. Visual learning strategies, particularly infographics, have shown promise in simplifying complex concepts and supporting retention. This study explores the integration of Canva-designed infographics into higher education online courses. Infographics were developed to represent key course concepts and shared with students through learning management systems and synchronous online lectures. Informal feedback and instructor observations indicated that the visuals enhanced clarity, improved recall, and increased participation during discussions. Students reported that Canva-based infographics made learning materials more engaging and easier to understand compared to conventional slides. While challenges such as design time and balancing visual appeal with accuracy were noted, the findings suggest that Canva provides educators with an accessible tool to foster engagement in digital classrooms. Future work should employ systematic evaluations, such as pre- and post-tests or large-scale surveys, to measure the direct impact on learning outcomes.

Keywords: Canva, infographics, online learning, student engagement, visual learning

Introduction

The rapid adoption of online learning in higher education, accelerated by the COVID-19 pandemic and the digital transformation of education, has reshaped how students and educators interact with course materials. While online platforms offer flexibility and wider accessibility, they also present significant challenges, particularly in maintaining student engagement and ensuring comprehension of complex subject matter. In fields such as mathematics and engineering, where abstract theories and technical problem-solving are central, the risk of student disengagement is even higher (Fabian et al., 2022).

Traditional online teaching methods often rely heavily on text-based lecture slides, lengthy notes, or extended video recordings. Although these formats deliver content, they are not always effective in sustaining attention or supporting long-term retention (Mayer, 2009). Students may become passive recipients of information rather than active participants in the learning process. Thus, there is a need for instructional innovations that not only transmit knowledge but also enhance motivation, reduce cognitive load, and facilitate deeper understanding.

One promising approach is the use of visual learning tools, particularly infographics. Infographics provide a concise, visually appealing medium for presenting complex ideas, combining text, images, icons, and diagrams into a structured format (Smiciklas, 2012). In recent years, digital tools such as Canva have enabled educators to design professional-quality infographics with minimal technical expertise. This accessibility makes Canva an attractive option for lecturers seeking to integrate visual strategies into their teaching practices.

At Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang, educators have been exploring technology-enhanced teaching innovations to improve student learning experiences. Building upon earlier work, such as the award-winning Bridging Calculus and Engineering Practice: An Instructional Video Series recognized at SUSED2025, this study focuses on the integration of Canva-designed infographics as a complementary tool to enhance engagement in online learning environments.

The aim of this paper is to document the process of designing and integrating Canva infographics in higher education courses, reflect on observed outcomes in terms of student engagement and comprehension, and discuss the opportunities and challenges encountered in practice.

Literature Review

2.1 Student Engagement in Online Learning

Engagement has been identified as a critical factor for successful online learning outcomes (Redmond et al., 2018). Engagement can be understood across behavioral, emotional, and cognitive dimensions. In digital classrooms, sustaining engagement is difficult due to distractions, reduced face-to-face interactions, and the limitations of screen-based communication (Martin & Bolliger, 2018). Innovative instructional strategies are therefore needed to foster active participation and motivation.

Visual Learning and Cognitive Theory

Visual learning has long been recognized as an effective pedagogical approach. According to Mayer's Cognitive Theory of Multimedia Learning (2009), students learn better from a combination of words and visuals than from words alone. Infographics align with this principle by integrating visuals, structure, and concise text, thereby reducing cognitive load while enhancing retention (Lyra et al., 2016).

Infographics in Higher Education

Recent studies have highlighted the effectiveness of infographics in higher education. Ibrahim (2020) reported that infographic-based materials improved comprehension of technical content among engineering students. Similarly, Alrwele (2017) found that infographics increased motivation and

participation in science courses. These findings suggest that infographics can serve as both instructional aids and learning resources for students to independently review.

Canva as a Tool for Educators

Canva, a web-based design platform, provides educators with user-friendly templates and customization options for creating visually compelling educational resources. Research indicates that Canva supports non-designers in producing high-quality visuals for teaching and assessment (Bouchrika, 2022). Its collaborative features also enable co-creation of infographics, allowing students to engage in content design as an active learning strategy.

Positioning This Study

While the potential of infographics is well-documented, there is limited literature that specifically examines their integration through Canva in online higher education contexts in Malaysia. This paper contributes to filling that gap by presenting a case of practice-based reflection from UiTM Cawangan Pulau Pinang. It focuses on how Canva infographics were designed, integrated into teaching, and perceived to enhance clarity, engagement, and retention.

Methodology

This study employed a practice-based reflective approach rather than a formal empirical design. The purpose was to document and reflect on the integration of Canva-designed infographics in online teaching at Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang. The methodology consisted of three main stages:

Design of Infographics

Canva was selected as the primary tool due to its accessibility, wide range of templates, and ease of use for non-designers. Infographics were created to represent core concepts from mathematics and computing courses, focusing on topics that students typically found abstract or challenging. Each infographic combined key formulas, diagrams, and step-by-step explanations in a visually structured format.

Integration into Online Learning

The infographics were integrated into both synchronous and asynchronous learning contexts:

- Synchronous delivery: Infographics were embedded in lecture slides and presented during live online classes.

- Asynchronous support: Infographics were uploaded to the Learning Management System (LMS) and shared as downloadable resources, allowing students to review content at their own pace.

Informal Feedback and Reflection

Instead of structured surveys, informal student feedback was gathered through classroom discussions and chat responses during online sessions. Educators also engaged in reflective observation, noting student reactions, participation levels, and patterns of engagement when infographics were used compared to conventional slides. This reflective practice provided qualitative insights into the effectiveness and limitations of Canva-designed infographics in enhancing online learning engagement.

Finding and Discussion

Improved Clarity of Content

Students reported that the infographics simplified complex ideas into more manageable forms. For example, abstract calculus concepts were easier to follow when presented visually alongside brief textual explanations. This aligns with Mayer's (2009) multimedia learning theory, which emphasizes dual-channel processing of information.

Increased Student Engagement

During live online classes, educators observed greater student participation when infographics were used. Questions in the chat box increased, and students frequently requested copies of the visuals for later review. This suggests that Canva-based infographics not only sustained attention but also stimulated interaction.

Enhanced Retention and Recall

When tested informally through problem-solving activities, students demonstrated improved recall of formulas and procedures previously represented in infographics. These finding echoes prior studies (Ibrahim, 2020; Alrwele, 2017) showing the positive effect of infographics on comprehension and memory.

Challenges in Implementation

Despite the benefits, several challenges were identified:

- Design Time: Creating effective infographics required additional preparation compared to standard lecture slides.

- Balance Between Visual Appeal and Accuracy: Ensuring that the infographic was attractive without oversimplifying content was a recurring difficulty.
- Digital Overload: Some students expressed concern about receiving too many visual materials, suggesting the need for balance with other formats.

Link to Previous Innovation Work

This project builds on the team's earlier innovation, Bridging Calculus and Engineering Practice: An Instructional Video Series, which won a bronze medal at SUSED2025. While the video series emphasized contextual applications of calculus in engineering, the Canva infographic initiative focused on concise visual summaries to support online comprehension. Together, these innovations reflect UiTM educators' ongoing commitment to bridging theory and practice through technology-enhanced teaching.

Conclusion and Future Directions

The integration of Canva-designed infographics into online higher education courses at UiTM Cawangan Pulau Pinang demonstrated strong potential for enhancing engagement and comprehension. Infographics provided a visually structured medium that improved clarity, increased student participation, and supported content retention. Although no formal data collection was conducted, reflective observations and informal feedback indicated that students found the approach valuable compared to conventional teaching materials.

Nevertheless, challenges such as the time investment for design and the need to balance aesthetics with accuracy must be acknowledged. The findings suggest that Canva is a practical, accessible tool that can empower educators to create engaging digital resources without requiring advanced design skills.

Future work should involve systematic evaluations, such as pre- and post-tests, structured student surveys, or comparative studies across multiple cohorts, to measure the measurable impact of infographics on learning outcomes. By combining Canva infographics with other innovations, such as instructional videos and gamification, educators can develop diverse strategies to meet the evolving needs of digital learners.

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with a Bronze Medal. This recognition has inspired the continuation of efforts to explore innovative digital tools, such as Canva, to enhance student engagement in online learning.

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