

Exploring the Use of Gamification in Learning Among Postgraduate Students at Universiti Putra Malaysia

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Abstract - Gamification has been increasingly adopted in higher education to enhance student engagement and motivation. However, existing research focuses largely on undergraduate learners and relies heavily on quantitative approaches, leaving postgraduate students' experiences underexplored. This study investigates how postgraduate students at Universiti Putra Malaysia (UPM) experience and perceive gamified learning. A qualitative case study design was employed. Five postgraduate coursework students from different faculties were purposively selected as participants. Data were collected through semi-structured interviews and analyzed using thematic analysis. The findings reveal that gamified learning creates emotionally engaging and interactive learning environments that encourage participation, collaboration, and motivation. Students reported that competition, teamwork, and immediate feedback increased their engagement and sustained their attention during learning activities. Acceptance of gamified learning was strongly influenced by perceived usefulness and ease of use. However, excessive competition, unclear instructions, and poorly aligned activities sometimes created pressure and cognitive burden. The study highlights that gamification is not automatically effective but depends on thoughtful instructional design and alignment with learning objectives. The findings contribute to the application of Self-Determination Theory and the Technology Acceptance Model in postgraduate education and provide practical guidance for instructors designing gamified learning activities. Overall, the study demonstrates that well-designed gamification can support postgraduate learners' motivation, engagement, and learning experience.

Keywords - Gamification, Postgraduate learning, Student engagement, Motivation, Technology acceptance

I. INTRODUCTION

Gamification has become an increasingly popular instructional strategy in higher education. It refers to the integration of game design elements such as points, badges, leaderboards, and challenges into non-game learning environments to enhance student motivation and participation (Dichev & Dicheva, 2017). With the rapid growth of digital learning technologies and blended learning environments, universities have adopted gamification to create more interactive and engaging classrooms. Previous research indicates that well-designed gamified activities can improve students' attention, participation, and learning

satisfaction (Sailer & Homner, 2020; Zainuddin et al., 2020).

Despite these positive findings, most studies on gamification focus primarily on undergraduate learners and rely heavily on quantitative research methods. As a result, there is limited understanding of how postgraduate students experience gamified learning in real classroom contexts. Postgraduate students differ from undergraduate learners in several ways. As adult learners, they often balance academic study with employment, research responsibilities, and personal commitments. These demands may influence their motivation, engagement, and perceptions of instructional strategies.

In Malaysian higher education, gamification has been increasingly introduced as part of broader digital learning and student engagement initiatives. At Universiti Putra Malaysia (UPM), instructors have begun using various gamified activities, including digital quizzes, collaborative challenges, and classroom competitions, to promote active participation. However, little research has explored how postgraduate students interpret and respond to these strategies.

Therefore, this study aims to explore postgraduate students' experiences with gamified learning at UPM. Using a qualitative case study approach, the research investigates students' experiences, acceptance, motivation, and engagement in gamified learning environments. By examining learners' perspectives in depth, the study contributes to a better understanding of how gamification functions in postgraduate education and offers insights for designing more effective gamified learning activities.

II. PROBLEM STATEMENT

Despite the growing use of gamification in higher education, several gaps remain in understanding its effectiveness for postgraduate students. Many studies report positive effects of gamified learning on participation and motivation, but most of this research focuses on undergraduate learners. As a result, limited attention has been given to postgraduate students, who represent a distinct group of adult learners with different learning needs and academic pressures.

At Universiti Putra Malaysia (UPM), instructors increasingly incorporate gamified tools such as digital quizzes, classroom challenges, badges, and collaborative missions to enhance student engagement.

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However, it remains unclear how postgraduate students actually perceive these activities. While some students may find gamified learning enjoyable and motivating, others may experience it as distracting, competitive, or unrelated to serious academic study. Without understanding students' experiences, instructors may implement game elements that do not effectively support postgraduate learning.

From a theoretical perspective, existing research rarely explores the role of Self-Determination Theory (SDT) and the Technology Acceptance Model (TAM) within postgraduate gamified learning environments. Although these frameworks explain motivation and technology acceptance, little research has examined how autonomy, competence, relatedness, perceived usefulness, and perceived ease of use influence postgraduate learners' responses to gamification.

In addition, most previous studies rely on quantitative survey methods, which often measure attitudes but fail to capture deeper emotional experiences and contextual factors. Consequently, there is limited understanding of how postgraduate students interpret and respond to gamified learning activities in real classroom settings. To address these gaps, this study uses a qualitative case study approach to explore postgraduate students' experiences, acceptance, motivation, and engagement in gamified learning at UPM.

III. LITERATURE REVIEW

Gamification refers to the integration of game elements such as points, badges, leaderboards, challenges, and rewards into non-game learning environments. These elements are used to increase learners' motivation, engagement, and participation in educational activities. In higher education, gamification has been widely adopted as a strategy to create more interactive learning environments and encourage active learning among students. Studies have shown that gamified learning can improve participation, attention, and learning satisfaction when game elements are well aligned with instructional objectives (Subhash & Cudney, 2018; Zainuddin et al., 2020).

Several studies highlight that gamification can stimulate learners' motivation by introducing competition, collaboration, and achievement systems. Game elements such as leaderboards and rewards can create excitement and encourage students to participate more actively in classroom activities. According to Werbach and Hunter (2020), gamification works by applying principles of game thinking to learning environments, which can transform traditional lessons into more dynamic and engaging experiences. Empirical studies have also shown that gamified

learning environments can improve students' engagement and persistence in academic tasks (Sailer & Homner, 2020; Wang et al., 2025).

From a motivational perspective, Self-Determination Theory (SDT) provides an important framework for understanding how gamification influences learners. SDT suggests that individuals are intrinsically motivated when three psychological needs are satisfied: autonomy, competence, and relatedness (Ryan & Deci, 2020). Gamified learning environments can support these needs by allowing students to make choices, experience progress through challenges, and interact with peers in collaborative tasks. When these needs are fulfilled, learners are more likely to remain motivated and engaged in the learning process.

Another theoretical framework relevant to gamified learning is the Technology Acceptance Model (TAM). TAM explains that users' willingness to adopt technology depends mainly on two factors: perceived usefulness and perceived ease of use (Al-Emran et al., 2018). In the context of gamified learning, students are more likely to accept game-based activities when they believe that these tools help them learn effectively and when the systems are simple to use. However, if game activities appear complicated or unrelated to course objectives, students may resist or disengage from them.

Although existing research demonstrates the potential benefits of gamification in higher education, many studies focus primarily on undergraduate populations and rely on quantitative survey methods. As a result, there is limited understanding of how postgraduate students experience gamified learning in real classroom contexts. Postgraduate learners often face different academic expectations and workloads, which may influence how they perceive and respond to gamified activities. Therefore, qualitative research is necessary to explore their experiences in greater depth.

IV. METHOD

This study adopted a qualitative case study design to explore postgraduate students' experiences with gamified learning at Universiti Putra Malaysia (UPM). Qualitative research is appropriate when the aim is to understand individuals' perceptions, emotions, and interpretations of a phenomenon within its real-life context. A case study approach allows the researcher to examine a specific situation in depth and capture detailed insights that may not be accessible through quantitative methods.

The participants of this study were five postgraduate coursework students from different academic programmes at UPM. All participants had completed at least two semesters and had experienced gamified learning in at least one course. Purposive

sampling was used to ensure that participants had relevant experience with gamification. The participants came from diverse academic backgrounds, including Curriculum and Instruction, Corporate Communication, Technical and Vocational Education, and TESL. Their experiences involved various gamification elements such as quizzes, points, group challenges, rewards, and leaderboard systems.

Table 1 presents the demographic profile of the participants.

TABLE I PARTICIPANT DEMOGRAPHIC PROFILE

Participant	Faculty / Programme	Semester	Experience with Gamified Learning	Course Context
A	Master of Curriculum and Instruction	Completed at least 2 semesters	Round-table discussion, creative performance, points, group voting	Innovation in Instruction
B	Master of Corporate Communication	Completed at least 2 semesters	Grammar race, rewards, acting tasks	English Communication Course
C	Master in Technical and Vocational Education	Completed at least 2 semesters	Wheel of Names, QR-code quizzes, leaderboard	TVET-related Course
D	Master of TESL	Completed at least 2 semesters	Music-based hot-potato speaking game	Advanced Communication Skills
E	Master of Curriculum and Instruction	Completed at least 2 semesters	Reading missions, quizzes, points, group challenges	World Literature Course

Data were collected through semi-structured interviews. Each interview lasted approximately 30 to 45 minutes and was conducted either face-to-face or online depending on the participant's preference. With participants' permission, all interviews were audio-recorded and later transcribed verbatim. The interview questions focused on students' experiences with gamified learning, their perceptions of usefulness and ease of use, their motivation during gamified activities, and their overall engagement in learning.

The interview data were analyzed using thematic analysis following the procedures proposed by Braun and Clarke. The analysis involved several stages, including familiarization with the data, coding meaningful segments, grouping related codes into categories, and developing broader themes. Through this process, patterns and recurring ideas were identified across the participants' responses. The final

themes reflected students' experiences, acceptance, motivation, and engagement in gamified learning environments.

V. FINDINGS

The thematic analysis of interview data revealed several key themes related to postgraduate students' experiences with gamified learning. Overall, participants described gamification as an engaging instructional strategy that enhanced their motivation, participation, and interaction during learning activities. Four main themes emerged from the data: emotional engagement, collaborative learning, competitive motivation, and perceived usefulness of gamified activities.

One important theme identified in the interviews was emotional engagement and enjoyment during gamified learning activities. Participants frequently described feelings of excitement and curiosity when participating in quiz competitions, classroom challenges, or point-based activities. These game elements created a more dynamic classroom atmosphere compared with traditional lecture-based teaching. One participant explained that gamified activities made the learning experience more stimulating:

"When we had quiz competitions in class, I felt more excited and focused. It was different from normal lectures because everyone wanted to answer quickly and get points." (Participant B)

Similarly, another participant noted that gamification helped maintain attention during lessons that might otherwise feel routine:

"Sometimes postgraduate classes can be quite serious, but when the lecturer used games or competitions, it made the class livelier and more interesting." (Participant D)

These responses suggest that gamified activities can generate positive emotional responses that help sustain students' attention and interest during learning sessions.

Another prominent theme was collaborative social learning. Participants emphasized that many gamified activities involved teamwork and group challenges, which encouraged communication and cooperation among classmates. Instead of working individually, students often needed to discuss answers, share ideas, and solve problems collectively. This collaborative environment strengthened social interaction and helped students feel more connected to their peers.

One participant highlighted the role of teamwork in gamified learning:

"When we played group games, we had to discuss quickly and decide the answer together. It helped us learn from each other." (Participant A)

Another participant expressed those collaborative activities helped build a stronger classroom community:

“Gamified activities made us interact more with classmates. Sometimes we didn’t talk much before, but during games we had to work together.” (Participant E)

These experiences indicate that gamification can facilitate peer interaction and create a more supportive learning environment for postgraduate students.

The third theme identified was competition as a motivational factor. Many participants reported that competitive elements such as leaderboards, points, and rewards encouraged them to pay closer attention and perform better during class activities. Friendly competition created a sense of challenge and achievement that motivated students to actively participate.

For example, one participant stated:

“When the lecturer showed the leaderboard, everyone wanted to see their team at the top. It made us try harder to answer correctly.” (Participant C)

Another participant explained that competition helped maintain focus during lessons:

“If there is competition, we will concentrate more because we want our group to win.” (Participant B)

However, participants also suggested that competition should remain balanced and supportive rather than overly intense. Excessive competition could potentially create pressure for some students.

The final theme was perceived usefulness and ease of use of gamified learning tools. Participants generally expressed positive attitudes toward gamified learning when the activities were easy to understand and clearly related to course content. Digital platforms such as online quizzes and mobile-based tools were perceived as convenient because students were already familiar with them.

One participant commented on the importance of clear instructions:

“If the game rules are clear, it is easy for us to participate and focus on the questions.” (Participant D)

Another participant highlighted how gamified tools supported learning:

“The quiz games helped me review the lesson because the questions were related to what we learned in class.” (Participant A)

These findings indicate that postgraduate students are more likely to accept gamified learning when activities are simple to use and directly support learning objectives.

Overall, the findings suggest that gamification can create emotionally engaging, socially interactive, and motivating learning experiences for postgraduate students. At the same time, the effectiveness of gamified learning depends on thoughtful design, clear

instructions, and meaningful connections to course content.

VI. DISCUSSION

The findings of this study indicate that gamified learning can enhance emotional engagement and participation among postgraduate students. Participants reported feeling excited and motivated during quiz competitions and interactive activities. This finding is consistent with previous research showing that gamification can increase students’ engagement and enjoyment in higher education learning environments (Subhash & Cudney, 2018; Sailer & Homner, 2020).

From the perspective of Self-Determination Theory, the results suggest that gamified activities can support learners’ psychological needs for competence, autonomy, and relatedness (Ryan & Deci, 2020). When students successfully complete challenges and receive feedback, they experience a sense of competence. Collaborative tasks and team-based activities also strengthen social interaction, which supports the need for relatedness.

The results also support the Technology Acceptance Model, which explains that users are more likely to accept educational technologies when they perceive them as useful and easy to use (Al-Emran et al., 2018). Participants in this study indicated that simple and familiar digital tools increased their willingness to participate in gamified learning activities. Similar findings have been reported in recent studies on technology-supported gamification in higher education (Zainuddin et al., 2020; Wang et al., 2025).

VII. CONCLUSION

This study explored postgraduate students’ experiences with gamified learning in higher education through a qualitative case study at Universiti Putra Malaysia. The findings indicate that gamification can create a more engaging and interactive learning environment for postgraduate students. Participants generally reported positive experiences with gamified activities, particularly in terms of increased emotional engagement, collaborative interaction, and motivation during classroom learning. Game elements such as quizzes, challenges, and group competitions helped maintain students’ attention and encouraged active participation in learning tasks.

The results also show that postgraduate students are more likely to accept gamified learning when the activities are clearly structured, easy to use, and directly related to course objectives. Digital quiz platforms and collaborative game-based activities were perceived as useful tools for reinforcing lesson content and promoting interaction among classmates. These

findings suggest that gamification can serve as an effective instructional strategy when it is thoughtfully integrated into the learning process.

From a theoretical perspective, the findings provide support for Self-Determination Theory and the Technology Acceptance Model. Gamified learning activities appeared to support students' psychological needs for competence, autonomy, and relatedness, which contributed to higher levels of motivation and engagement. In addition, students' acceptance of gamified learning was influenced by their perceptions of usefulness and ease of use, which aligns with the principles of the Technology Acceptance Model.

Despite these contributions, the study has several limitations. The research involved a small sample of five postgraduate students from a single university, which may limit the generalizability of the findings. In addition, the study relied on self-reported experiences collected through interviews, which may be influenced by participants' personal perceptions.

Future research could expand this study by involving larger samples from multiple universities and different academic disciplines. Researchers may also consider using mixed-method approaches that combine qualitative and quantitative data to provide a more comprehensive understanding of gamified learning in postgraduate education. Further studies could also explore how different gamification design elements influence learning outcomes and long-term student engagement.

Overall, this study contributes to the growing body of research on gamification in higher education by providing in-depth insights into postgraduate students' learning experiences. The findings highlight the importance of careful instructional design and suggest that well-designed gamified learning environments can support motivation, engagement, and meaningful learning in postgraduate classrooms.

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