

EXPLORING THE USE OF GAMIFICATION IN  
ENTREPRENEURSHIP COURSE TO ENHANCE  
SOCIAL INTERACTIONS IN THE CLASSROOM

BY

AUNI SUHAILAH BINTI HASBULLAH

A dissertation submitted in fulfilment of the requirement for  
the degree of Master of Human Sciences in Sociology and  
Anthropology

AbdulHamid AbuSulayman Kulliyyah of Islamic Revealed  
Knowledge and Human Sciences  
International Islamic University Malaysia

NOVEMBER 2025

## ABSTRACT

In recent years, gamification has emerged as a transformative approach to enhance learning experiences in the educational landscape, specifically in the IIUM entrepreneurship course. By integrating game design elements into educational environments, gamification seeks to boost engagement, motivation, and knowledge retention among students. This innovative strategy has shown immense potential in addressing traditional educational challenges, fostering a dynamic and interactive learning atmosphere in classroom learning. Hence, the objective of this research is to investigate the constraints of gamification adoption, identify the strategies needed to incorporate gamification into the entrepreneurship course, and examine the types of social interactions that exist through gamification. Grounded in Goffman's Frame Analysis Theory, this research aims to examine the dynamics and collective experiences of teaching and learning. The theory provides a lens to understand how educators and students respond towards and interpret the gamification system, framing their actions and communication patterns within the rules and rewards of the gamified system, how individuals portray their interactions within the gamified environments. This study employed qualitative methods such as in-depth interviews, focus-group discussions and participant observation for data collection. Nineteen interviewees were recruited using purposive sampling for this study. The findings revealed three themes: 1. adoption dilemma towards gamified learning system, 2. gamification incorporation strategies, and 3. interactional mechanisms in gamified environments. Based on the findings, it can be concluded that gamification incorporation strategies can effectively enhance learning by combining game design, thoughtful implementation, and aligning these game elements with educational objectives. In addition, key barriers that hinder gamification adoption include resource constraints, varying levels of adaptability among educators and students, and technological challenges. Finally, the interactional mechanisms of cooperation, exchange, and competition were identified during gamified environments. Therefore, the implementation of gamification in today's educational system is essential, as this study proves that gamification could enhance the teaching and learning process of educators and students.

## خلاصة البحث

شهدت السنوات الأخيرة تزايد الاهتمام بالتلعيب (Gamification) كأسلوب تعليمي مبتكر يُسهم في تحسين تجربة التعلم، لا سيما في مقررات ريادة الأعمال. ويهدف التلعيب، من خلال دمج عناصر تصميم الألعاب في البيئات التعليمية، إلى تعزيز التفاعل، وزيادة الدافعية، وتحسين الاحتفاظ بالمعرفة لدى الطلاب. وقد أظهرت هذه الاستراتيجية إمكانات كبيرة في معالجة التحديات التقليدية في العملية التعليمية، من خلال خلق بيئة تعليمية ديناميكية وتفاعلية داخل الفصول الدراسية. وعليه، تهدف هذه الدراسة إلى تحقيق ثلاثة أهداف رئيسية، وهي: واستكشاف العوائق التي تواجه تبنيّه وتطبيقه، تحديد الاستراتيجيات اللازمة لدمج التلعيب في مقررات ريادة الأعمال، وتحليل أنواع التفاعلات الاجتماعية التي تنشأ في البيئات التعليمية الملعبّة. وتعتمد الدراسة على نظرية تحليل الأطر لإرفنج جوفمان (Goffman's Frame Analysis Theory)، التي توفر فهماً معمقاً لكيفية تفاعل الأفراد داخل البيئات الملعبّة، وتأثير ذلك على الديناميكيات الاجتماعية والتعلم الجماعي. كما توفر النظرية منظوراً يساعد في تفسير استجابات المعلمين والطلاب لنظام التلعيب، وتأثير سلوكياتهم وأنماط تواصلهم ضمن قواعد ومكافآت هذا النظام. اتبعت الدراسة المنهج النوعي، حيث تم جمع البيانات من خلال المقابلات المتعمقة، ومجموعات النقاش المركزة، بالإضافة إلى الملاحظة المباشرة للمشاركين. وتم اختيار عينة مكونة من تسعة عشر مشاركاً باستخدام أسلوب العينة الهادفة. وقد أسفرت نتائج البحث عن ثلاثة محاور رئيسية، وهي: ومعوقات تبنيّ نظام التعلم الملعب، استراتيجيات دمج التلعيب، والآليات التفاعلية داخل البيئات الملعبّة. وتشير النتائج إلى أن استراتيجيات دمج التلعيب يمكن أن تسهم بفاعلية في تحسين عملية التعلم، وذلك من خلال الجمع بين تصميم الألعاب، والتنفيذ المدروس، وربط عناصر التلعيب بالأهداف التعليمية. كما أظهرت الدراسة أن من أبرز العوائق التي تحول دون تبنيّ التلعيب هي محدودية الموارد، والتفاوت في قدرة المعلمين والطلاب على التكيف معه، فضلاً عن التحديات التقنية. بالإضافة إلى ذلك، حددت الدراسة ثلاثة آليات تفاعلية رئيسية في البيئات الملعبّة، وهي: التعاون، والتبادل، والمنافسة. وبناءً على هذه النتائج، تؤكد الدراسة على أهمية دمج التلعيب في النظام التعليمي الحديث، نظراً لدوره الفعّال في تحسين تجربة التدريس والتعلم لكلٍّ من المعلمين والطلاب.

## ABSTRACT IN MALAY

Sejak kebelakangan ini, gamifikasi telah muncul sebagai pendekatan transformatif untuk meningkatkan pengalaman pembelajaran dalam landskap pendidikan, khususnya dalam kursus keusahawanan. Dengan mengintegrasikan elemen permainan ke dalam proses pendidikan, gamifikasi bertujuan untuk meningkatkan penglibatan, motivasi dan pengekalan pengetahuan di kalangan pelajar. Strategi inovatif ini bukan sahaja berpotensi besar dalam menangani cabaran pendidikan tradisional, malah turut memupuk suasana pembelajaran yang dinamik dan interaktif dalam bilik darjah. Justeru, objektif penyelidikan ini adalah untuk menyiasat kekangan pelaksanaan gamifikasi, seterusnya untuk mengenal pasti strategi yang diperlukan untuk mengintegrasikan gamifikasi dalam kursus keusahawanan serta mengkaji jenis interaksi sosial yang wujud melalui gamifikasi. Berdasarkan Teori 'Frame Analysis' yang dikemukakan oleh ahli sosiologis Erving Goffman, penyelidikan ini bertujuan untuk mengkaji bagaimana individu menggambarkan interaksi mereka dalam persekitaran gamifikasi, membentuk dinamik sosial dan pengalaman pembelajaran kolektif. Teori ini menjelaskan kaedah-kaedah untuk memahami bagaimana pendidik dan pelajar mentafsir dan bertindak balas terhadap sistem gamifikasi, merangka tindakan dan corak komunikasi mereka dalam peraturan dan ganjaran sistem gamifikasi. Kajian ini mengaplikasikan pendekatan kualitatif dengan melaksanakan temu bual mendalam, perbincangan kumpulan fokus, dan teknik pemerhatian penyertaan dalam pengumpulan data. Seramai sembilan belas orang telah direkrut menggunakan persampelan bertujuan dalam kajian ini. Dapatan kajian ini membawa kepada tiga tema iaitu 1. dilema penerimaan terhadap sistem pembelajaran gamifikasi, 2. strategi penggabungan gamifikasi dan 3. mekanisme interaksi dalam persekitaran gamifikasi. Berdasarkan dapatan kajian ini, dapat disimpulkan bahawa strategi penggabungan gamifikasi boleh meningkatkan pembelajaran secara berkesan dengan menggabungkan unsur permainan, pelaksanaan yang bernas, dan penyelarasan elemen permainan ini selari dengan objektif pembelajaran. Di samping itu, antara halangan utama dalam penggunaan gamifikasi termasuklah kekangan sumber, tahap kebolehsuaian yang berbeza-beza di kalangan pendidik dan pelajar, serta cabaran teknologi. Akhir sekali, hasil kajian telah berjaya mengungkap tiga mekanisme interaksi dalam proses gamifikasi, iaitu kerjasama, pertukaran, dan persaingan. Oleh itu, penggunaan gamifikasi amat penting untuk dilaksanakan dalam sistem pendidikan masa kini kerana kajian ini membuktikan bahawa gamifikasi berupaya menambah baik proses pengajaran dan pembelajaran di kalangan warga pendidik dan pelajar.

## APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Human Sciences in Sociology and Anthropology.



.....  
Nurazzura Mohamad Diah  
Supervisor

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Human Sciences in Sociology and Anthropology.



.....  
Nor Azlin Tajuddin



.....  
Szarianne Sulaiman

This dissertation was submitted to the Department of Sociology and Anthropology and is accepted as a fulfilment of the requirement for the degree of Master of Human Sciences in Sociology and Anthropology.

.....  
Norasikin Basir  
Covering Head, Department of  
Sociology and Anthropology

This dissertation was submitted to the AbdulHamid AbuSulayman Kulliyyah of Islamic Revealed Knowledge and Human Sciences and is accepted as a fulfilment of the requirement for the degree of Master of Human Sciences in Sociology and Anthropology.

.....  
Hafiz Zakariya  
Dean, AbdulHamid  
AbuSulayman Kulliyyah of  
Islamic Revealed Knowledge and  
Human Sciences



## DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Signature: .....

Date: ..... 22/10/2025 .....



**INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA**

**DECLARATION OF COPYRIGHT AND AFFIRMATION OF  
FAIR USE OF UNPUBLISHED RESEARCH**

**EXPLORING THE USE OF GAMIFICATION IN  
ENTREPRENEURSHIP COURSE TO ENHANCE SOCIAL  
INTERACTIONS IN THE CLASSROOM**

I declare that the copyright holders of this dissertation are jointly owned by the student and IIUM.

Copyright © 2025 Auni Suhailah Hasbullah and International Islamic University Malaysia. All rights reserved.

No part of this unpublished research may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the copyright holder except as provided below

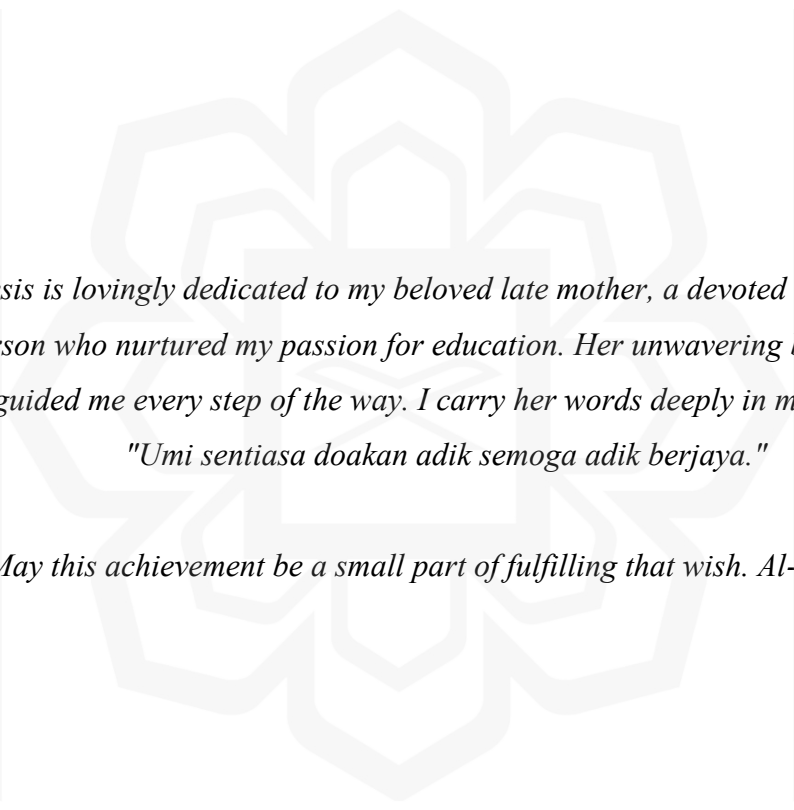
1. Any material contained in or derived from this unpublished research may only be used by others in their writing with due acknowledgement.
2. IIUM or its library will have the right to make and transmit copies (print or electronic) for institutional and academic purposes.
3. The IIUM library will have the right to make, store in a retrieval system and supply copies of this unpublished research if requested by other universities and research libraries.

By signing this form, I acknowledge that I have read and understand the IIUM Intellectual Property Rights and Commercialization policy.

Affirmed by

  
.....  
Signature

22/10/2025  
.....  
Date



*This thesis is lovingly dedicated to my beloved late mother, a devoted teacher and the first person who nurtured my passion for education. Her unwavering belief in me has guided me every step of the way. I carry her words deeply in my heart:*

*"Umi sentiasa doakan adik semoga adik berjaya."*

*May this achievement be a small part of fulfilling that wish. Al-Fatihah.*

## ACKNOWLEDGEMENTS

In the name of Allah, the Most Merciful and Benevolent One Who Created the Universe. Peace be upon the Prophet Muhammad (S.A.W), who has guided humankind from the darkest depths of ignorance into the brightest light of comprehension. Alhamdulillah, completing this master's degree has been a challenging yet rewarding journey, marked by perseverance, growth, and countless hours of dedication.

First and foremost, I am incredibly thankful to my supervisor, Associate Professor Dr. Nurazzura Mohamad Diah for her expertise, thoughtful feedback, and dedication to my growth as a student. Her insights and continuous support have helped me overcome challenges and stay focused on my goals. Whether it was through detailed critiques, encouraging words during difficult phases, or sharing valuable ideas to deepen my understanding, her mentorship has been invaluable. I am sincerely grateful for the time and effort she invested in guiding me through this project, for pushing me to refine my ideas, and for inspiring me to approach my research with curiosity, discipline, and persistence.

Secondly, I am equally grateful to the participants of this study, specifically to the IIUM entrepreneurship educators and students who enrolled in the entrepreneurship course. Their willingness to share their insights, experiences, and time has significantly contributed to the depth and quality of this research. Their perspectives have provided invaluable knowledge that has enriched this work and expanded my understanding of the subject. Without their cooperation and generosity, this study would not have been possible. I deeply appreciate their contributions and the role they have played in bringing this research to fruition.

I would also like to extend my heartfelt thanks to my friends whose unwavering support, encouragement, and companionship have been invaluable throughout this journey. Whether it was through late-night talks, offering words of motivation, or simply being there to share moments of joy and struggle, their presence has made this experience all the more meaningful. Our friendship has been a source of strength and resilience, constantly reminding me that I was never alone in this process. I am indebted to every soul who has been with me in this journey.

Lastly, I wholeheartedly extend my heartfelt gratitude to my beloved parents, Hasbullah Bin Hassan and Shukriyah Binti Mohd Fadzil. I dedicate this work in loving memory of my late mother, who passed away on 11 January 2023, just before I could celebrate my bachelor's degree graduation with her. She was my inspiration in pursuing my master's degree, having witnessed her own academic journey. Now, as I walk the same path, I have come to understand the hardships of obtaining a degree. May her soul rest in eternal peace in the highest Jannah. I thank them from the bottom of my heart. Their constant prayers have been the sustaining force that has carried me this far.

# TABLE OF CONTENTS

|                                                                                   |               |
|-----------------------------------------------------------------------------------|---------------|
| Abstract .....                                                                    | ii            |
| Abstract in Arabic .....                                                          | iii           |
| Abstract in Malay .....                                                           | iv            |
| Approval Page .....                                                               | vi            |
| Declaration .....                                                                 | viii          |
| Copyright Page .....                                                              | viii          |
| Dedication .....                                                                  | ix            |
| Acknowledgements .....                                                            | x             |
| List of Tables .....                                                              | xiii          |
| List of Figures .....                                                             | xiv           |
| List of Abbreviations .....                                                       | xv            |
| <br><b>CHAPTER ONE: INTRODUCTION .....</b>                                        | <br><b>1</b>  |
| 1.1 Background of the Study .....                                                 | 1             |
| 1.2 Problem Statement .....                                                       | 3             |
| 1.3 Significance of the Study .....                                               | 6             |
| 1.4 Research Objectives .....                                                     | 8             |
| 1.5 Research Questions .....                                                      | 9             |
| 1.6 Theoretical Framework .....                                                   | 9             |
| 1.6.1 Frame Analysis Theory .....                                                 | 9             |
| 1.7 Organisation of Chapters .....                                                | 13            |
| 1.8 Operational Terms .....                                                       | 14            |
| <br><b>CHAPTER TWO: LITERATURE REVIEW .....</b>                                   | <br><b>15</b> |
| 2.1 Introduction .....                                                            | 15            |
| 2.2 Overview of the Implementation of Gamification in Tertiary<br>Education ..... | 15            |
| 2.3 Sociological and Cultural Constraints of Gamification .....                   | 17            |
| 2.4 Adoption of Gamification in Entrepreneurship Courses .....                    | 18            |
| 2.5 Gamification Enhances Social Interaction .....                                | 20            |
| 2.6 Conclusion .....                                                              | 21            |
| <br><b>CHAPTER THREE: METHODOLOGY .....</b>                                       | <br><b>23</b> |
| 3.1 Introduction .....                                                            | 23            |
| 3.2 Research Design .....                                                         | 23            |
| 3.3 Research Participants .....                                                   | 26            |
| 3.4 Ensuring Rigour and Trustworthiness .....                                     | 29            |
| 3.5 Research Ethics .....                                                         | 30            |
| 3.6 Data Analysis Procedure .....                                                 | 31            |
| 3.7 Research Limitations .....                                                    | 31            |
| 3.8 Conclusion .....                                                              | 32            |

|                                                             |           |
|-------------------------------------------------------------|-----------|
| <b>CHAPTER FOUR: FINDINGS AND DISCUSSION.....</b>           | <b>33</b> |
| 4.1 Introduction .....                                      | 33        |
| 4.2 The Adoption Dilemma in Gamified Learning System.....   | 33        |
| 4.2.1 Resource Constraints .....                            | 33        |
| 4.2.2 Educator and Student Adaptability and Readiness ..... | 38        |
| 4.2.3 Game Design and Technical Feasibility .....           | 43        |
| 4.3 Gamification Incorporation Strategies.....              | 45        |
| 4.3.1 Game Design and Development .....                     | 46        |
| 4.3.2 Implementation in Learning Environment.....           | 48        |
| 4.3.3 Enhancing Engagement and Skill Development.....       | 52        |
| 4.4 Interactional Mechanisms in Gamified Environments ..... | 55        |
| 4.4.1 Cooperation.....                                      | 58        |
| 4.4.2 Knowledge Exchange .....                              | 60        |
| 4.4.3 Competition.....                                      | 62        |
| 4.5 Discussion.....                                         | 64        |
| 4.5.1 Strategic Gamification Deployment .....               | 64        |
| 4.5.2 Overcoming Adoption Barriers.....                     | 65        |
| 4.5.3 Engagement in Action.....                             | 67        |
| 4.6 Conclusion.....                                         | 68        |
| <b>CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS .....</b>   | <b>70</b> |
| 5.1 Conclusion .....                                        | 70        |
| 5.2 Catalyst for Change .....                               | 72        |
| 5.2.1 Learning Experience Designers .....                   | 72        |
| 5.2.2 Learning Ecosystem Curators .....                     | 73        |
| 5.2.3 Education Transformation Stewards.....                | 74        |
| 5.3 Suggestions for Future Research .....                   | 75        |
| <b>REFERENCES.....</b>                                      | <b>77</b> |
| <b>APPENDICES .....</b>                                     | <b>97</b> |
| Appendix A: Information Sheet.....                          | 97        |
| Appendix B: Participant Consent Form.....                   | 98        |

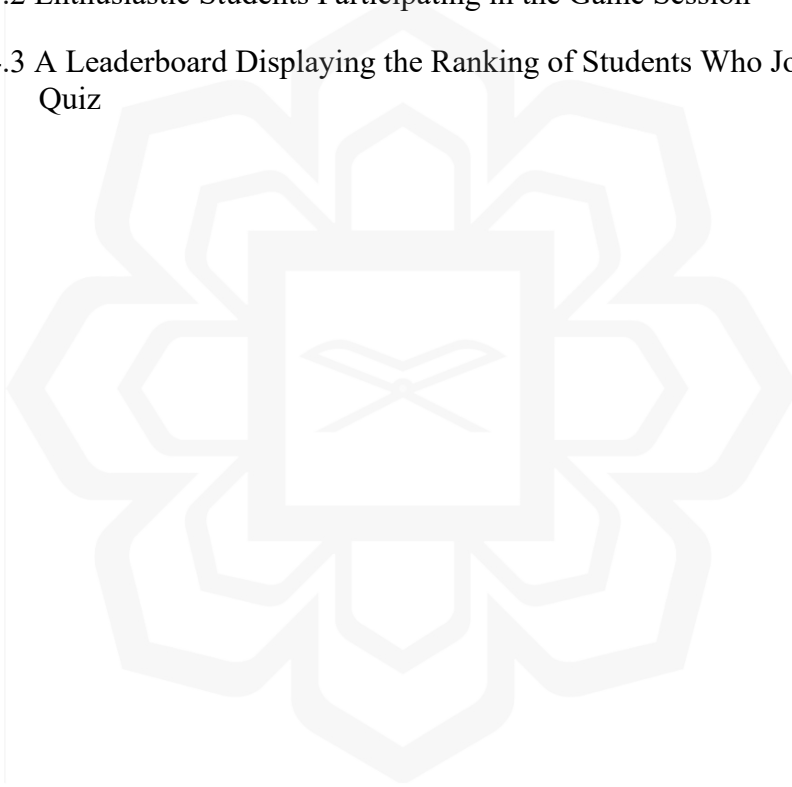
## LIST OF TABLES

|                                                           |    |
|-----------------------------------------------------------|----|
| Table 3.1 Demographics of Research Participants           | 27 |
| Table 4.1 Game Description Based on Classroom Observation | 56 |



## LIST OF FIGURES

|                                                                                   |    |
|-----------------------------------------------------------------------------------|----|
| Figure 1.1 Game Elements Showcase by ClassDojo                                    | 5  |
| Figure 1.2 Goffman's Frame Analysis Adapted for this Study                        | 11 |
| Figure 3.1 Observation during a Gamification Session in Class                     | 25 |
| Figure 4.1 Students Working Collaboratively in Groups to Compete with One Another | 59 |
| Figure 4.2 Enthusiastic Students Participating in the Game Session                | 66 |
| Figure 4.3 A Leaderboard Displaying the Ranking of Students Who Joined the Quiz   | 68 |



## LIST OF ABBREVIATIONS

|             |                                                                                   |
|-------------|-----------------------------------------------------------------------------------|
| AHAS KIRKHS | AbdulHamid AbuSulayman Kulliyyah of Islamic Revealed Knowledge and Human Sciences |
| AI          | Artificial Intelligence                                                           |
| AR          | Augmented Reality                                                                 |
| FGD         | Focus Group Discussion                                                            |
| HRDF        | Human Resource Development Corporation                                            |
| IIUM        | International Islamic University Malaysia                                         |
| IT          | Information Technology                                                            |
| KAHS        | Kulliyyah of Allied Health Sciences                                               |
| KENMS       | Kulliyyah of Economics and Management Sciences                                    |
| KICT        | Kulliyyah of Information and Communication Technology                             |
| KOE         | Kulliyyah of Engineering                                                          |
| KOED        | Kulliyyah of Education                                                            |
| KOM         | Kulliyyah of Medicine                                                             |
| KON         | Kulliyyah of Nursing                                                              |
| KOP         | Kulliyyah of Pharmacy                                                             |
| KSTCL       | Kulliyyah of Sustainable Tourism and Contemporary Languages                       |
| MDEC        | Malaysia Digital Economy Corporation                                              |
| MRANTI      | Malaysian Research Accelerator for Technology & Innovation                        |
| PC          | Personal Computer                                                                 |
| RPG         | Role-playing Game                                                                 |
| VR          | Virtual Reality                                                                   |
| Wi-Fi       | Wireless Fidelity                                                                 |
| XR          | Extended Reality                                                                  |

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 BACKGROUND OF THE STUDY**

Education has always been a crucial aspect of human development, shaping individuals and societies alike. In recent years, the rapid advancement of technology has brought significant changes and improvements to education, with the proliferation of digital resources and pedagogically driven activities profoundly transforming the ways in which education is delivered (Goyal, 2024). Educational materials and digital technologies enhance the classroom environment and the teaching and learning process by making them more engaging (Dancsa et al., 2023). Digital learning, with its emphasis on technology and multimedia resources, has been a game-changer in the field of education. It has been noted by Firdaus (2025), one of the most notable developments in this regard is the rise of digital learning, which includes innovative approaches like gamification.

The gamification of education is a developing trend in the academic world that incorporates game-like features into the learning process. According to Manzano-León et al. (2021), gamification refers to a new method of teaching and learning that integrates features from game design into the traditional classroom setting. It has been stated by Wulan et al. (2024) that one of the key benefits of gamifying education is its ability to increase student engagement and motivation. A study by Alzahrani and Alhalafawy (2023) highlights that some of the advantages of gamification in education are its ability to generate interest among students, motivate them to learn, and transform the classroom into an entertaining space that makes learning enjoyable. Games have long been recognised for their ability to capture attention and drive participation, making them an effective tool for keeping students interested in their studies, especially in the entrepreneurship course (Polydorou, 2025; Hoang et al., 2022; Krajger et al., 2018).

Furthermore, entrepreneurship requires a unique set of skills, including creativity, problem-solving, resilience, and the ability to pivot in response to changing market conditions (Mazla et al., 2020). Traditional teaching methods focus on standard

instruction and textbook learning often fall short in developing these competencies effectively (Islam et al., 2025). However, as mentioned by Heyworth-Thomas (2023), gamification could provide an interactive and experiential learning environment where students can develop and refine these critical skills. Through game elements such as missions, simulations, and role-playing scenarios, students can engage in real-world challenges that mirror the complexities of starting and running a business (Lau et al., 2023). The integration of gamification into tertiary-level entrepreneurship courses has shown promising results in enhancing student engagement and learning outcomes (Lyons et al., 2023).

In addition, He et al. (2023) report that students' learning experiences are improved in gamified entrepreneurship courses in higher education by incorporating flow theory. This impacts students' requirements for autonomy, competency, and relatedness, eventually increasing their satisfaction. An effective integration of serious games such as ENTRExplorer and FLIGBY into an entrepreneurial course effectively motivates students to engage in deliberate practice, enhancing their learning experiences and abilities in entrepreneurship education, hence demonstrating the advantages of gamification in higher education (Lynch et al., 2025). Sziegat (2024) highlighted that the integration of virtual simulation games in entrepreneurship serves as digital twins, replicating real-world scenarios and enhancing student engagement through immersive experiences. By utilizing extended reality (XR) technologies, such as virtual reality (VR) and augmented reality (AR), gamification fosters improved learning outcomes in entrepreneurship education while simultaneously promoting digital transformation and innovation in educational practices and supporting digital well-being and inclusion (Sofiadin, 2023).

The advancement of education in the digital era has contributed to digital learning (Djibrin et al., 2024). For instance, gamification has transformed the landscape of teaching and learning, offering new possibilities and opportunities for educators and learners alike. According to Rumianda and Nindigraha (2020), the use of gamification transforms the study of sociology into an interactive and entertaining experience, which in turn inspires students to do exceptionally well in their assignments while also cultivating a constructive learning environment. Furthermore, gamification has been shown to enhance collaboration skills among students (Sujarwo & Rejekiingsih, 2023; Saenboonsong & Poonsawad, 2023). In one study, students who participated in

gamified learning activities demonstrated significant improvements in their ability to work collaboratively compared to those in traditional learning settings (Mustikasari & Yugopuspito, 2024). This approach has proven that it not only improves the education paradigm but also leads to better social interactions among students.

As we continue to explore and harness the potential of gamification in education, it is crucial to examine its diverse impacts, challenges, and future directions to ensure that learning remains relevant, engaging, and meaningful in the digital age. Satria et al. (2024) found that gamification holds significant potential in addressing issues of students' engagement and collaboration by integrating game elements that foster teamwork, communication, and critical thinking. Hence, this study aims to explore its application within an entrepreneurship course at the International Islamic University Malaysia (IIUM), with a specific focus on enhancing social interaction within classroom settings. By aligning gamified strategies with the university's educational values, this research seeks to provide actionable insights into creating inclusive and participatory learning environments. The findings aspire to contribute to the broader discourse on gamification in education, offering practical recommendations to optimise student engagement and learning outcomes across diverse contexts.

## **1.2 PROBLEM STATEMENT**

There is a rising concern over students' declining desire to pursue higher education. According to the Student Career Profile (ePKM) system, Malaysia's Minister of Education, Fadhlina Sidek, revealed that 35.16 percent (115,939) of students did not continue their education in 2020. This trend worsened in 2021 with 48.74 percent (180,680) of SPM graduates not pursuing their education (Gimino et al., 2023). Ashraf et al. (2024) found that students may doubt their capabilities to succeed in higher education when confronted with academic challenges such as difficult coursework. Thus, gamification, being an innovative teaching and learning tool, holds significant potential in addressing the issue. It has been revealed by Jędrzejczak (2024) that gamification in higher education can enhance engagement, improve attendance, and ease first-year transitions, thereby reducing dropout rates and addressing declining enrolment.

The use of gamification in Malaysian tertiary education is not yet widespread due to some obstacles. In the past, academics have demonstrated that the implementation of gamification in educational settings has the potential to enhance the quality of learning engagement (Jun & Lucas, 2025; Ukgoda, 2025). The breakdown of Malaysia's technological infrastructure, on the other hand, has resulted in a number of situations that are fraught with difficulty (Yie et al., 2022). According to Ayob et al. (2022), the quality of education in Malaysia has been impacted by a digital gap. Many institutions in the country do not have the infrastructure and resources necessary to deploy innovative instructional technology.

Additionally, Lubis et al. (2009) argue that the utilization of gamification in Malaysia can only be realised if the education system shifts away from the uninteresting rote learning paradigm and embraces information technology to promote active, creative, and autonomous learning, yet this shift is hindered by a cultural emphasis on exams and standardised testing that discourages interactive, student-centered approaches. There is also a need for more professional development programmes to train educators in effectively using gamified learning tools (Arifin et al., 2025; Wei et al., 2024). Many educators in Malaysia may not be familiar with the principles and benefits of gamification, leading to resistance or hesitation in adopting these methods (Manining et al., 2022).

Therefore, gamifying an entrepreneurship course can significantly enhance students' learning experience by making it more engaging, interactive, and practical. Through game-based learning, students can simulate real-world business scenarios, allowing them to experiment with different strategies, take calculated risks, and learn from their mistakes in a safe environment (Peterková et al., 2022). Tem et al. (2020) agree that this approach fosters creativity, critical thinking, and problem-solving skills, which are essential for successful entrepreneurship. Additionally, gamification can increase motivation and retention by providing immediate feedback and rewards, making the learning process more enjoyable and dynamic (Kusdiyanti et al., 2022).

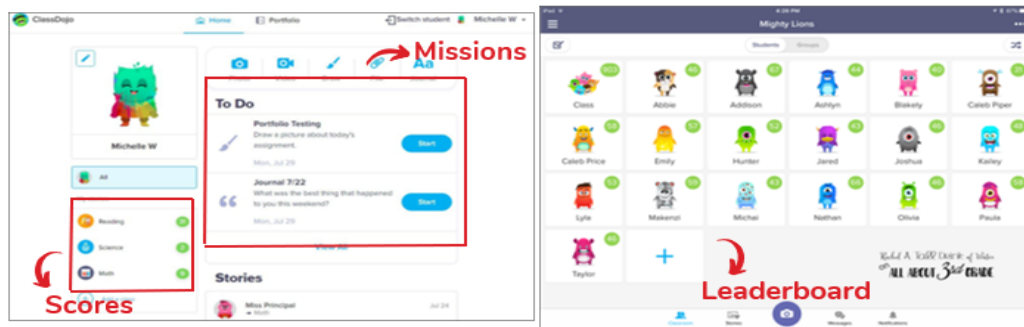


Figure 1.1 Gamification Elements are Demonstrated in an Entrepreneurship Game, ClassDojo

Core gamification elements such as points, missions, badges, awards, and leaderboards have proven especially relevant in entrepreneurship and business contexts (Hamari et al., 2016; Torlaković et al., 2022; Sharma et al., 2024). For instance, quantifiable rewards like points or scores encourage performance by giving learners tangible indicators of success which similar to sales teams earning points for meeting quotas, students feel a sense of accomplishment that motivates continued effort (Plangger et al., 2022). Missions further support entrepreneurial learning by breaking complex projects into manageable tasks that promote collaboration, align individual goals with group objectives, and encourage collective commitment (Vegt et al., 2014). Likewise, digital badges not only validate students' achievements but also enhance credibility, showcase employable skills, and encourage lifelong learning (Law & Storrar, 2025). Leaderboards, on the other hand, foster healthy competition by ranking individuals based on achievements, thereby motivating them to refine skills and improve performance (Kolachina et al., 2025).

More importantly, the value of these gamified mechanisms lies in their ability to transform motivational affordances into psychological outcomes and, ultimately, behavioural results (Huotari & Hamari, 2017). As Uysal and Yildirim (2016) explained that game features can use intrinsic motivators, such as accomplishment and recognition, to improve the player experience, and when basic psychological needs like autonomy, competence, and relatedness are met, they lead to greater enjoyment and stronger intrinsic motivation. A well-designed gamification system can make ordinary tasks feel more engaging than tedious, leading to behavioural changes that increase

collaboration, innovation, and support for company goals, which in turn improve performance and strengthen company culture, as shown in a study of 268 employees in a human resource service organization (Bizzi, 2023).

Despite the potential of gamification to transform learning, Malaysian higher education continues to grapple with declining student enthusiasm and enrolment, largely due to conventional teaching practices that constrain engagement and limit opportunities for meaningful social interaction. While gamification offers a powerful alternative by promoting participation, creativity, and experiential learning, its adoption in Malaysia remains hindered by weak technological infrastructure, entrenched cultural preferences for traditional pedagogy, and limited educator readiness. These issues are particularly pressing in entrepreneurship education, where interactive and collaborative learning is critical. Therefore, this study seeks to explore how gamification can be effectively integrated into entrepreneurship courses to enhance social interactions in classroom settings, focusing on the perspectives of entrepreneurship educators at the International Islamic University Malaysia through in-depth interviews.

### **1.3 SIGNIFICANCE OF THE STUDY**

This research aligns with the existing body of knowledge, including the Malaysia Education Blueprint (MEB) 2015-2025, the Malaysia Digital Economy Blueprint (2006), the Digital Education Policy and World Economic Forum, as discussed below.

The study of gamification adoption among entrepreneur educators in Malaysia is a pivotal area of research that holds substantial significance across multiple domains. It also indicated by Li et al. (2024) that gamification in education represents an intersection of technology, psychology, and pedagogy, offering a rich area of study within Sociology. Sociologically, this study contributes to the understanding of how digital tools can reshape learning environments, influence student behaviour, and enhance engagement (Benson et al., 2002). By integrating game-like elements into learning, educators can facilitate peer collaboration, which is essential for developing social skills and teamwork (Shi et al., 2014). This is particularly relevant in the context of digital learning, where physical interaction is limited. Thus, this study contributes to the sociological understanding of how digital technologies can bridge social gaps and foster a more inclusive learning environment.

This study is particularly significant in the context of the national strategic educational and economic policies based on the Malaysia Education Blueprint for Higher Education (2015). The Malaysia Education Development Plan 2015-2025 emphasises the integration of globalised online learning to enhance the accessibility, quality, and flexibility of higher education. This shift is driven by the need to adapt to global education trends and the increasing demand for digital learning platforms. By incorporating gamification into the curriculum, educators can create more engaging and interactive learning environments, aligning with the Ninth Shift of the Blueprint, which focuses on globalised online learning. This approach can contribute to the broader vision of a technology-driven, globally competitive education system.

Moreover, the Malaysia Digital Economy Blueprint (2006) further underscores the importance of building agile and competent digital talents. This blueprint outlines initiatives to integrate digital skills at various educational levels, promoting the use of innovative technologies in teaching and learning. The adoption of gamification in education aligns with the Blueprint's objective of equipping the workforce with essential digital skills. Programmes like "My Device" and "My Digital Teacher" aim to provide students with access to digital devices and training for educators, facilitating the incorporation of gamification into educational practices. Such initiatives can help bridge the gap in digital technology usage in classrooms, fostering a more tech-savvy generation.

Besides, the Digital Education Policy, as part of Malaysia's commitment to transforming its education system, plays a crucial role in this endeavour. The policy aims to empower students with knowledge in digital technology, fostering creativity, innovation, and ethical practices (Hakim, 2023). By integrating gamification, educators can enhance students' engagement and motivation, making learning more dynamic and effective. The policy emphasises digitally proficient students and competent digital educators. It supports the adoption of gamification, ensuring that both students and teachers are well-equipped to utilise digital tools effectively. This transformation is crucial for developing a generation capable of scientific innovation, data analysis, and problem-solving.

The relevance of gamification in education extends beyond the classroom, aligning with the World Economic Forum's emphasis on the Fourth Industrial

Revolution. The industry is increasingly seeking a workforce equipped with digital literacy, critical thinking, and problem-solving skills (Samodumska et al., 2022). Gamification in education aligns with these requirements by fostering these competencies from an early age. Sotirov (2023) establishes that by integrating gamified learning into educational curricula, students can develop the skills necessary to thrive in a rapidly evolving job market. For industries, this means a more competent and adaptable workforce capable of meeting the challenges of the digital economy (Shatalova, 2022). By investing in gamified learning, industries can contribute to the creation of a robust talent pipeline, ensuring sustained economic growth and competitiveness in the global market.

In conclusion, the adoption of gamification among entrepreneur educators in Malaysia presents a transformative opportunity to enhance educational practices. This study underscores the sociological impact of gamification in fostering peer collaboration, bridging social gaps, and creating inclusive learning environments. By integrating gamified elements into education, the Malaysia Education Blueprint and the Digital Economy Blueprint can effectively address the demands of a technology-driven future. Furthermore, gamification supports the objectives of the Digital Education Policy by empowering both educators and students with essential digital competencies. This study aligns with the Fourth Industrial Revolution's workforce requirements, highlighting its potential to cultivate critical thinking, digital literacy, and adaptability, ensuring that Malaysia remains competitive in the global economy. Ultimately, the adoption of gamification in education signifies a strategic approach to building a digitally proficient and innovative society, ready to meet the challenges and opportunities of a rapidly evolving world.

#### **1.4 RESEARCH OBJECTIVES**

This research aims to achieve the following three objectives:

- 1- To investigate the constraints of incorporating gamification in IIUM's entrepreneurship course.
- 2- To identify the strategies for effectively incorporating gamification into IIUM's entrepreneurship course.

- 3- To examine the types of social interactions facilitated by gamification in IIUM's entrepreneurship course.

## **1.5 RESEARCH QUESTIONS**

The following are the research questions:

- 1- What are the constraints of incorporating gamification in IIUM's entrepreneurship course?
- 2- How can gamification be effectively incorporated into IIUM's entrepreneurship course?
- 3- What are the types of social interactions facilitated by gamification in IIUM's entrepreneurship course?

## **1.6 THEORETICAL FRAMEWORK**

Frame Analysis Theory, developed by Erving Goffman (1974), examines how individuals interpret and structure social experiences through frames. In this study, the theory is employed to analyse how participants perceive and respond to gamified interactions in an entrepreneurship course. The correlation between the theory and the study lies in the way gamification acts as a framing mechanism, shaping participants' experiences and guiding their social behaviour within the course. Ultimately, it helps the researcher to create a clear understanding of the findings of this study which will then be interpreted to make sense of the relationship between the data gathered.

### **1.6.1 Frame Analysis Theory**

Frame Analysis (1974) by Erving Goffman is a sociological theory that examines how individuals interpret and organise their experiences in social interactions. Frames provide a structure that helps individuals make sense of everyday life, guiding how they perceive, respond, and act in different situations (Allison et al., 2019). Goffman (1974) suggests that people rely on frameworks to navigate their surroundings and that these frameworks can be modified or transformed through various processes. Kovecses

(2006) noted that by understanding how frames function, we can analyse social behaviour, interactions, and structured activities such as education and gaming, with key components of Frame Analysis namely primary frameworks, keys, and keying playing a crucial role in explaining human behaviour within social contexts.

A primary framework is the fundamental structure individuals use to understand and interpret their reality. It provides a basis for making sense of the world by organizing experiences into recognizable patterns (Goffman, 1974). These frameworks influence how people perceive events, guiding their reactions and shaping their interactions (Johnston & Alimi, 2013). For example, in an educational setting, students expect classrooms to be places of learning where teachers provide instruction, and students engage in discussions (Sidelinger & Bolen, 2010). Waseem (2024) argues that in gamification, a structured learning environment operates within established rules, roles, and objectives, similar to a game with clear guidelines. For example, the research by Pretorius (2024) highlights how gamification elements like experience points, badges, and progress bars in Moodle create a framework that enhances students' learning experiences. By identifying and applying these frameworks, educators can create structured settings that foster engagement, encourage participation, and enhance comprehension of entrepreneurial concepts.

Another key component in this theory is “keys”, referring to signs or signals that indicate a shift in a situation's meaning or purpose (Goffman, 1974). They help people understand how to react by giving hints about whether an activity is serious, playful, competitive, or something else (Fine, 2024). Recognising these cues helps individuals adjust their behaviour and expectations accordingly. In a classroom, Persson (2018) explains that switching from a lecture to a group game serves as a key signal prompting students to engage differently, marking a shift from passive information absorption to active interaction and application. Keys guide students' behavioural responses across both normal discussions and competitive challenges by introducing elements of engagement, urgency, and role differentiation, thereby creating a more dynamic learning environment that contributes to a more immersive educational experience (Rahmi et al., 2024).

“Keying” is the process of using keys to shift how an activity is understood while maintaining its underlying structure, thereby allowing participants to experience

the activity in a novel way without altering its fundamental purpose (Goffman, 1974). Keying allows for a reinterpretation of an existing activity, making it more engaging or interactive while maintaining its core purpose (Fine, 2024). A study by Deterding (2013) found that in gamification, keying serves as a re-framing mechanism that transforms leisurely gaming into work-like contexts, enhancing motivation and engagement. By reframing business planning as a strategic game, students experience a shift in understanding and interaction, fostering an entrepreneurial mindset and dynamic collaboration (Mayer et al., 2016; Langendahl et al., 2016).

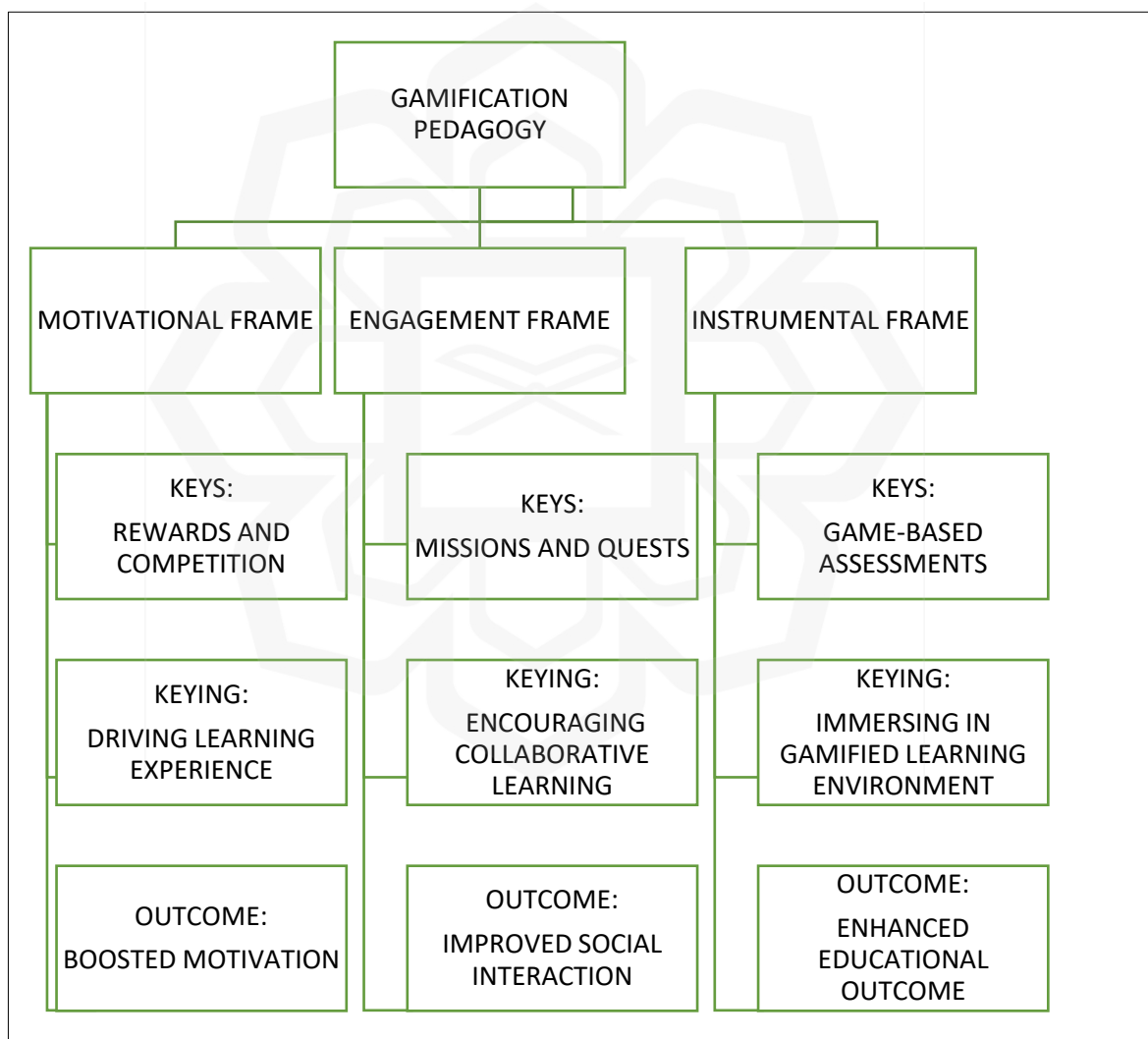


Figure 1.2 Goffman's Frame Analysis Adapted for this Study

Through this theoretical lens, implementing gamification in entrepreneurship courses could be analysed via multiple frames. The most prominent frame is the motivational frame. When students encounter motivational frames, they come to realise how gamification can effectively enhance their motivation and enrich their overall learning experience, as elements such as rewards and competition establish a dynamic context that not only encourages active participation but also sustains effort over time, thereby reinforcing engagement and promoting deeper involvement in the educational process (Folomieieva et al., 2024). Amin et al. (2024) revealed that in higher education, motivational framing fosters social interaction by incorporating game elements that promote active learning, discussions, and collaborations, with gamification appealing to both intrinsic and extrinsic motivators through features such as points, badges, and leaderboards that provide tangible rewards. At the same time, storytelling and role-playing games (RPGs) cultivate a deeper, more personal engagement with the material (Wan Ariffin et al., 2024; Li et al., 2024).

Engagement frames highlight how gamification strategies, such as missions and quests, stimulate collaborative learning and social interaction by embedding social elements into gamified environments, which naturally encourage students to work together, foster teamwork, and improve academic performance (Weitl-Harms et al., 2023; Ortega et al., 2017; Shi et al., 2014). Prasetyo et al. (2024) further affirm that gamification contributes to deeper comprehension and retention of course material while simultaneously increasing students' satisfaction with the pedagogical approach employed. Moreover, the incorporation of game mechanics that necessitate group participation and collective problem-solving reconceptualises conventional learning activities into dynamic and immersive experiences, thereby compelling students to engage more actively and meaningfully with both the subject matter and their peers (Loos & Crosby, 2017).

Additionally, Goffman's analysis highlights the instrumental frame of gamification as a tool for achieving educational outcomes. The instrumental frame emphasises the practical benefits of gamified learning, showing how game elements can be strategically incorporated into assessments and classroom activities to enhance the learning process (Deterding, 2013). By integrating game elements into assessments and learning activities, educators can enhance the effectiveness of the learning process and improve academic performance (Wan Ariffin et al., 2024). Research suggests that

gamification can improve learning outcomes by encouraging exploration and experimentation, which not only aids knowledge retention but also fosters critical thinking and problem-solving skills (Feng et al., 2024; Wulan et al., 2024).

In conclusion, applying Goffman's frame analysis to gamification in higher education offers a powerful framework for understanding and enhancing social interactions. By leveraging motivational, engagement, and instrumental frames, educators can create dynamic, socially rich learning environments that inspire participation, strengthen collaborative skills, and improve academic performance. This approach not only enhances students' educational experiences but also prepares them for complex real-world interactions, equipping them with the social and cognitive tools needed to thrive in diverse environments.

## 1.7 ORGANISATION OF CHAPTERS

This thesis has five chapters:

**Chapter One** introduces the background of the study on gamification in the IIUM entrepreneurship course to enhance social interaction, the statement of the problem, the significance of the study, research questions and research objectives. This chapter also includes a conceptualised theoretical framework as guidelines for this research.

**Chapter Two** focuses on the literature review related to gamification and its implementation in the IIUM entrepreneurship course. It addresses the gap in the current literature, leading to the proposed research. Previous studies related to the topic, including those from other countries have been reviewed to better understand the matter under study. The topics in this chapter include overview of gamification implementation in tertiary education; sociological and cultural constraints of gamification; adoption of gamification in entrepreneurship courses; gamification as teaching pedagogy and gamification as an enhancement to social interaction.

**Chapter Three** outlines the methodology employed in this study. The research instruments used are in-depth interviews, focus group discussions and participant observation. Additionally, this chapter details the research design, target population,

sampling design, ethical considerations, data analysis procedure and challenges in conducting this research.

**Chapter Four** discusses the findings and analysis of the data. Based on the findings, three themes emerged from the analysis to explain the study on gamification in the IIUM entrepreneurship course to enhance social interaction.

**Chapter Five** is the conclusion of the research, synthesising the findings, discussing the limitations and offering recommendations for future research. This chapter also provides the way forward to solve gamification-related issues in IIUM entrepreneurship course.

## **1.8 OPERATIONAL TERMS**

### **Gamification**

Refers to the method of incorporating gaming concepts onto non-gaming platforms with the goal of boosting engagement and improving user experience (Deterding et al., 2012).

### **Digital Learning**

Refers to the use of various forms of digital technology to facilitate the dissemination of educational resources and the execution of student-teacher interactions through adaptive learning systems, interactive simulations, virtual classrooms, and online courses (Yadav, 2024).

### **Social Interaction**

Social interaction in classroom settings refers to the reciprocal and communicative relationships between teachers and students, characterised by active engagement, open participation, questioning, and collaboration with peers and educators (Herisnawan & Ningsih, 2024).

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

This chapter reviews existing literature on gamification, with a focus on key themes such as entrepreneurship mindset, e-learning and the activities and challenges of digital entrepreneurship. The studies adopted in this review are from Malaysia and other countries. Additionally, this chapter identifies gaps in previous studies that form the basis of this research, specifically concerning the adoption of gamification in Malaysia's educational system, the constraints of its implementation particularly in tertiary education, the effective strategies for incorporating gamification into an entrepreneurship course within the Malaysian context, and the patterns of social interaction that emerge from such gamified learning experiences.

#### **2.2 OVERVIEW OF THE IMPLEMENTATION OF GAMIFICATION IN TERTIARY EDUCATION**

Gamification, the application of game design elements in non-game contexts, has seen widespread adoption in the educational sector, particularly in tertiary education. This approach leverages the engaging and motivational aspects of games to enhance learning experience (Abu-Hammad & Hamtini, 2023). It has been reported by Zhang et al. (2024) that the United States is one of the leading countries in gamified education research, as highlighted in the bibliometric analysis of 4,373 publications from 2004 to 2023. Christopoulos and Mystakidis (2023) highlighted that one of the most prominent examples of gamification in American education is the use of educational games and platforms such as Kahoot!, Classcraft, and Duolingo, which leverage game mechanics to make learning more interactive and enjoyable. For instance, Kahoot! uses competitive quizzes to foster a fun learning environment, while Classcraft transforms the classroom into a role-playing game where students earn points and rewards for academic achievements and positive behaviour (Khaitova, 2021).

South Korea, well-known for its high educational standards and population that is well-versed in technology, has also utilised gamification since the late 2000s (Shin,

2018). Kwon and Lyoo (2015) assert that South Korea has been using gamification in education since 2010, making it a standard practice to incorporate game elements into existing educational structures and curricula. Platforms such as ClassDojo have gained tremendous popularity, enabling teachers to combine gaming components into classroom management and education (Road, 2014). This trend has led to an increase in the availability of such platforms.

Moreover, gamification in education has been adopted across Asia. The implementation of gamification at Bina Nusantara University in Indonesia has a positive impact on student engagement and learning outcomes, provided that the system is well-designed and takes into consideration factors such as the content of the course, the involvement of the lecturers, and the characteristics of the students (Hidayat, 2021). Besides, a study conducted by Javed et al. (2022) in Lahore, Pakistan, examined the use of gamification in anatomy education among 155 first-year college students of medicine. The results reveal that students in gamified learning environments outperformed those in traditional settings, indicating that gamification could be an effective tool in medical education as well.

Meanwhile, in Africa, Mustafa et al. (2022) found that the adoption of gamified online learning is influenced by the technology acceptance model and task technology fit, and that perceived usefulness and attitude significantly impact instructors' intention to use these tools. Another study revealed that the implementation of gamification through a badging system in the ICT4RED initiative in South Africa, emphasizing that the system faced significant challenges in its electronic management due to technological constraints (Van Der Vyver, 2015). The evidence from African institutions suggests that while there is a positive inclination towards gamification, the implementation is still in its nascent stages and faces challenges related to infrastructure and training.

Similarly, in Malaysia, while gamification is gaining popularity, its integration into higher education remains at a nascent stage (Mazlan et al., 2023). Within the country's many academic institutions, there has been only a limited level of integration of the technique (Low et al., 2023). Gamified learning approaches have not yet reached the point where they are extensively utilised; there have only been experimental programmes and attempts on a smaller scale (Adzmi et al., 2024). According to Kamal

et al. (2019), although gamification is seen as the future of teaching and learning in Malaysian universities, its implementation is hindered by limited content development time, insufficient technical expertise, and financial constraints for necessary software and hardware. Therefore, this study aims to explore the adoption of gamification in Malaysia's educational system.

### **2.3 SOCIOLOGICAL AND CULTURAL CONSTRAINTS OF GAMIFICATION**

The adoption of gamification in the context of Malaysian education is constrained by sociological and cultural limitations that impact its effectiveness and acceptance. One major challenge is inadequate technological infrastructure, which often hinders the implementation of gamified learning environments. This is particularly evident in Malaysia, where a lack of technological infrastructure has been a major impediment (Yie et al., 2022). Additionally, the cultural emphasis on traditional educational methods and insufficient soft skills among fresh graduates further complicate the integration of gamification (Fuchs, 2024). Apandi (2022) notes that while the Malaysian Ministry of Higher Education recognises the need to enhance students' soft skills, and has identified gamification as a potential solution, its adoption remains limited due to these cultural constraints.

While gamification has shown promise in enhancing student engagement and motivation, its application in higher education institutions is less widespread than in public schools, indicating a cultural resistance to embracing innovative teaching methods (Mazlan et al., 2023). Moreover, gender disparities also persist, with male students generally exhibiting higher digital skills than females, particularly in rural areas, which further complicates the equitable implementation of gamification (Ahmad et al., 2019). Studies have shown that gender serves as an important moderator in performance expectancy and gamification acceptance among male and female students, suggesting that cultural perceptions of gender roles significantly influence how gamification is received (Tamrin et al., 2022).

According to Soh et al. (2012), this divide is further exacerbated by ethnic disparities, with Chinese youth having more extensive internet usage compared to the Malays and Indians, which also brings about higher risks associated with excessive internet use. Additionally, Chuah et al. (2021) observed that cultural diversity and the

differing perspectives between urban and rural learners in Sarawak significantly shaped the implementation of gamification in Malaysia, with a participatory design approach facilitating the integration of learners' cultural elements into the game design. Ong et al. (2013) found that gamification reduces academic amotivation and stimulates intrinsic motivation, suggesting that the right cultural adjustments can be effective in addressing motivational issues in Malaysian education.

The study by Yie et al. (2022) highlights that attitudes toward technology, varying levels of digital literacy, and the lack of technological infrastructure, significantly hinder the implementation of gamification in Malaysia by affecting students' motivation and engagement in online learning while creating dilemmas for educators in effectively integrating gamified experiences. Another study by Wei et al. (2024) emphasises that variations in teachers' knowledge and confidence, influenced by cultural attitudes toward technology and education, combined with infrastructure barriers, time constraints, and limited IT literacy, pose significant sociological constraints that hinder the effective implementation of gamified learning in primary education.

Furthermore, Saris and Sapari (2022) state that in electrical and electronics engineering, gamification has been positively received, indicating that its acceptance may vary across different academic disciplines and cultural contexts. Finally, the continuance intention to use gamified mobile learning applications is influenced by perceived usefulness and user satisfaction, both of which are shaped by cultural expectations of educational technology (Roslan et al., 2023). Overall, while gamification holds the potential for enhancing education in Malaysia, its adoption is constrained by sociological and cultural factors such as inadequate technological infrastructure, traditional educational values, gender perceptions, and the need for intrinsic motivation. Thus, the purpose of this study is to fill the gap in the existing literature by investigating the constraints of gamification adoption, particularly in tertiary education.

## **2.4 ADOPTION OF GAMIFICATION IN ENTREPRENEURSHIP COURSES**

In entrepreneurship courses, gamification offers numerous benefits that can significantly enhance the educational experience. One of the primary advantages is the

promotion of active learning. Takemoto and Oe (2021), drawing on open-ended surveys and in-depth interviews with 91 students, demonstrated that the incorporation of game-like elements such as simulations, role-playing, and interactive challenges in entrepreneurial classrooms not only fosters critical engagement with game scenarios but also, when integrated with theoretical instruction, effectively replicates real-world business contexts, thereby enabling students to apply theoretical concepts in practical and experiential ways. It has been reported by Alkaabi (2022) that this gamified learning approach helps students to better understand the complexities of entrepreneurship, from ideation and business planning to marketing and financial management through enrolment in a short summer entrepreneurial course designed by the United Arab Emirates University that were joined by students from secondary and higher secondary schools across the seven emirates of the United Arab Emirates.

Melo et al. (2023) reported that gamification had a positive and statistically significant impact on 191 students in entrepreneurship classes within a Brazilian technical business course, with the effect most pronounced among those with initially lower entrepreneurial intentions, thereby demonstrating its effectiveness in motivating a broader range of students. Similarly, an Indonesian study has highlighted the importance of experiential learning in entrepreneurship education, demonstrating that gamification-based educational media could significantly increase high school students' interest and active participation, which are essential for developing an entrepreneurial spirit in the innovative education era (Kusdiyanti et al., 2022). However, He et al. (2023) noted that while gamified courses are novel and interactive, student satisfaction has not yet reached the desired levels, suggesting the need for further refinement in course design to meet students' competency, autonomy, and relatedness needs, which are crucial for achieving a state of flow and satisfaction.

The development of soft skills is another significant advantage that gamification brings to the field of entrepreneurship education (Marinov & Spasova, 2023; Casau et al., 2023). According to Almeida and Buzady (2023), the serious game FLIGBY facilitated the development of soft skills such as problem-solving, creativity, collaboration, and resilience, which are crucial competencies that can enhance students' prospects of success in both their educational and professional endeavours. Moreover, by integrating gamification, learners can develop leadership qualities in a fun and interactive manner that supports their entrepreneurial pursuits, making it a valuable tool

for cultivating soft skills within entrepreneurship education (Azab & Ab-Hashima, 2024). Putting students in circumstances where they are required to think critically, create, and work with others to attain their goals is one way that gamified exercises and contests might help students develop these abilities (Lyons et al., 2023).

Malaysia has a lot of potential to use gamification in entrepreneurship education, but there are still very few studies on how it has been implemented, especially in universities. Most past research has not focused on entrepreneurship courses in the Malaysian context, which means there is insufficient empirical evidence on how gamification is applied in higher education. Hence, this study aims to fill that gap by exploring effective ways to integrate gamification into an entrepreneurship course in Malaysia.

## **2.5 GAMIFICATION ENHANCES SOCIAL INTERACTION**

Gamification in entrepreneurship courses has been widely recognised as an effective approach to enhancing social interaction by integrating game design elements that foster collaboration, competition, and communication, thereby leveraging students' intrinsic motivations to create a more dynamic and engaging learning environment (Islam et al., 2025). Kara and Russell (2024) highlight that gamification elements not only enhance student participation but also foster meaningful social interactions that are crucial for developing entrepreneurial skills, as gamification immerses students in playful, goal-oriented scenarios that encourage them to interact, exchange ideas, and support one another, thereby reinforcing the social dimensions of learning.

Al-Khalifa and Al-Matham (2021) found that a gamified platform in a semester-long entrepreneurship course with 106 undergraduate female students fostered social interaction by encouraging peer investment and constructive feedback, thereby creating a collaborative learning environment that deepened engagement, built a sense of community, and promoted shared learning experiences. Similarly, Padilla-Zea et al. (2020) found that the Social PlaNet platform, which simulates real-life entrepreneurial challenges, enhanced social interaction and fostered the development of soft and interpersonal skills, with facilitators playing a crucial role in guiding and monitoring student interactions to cultivate a supportive and interactive learning environment for aspiring entrepreneurs.

Furthermore, Dias et al. (2024) demonstrated that gamification through board games, such as the "Game It Away!" project, fostered student motivation, engagement, and collaboration. The hands-on approach allowed students to participate in competitive and cooperative activities, enhancing their communication and teamwork skills as outlined in the EntreComp framework. Additionally, Mitchell and Co (2024) found that gamified elements such as competition and rewards positively influenced multiple dimensions of student engagement, with quantitative data showing stronger connections with instructors while qualitative feedback revealed that these elements fostered a sense of achievement and enhanced peer collaboration.

Gamification has been shown to cultivate entrepreneurial competencies and leadership skills, as Kampff et al. (2022) demonstrated through a tailor-made online card game that significantly boosted student engagement by promoting experimentation, decision-making, and teamwork, while its interactive and low-risk design allowed students to test entrepreneurial strategies and iteratively refine their problem-solving and leadership abilities through repeated practice. Additionally, Asmara and Putra (2023) found that gamified learning at IGASAR PINDAD Vocational High School in Bandung enhanced students' confidence and leadership capabilities, as challenge-based tasks and group rewards fostered trust and collaboration while providing opportunities to practice essential entrepreneurial skills such as negotiation, adaptability, and strategic thinking. Therefore, this study intends to delve deeper by examining the patterns of social interaction emerging from gamification in the entrepreneurship course.

## **2.6 CONCLUSION**

In summary, this literature review highlights the growing adoption of gamification in tertiary education, demonstrating its effectiveness in improving student engagement, motivation, and learning outcomes. Various studies across different countries have shown positive impacts, but challenges such as inadequate technological infrastructure and cultural constraints still need to be addressed. While gamification has been integrated into entrepreneurship courses globally, its adoption in Malaysian higher education remains limited. Current research lacks comprehensive investigations into effective gamification strategies in Malaysian entrepreneurship courses, particularly in

sociological and cultural barriers. Additionally, studies that have explored the types of social interactions that emerge within gamified learning environments remain limited. Therefore, this study aims to fill these gaps by investigating the role of gamification in fostering social interactions and identifying strategies for its effective implementation in Malaysian entrepreneurship education.



## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter outlines the research methodology employed in this study. A qualitative approach was adopted, using in-depth interviews and focus group discussions as the main data collection tools. The participants of this study came from two cohorts: 1) IIUM entrepreneurship educators from every Kulliyah and campus, and 2) students enrolled in the Entrepreneurship course who participated in the focus group. Research ethics protocols were strictly adhered to, including obtaining participants' consent prior to data collection, and using pseudonyms in the analysis to ensure confidentiality. Following data collection and analysis, the findings were classified into three main themes.

#### **3.2 RESEARCH DESIGN**

This study utilises the qualitative method to achieve a deeper understanding of how gamification adoption in the IIUM entrepreneurship course enhances social interaction. Aspers and Corter (2021) define qualitative research as an iterative process wherein the scientific community gains a better grasp of the issue under study by drawing closer to it and establishing new, meaningful differences. Thus, the focus of qualitative research is on the process rather than the findings, because the method is seen as more important than the end-product. This perspective is useful in getting to the bottom of why things happen the way they do (Werdiningsih, 2022). This study investigates the use of gamification in an entrepreneurship course to enhance social interactions among students in the classroom. It delves into the challenges associated with adopting gamified learning systems, the strategies for incorporating gamification, and the mechanisms that drive interactions within gamified environments. By focusing on these aspects, this research provides valuable insights into how gamification can foster collaborative learning and engagement among students in an entrepreneurship course.

In-depth interviews were conducted to collect relevant data. According to Knott et al. (2022), in-depth interviews have the potential to garner profound and all-encompassing insights, carry out investigations into complicated issues, and dive into the complexities of the participants' experiences. By enabling a deeper understanding of educators' perspectives, in-depth interviews help uncover nuances that may not be captured through quantitative methods, ensuring a more holistic view of the research topic (Biswas, 2025). Face-to-face and online interview sessions lasting approximately 45-60 minutes each were conducted as part of the data collection process. While several of the interview sessions were conducted physically at the respective entrepreneurship educators' offices on the Gombak campus, others were conducted virtually via Google Meet. The hybrid method of conducting interviews was adopted because some entrepreneurship educators are based in Pagoh and Kuantan campuses, necessitating online interviews. All the interviews were conducted in Malay and/or English, and were subjected to audio and screen recording, with participants documented consent.

Focus group discussions (FGD) were utilised in this study to gain insights into the students' experiences with gamification adoption in the entrepreneurship course. Focus group discussions were used as data triangulation, which allowed participants to share their insights and improve research validity and reliability by allowing cross-verification (Meydan & Akkaş, 2024). Four focus groups were formed, each comprising five to four students, to ensure a manageable group size that foster open discussion and active participation. Each session lasted approximately 50 to 60 minutes in a classroom, providing sufficient time and a comfortable environment for students to reflect on their experiences and share their perspectives. During the FGD sessions, students were asked to: 1) describe their interactions with gamified learning elements, 2) identify the challenges they encountered during the gamify session, and 3) evaluate the impact of the gamification on their course engagement and peer interactions. All discussions were audio-recorded with participants' consent to ensure accurate transcription for thematic analysis of responses.

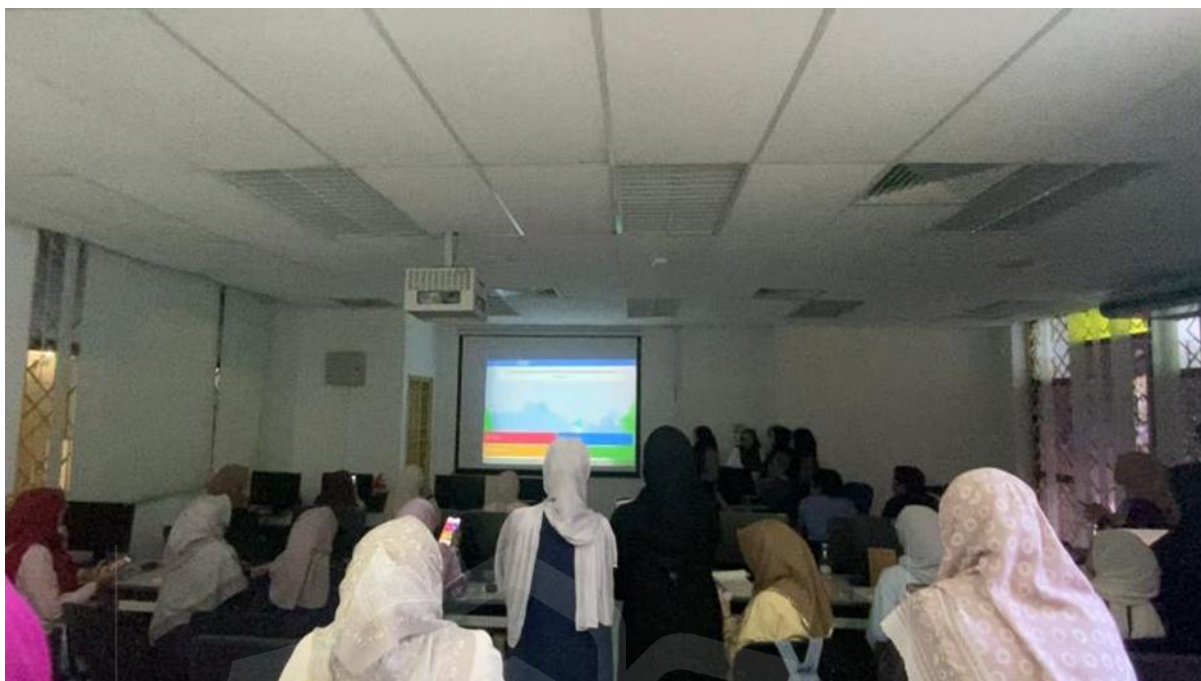


Figure 3.1 Observation during a Gamification Session in Class

Participant observation was also employed during the gamified learning sessions of the entrepreneurship course to gain firsthand insights into the dynamics of social interactions facilitated by gamification. The researcher actively participated in the sessions as a facilitator, observer, and co-participant, assisting and guiding students through activities while being immersed in the learning environment. This method allows the researcher to gain insights into behaviours and interactions, which is applicable in an educational setting where students observe and participate in activities to gather data about educational processes (Da Costa et al., 2024). Akter et al. (2024) documented that non-verbal cues, such as body language, facial expressions, and spontaneous reactions, provided additional insights into students' levels of enjoyment, motivation, and involvement. Furthermore, as reported by Hariadi and Nopiana (2023), the use of interactive methods in teaching can significantly enhance student engagement and activity, making learning more dynamic and less monotonous. By directly engaging in the gamified environment, the researcher was able to validate reported experiences that might not have surfaced during interviews or focus group discussions.

### **3.3 RESEARCH PARTICIPANTS**

This study employed the purposive sampling technique to recruit research participants. According to Douglas (2022), purposive sampling, which is sometimes referred to as judgment sampling, is the deliberate selection of participants based on their relevance to the research topic and objectives. The study recruited 19 participants (see Table 3.1), consisting of male and female educators who teach the entrepreneurship subject as either a core or elective course across all IIUM campuses. One key criterion is that participants must be certified educators accredited either by Google, Malaysia Digital Economy Corporation (MDEC), Human Resource Development Corporation (HRDF), Malaysian Research Accelerator for Technology & Innovation (MRANTI) or other related bodies.

In addition, the participants for the focus group discussions were also selected using purposive sampling to ensure that they were directly relevant to the study's objectives. A total of 14 students who participated in the focus group discussions must be enrolled in the entrepreneurship course for Semester 1, 2024/2025 session. Most students were in their third or final year of undergraduate studies, with ages ranging from 20 to 25 years. The group included a balanced mix of male and female participants, reflecting the course's inclusive approach. Additionally, the students brought with them varying levels of familiarity with gamified learning, ranging from those with prior exposure to educational games, to those experiencing it for the first time. This diversity in demographics and experience enriched the focus group discussions, offering a comprehensive view of how gamification influenced students with different backgrounds and learning preferences.

Table 3.1 Demographics of Research Participants: Cohort of Entrepreneurship Educators

| <i>Pseudonyms</i> | <i>Age</i> | <i>Sex</i> | <i>Marital Status</i> | <i>Campus</i> | <i>Kulliyah</i> | <i>Degree</i> | <i>Designation</i>  | <i>Years of Teaching Entrepreneurship</i> | <i>Professional Certification</i>             | <i>Business Owner</i> | <i>Business Sector</i>                                                                         |
|-------------------|------------|------------|-----------------------|---------------|-----------------|---------------|---------------------|-------------------------------------------|-----------------------------------------------|-----------------------|------------------------------------------------------------------------------------------------|
| 1 Intan           | 45         | F          | Married               | Gombak        | AHAS KIRKHS     | PhD           | Associate Professor | More than 10 years                        | MA and PhD in Marketing and Advertising, MDEC | Yes                   | Non-governmental Organisation                                                                  |
| 2 Hanis           | 35         | F          | Married               | Gombak        | KICT            | PhD           | Assistant Professor | 4-6 Years                                 | COURSER A                                     | No                    | None                                                                                           |
| 3 Syahmi          | 38         | M          | Married               | Pagoh         | KSTCL           | PhD           | Assistant Professor | 1-3 Years                                 | MDEC                                          | Yes                   | Agriculture & Food Industry                                                                    |
| 4 Najwa           | 45         | F          | Married               | Gombak        | KENMS           | PhD           | Assistant Professor | 4-6 Years                                 | MoHE-ProCeed                                  | No                    | None                                                                                           |
| 5 Nur             | 39         | F          | Married               | Kuantan       | KAHS            | PhD           | Assistant Professor | 4-6 Years                                 | MDEC                                          | Yes                   | Education & Training, Retail & E-commerce, Healthcare & Pharmaceuticals, Hospitality & Tourism |
| 6 Nabila          | 52         | F          | Married               | Gombak        | KICT            | MA            | Academic Fellow     | 7-10 Years                                | GOOGLE, MDEC                                  | No                    | None                                                                                           |
| 7 Ikhwan          | 42         | M          | Married               | Kuantan       | KON             | PhD           | Assistant Professor | 4-6 Years                                 | EDC IIUM                                      | No                    | None                                                                                           |
| 8 Irfan           | 46         | M          | Married               | Kuantan       | KAHS            | PhD           | Assistant Professor | 4-6 Years                                 | GOOGLE, MDEC, HRDF                            | Yes                   | Real Estate & Property Development                                                             |
| 9 Aisyah          | 37         | F          | Married               | Gombak        | KENMS           | PhD           | Assistant Professor | 4-6 Years                                 | MDEC, MRANTI                                  | No                    | None                                                                                           |

|             |    |   |         |         |       |     |                     |            |                         |     |                          |
|-------------|----|---|---------|---------|-------|-----|---------------------|------------|-------------------------|-----|--------------------------|
| 10 Afiqah   | 42 | F | Married | Gombak  | KICT  | PhD | Assistant Professor | 4-6 Years  | MDEC                    | Yes | Retail & E-Commerce      |
| 11 Zaleha   | 41 | F | Married | Gombak  | KOE   | PhD | Assistant Professor | 1-3 Years  | MDEC                    | No  | None                     |
| 12 Aqief    | 35 | M | Single  | Kuantan | KOP   | PhD | Assistant Professor | 4-6 Years  | MDEC                    | Yes | Food & Beverage          |
| 13 Iffah    | 55 | F | Married | Gombak  | KOED  | PhD | Academic Fellow     | 7-10 Years | GOOGLE, MDEC            | No  | None                     |
| 14 Ammar    | 56 | M | Married | Gombak  | KOE   | PhD | Associate Professor | 7-10 Years | GOOGLE, MDEC, HRDF, KPM | Yes | Technology               |
| 15 Aniq     | 38 | M | Married | Kuantan | KOM   | MA  | Assistant Professor | 4-6 Years  | EDC IIUM                | Yes | Academic Books           |
| 16 Aiman    | 48 | M | Married | Pagoh   | KSTCL | PhD | Assistant Professor | 1-3 Years  | MDEC                    | No  | None                     |
| 17 Syahirah | 40 | F | Married | Gombak  | KOE   | PhD | Assistant Professor | 1-3 Years  | MDEC                    | No  | None                     |
| 18 Fitri    | 65 | M | Married | Pagoh   | KSTCL | MA  | Academic Fellow     | 7-10 Years | ACCA, MAA, MATA, AICB   | Yes | Education & Training     |
| 19 Zulaikha | 35 | F | Married | Pagoh   | KSTCL | PhD | Assistant Professor | 4-6 Years  | EDC IIUM                | Yes | Electrical & Electronics |

### 3.4 ENSURING RIGOUR AND TRUSTWORTHINESS

Triangulation is a crucial component in ensuring the robustness and reliability of the acquired findings (Vivek et al., 2023). In alignment with the requirements of triangulation, this study employs focus group discussions (FGDs) with students as one component of data triangulation. Bachtiar et al. (2024) found that gathering data from multiple groups of participants allowed the researcher to compare and contrast perspectives, identify recurring themes, and validate the consistency of responses. The use of four separate focus groups ensured that diverse viewpoints were represented, minimizing bias and providing a richer understanding of the students' experiences with gamification in the entrepreneurship course. Additionally, the dynamic nature of focus group interactions often led to deeper discussions, as students built upon each other's responses, hence providing deeper insights (Ismath et al., 2023).

Apart from that, participant observation is also utilised as a method of data triangulation in conjunction with interviews of the entrepreneurship educators. This triangulation assists in cross-verifying information and increases the trustworthiness of the research results (Ahmed, 2024). Moreover, this method gives researchers the opportunity to completely submerge themselves in the setting, which ultimately results in a more profound comprehension of the circumstances and behaviours that are being investigated (Lamichhane & Lamichhane, 2024). According to Elhamma (2024), this type of immersion is useful for capturing the details and complexities of the environment. This increases the reliability of the results by offering a more complete picture of the phenomenon being studied.

Methodological triangulation was achieved by integrating data from both focus group discussions and participant observation, thereby allowing the interpretation of findings from multiple perspectives (Solano, 2022). While the focus group discussions provided valuable insights into students' collective perceptions and experiences, participant observation offered a contextualised understanding of classroom dynamics. As Noble and Heale (2019) contend, such a multifaceted strategy not only strengthens the internal validity of the research but also mitigates the limitations inherent in relying on a single data source. By synthesizing evidence from diverse methodologies, the study enhanced the comprehensiveness, credibility, and accuracy of its conclusions (Mertens & Hesse-Biber, 2013), a critical consideration given the complex nature of gamification in entrepreneurship education.

### 3.5 RESEARCH ETHICS

Research ethics refers to the practice of conducting investigations in a manner that is both ethically sound and legally responsible (Zhaksylyk et al., 2023). In this study, strict adherence to established ethical protocols was observed, including securing informed consent from participants, maintaining confidentiality and anonymity, and safeguarding the interests of potentially vulnerable individuals (Ajemba & Arene, 2022). Prior to the commencement of interview sessions, participants were provided with an information sheet that outlined the research objectives, methodological procedures, potential risks, and anticipated benefits, thereby ensuring that they were fully informed before granting consent (Debouzy et al., 2019). Potential participants were initially approached through personalised email invitations that contained detailed information regarding the study's purpose and interview aims, enabling them to make well-considered decisions about their involvement. To further respect their time and commitments, participants were required to complete a scheduling form with an embedded link that allowed them to select interview times most convenient to them, thus reinforcing the study's commitment to ethical engagement and participant-centred research practices.

Once their appointments were confirmed, the researcher replied with a follow-up email containing a demographic survey and a participant consent form. Participants were asked to complete these forms one to two days before the interview, allowing them sufficient time to review and understand the terms of their participation, including how their data would be used, as well as their rights to withdraw at any point without penalty. Only after the participant consent forms were submitted did the interviews proceed, further ensuring that participants fully understood and agreed to the conditions of their involvement. Xu et al. (2020) state that for the purpose of disclosing information, confirming that participants have understood the material, and documenting their voluntary decisions to participate, researchers must employ participant consent forms. Thus, to protect respondents' privacy and confidentiality, their real names were replaced by pseudonyms (Guenther, 2009). This study's commitment to ethical research practices is exemplified by the meticulous processes involved, transparency, trust and respect for the participants' autonomy while ensuring the collection of high-quality and ethically sound data.

### **3.6 DATA ANALYSIS PROCEDURE**

Qualitative data will be analysed using thematic analysis, which entails collecting and analysing data to uncover and explore repeating patterns and trends (Lochmiller, 2021). Eftekhari (2024) asserts that researchers must convert information from oral speech in structured, unstructured, or narrative interviews to a textual format for analysis. Hence, the interview recordings for this study were immediately transcribed for data analysis after the interview sessions. The interview transcripts were coded according to their similarities and recurring patterns in participant responses (Gerson, 2020). This process enabled the researcher to: 1) dissect the transcripts for raw data to be classified into key themes, 2) reduce unprocessed data to its most essential conclusions by breaking it down into its major elements, and 3) establish direct links between the empirical and theoretical findings (Khokhar et al., 2020).

The interview transcripts were systematically analysed using thematic analysis, a methodology aimed at identifying recurring key phrases, patterns, and significant ideas aligned with the study's objectives (Herzog et al., 2019). As Fusch (2023) explains, the initial round of open coding enabled the researcher to capture a broad spectrum of insights from the data. This was followed by a second round of coding in which the preliminary codes were refined and re-examined with the purpose of uncovering deeper and more nuanced themes related to the research objectives (Buetow, 2010). Finally, through the application of selective coding, the findings were synthesised and organised into three overarching themes that encapsulate the core contributions of this study.

### **3.7 RESEARCH LIMITATIONS**

While this study provided valuable insights into the use of gamification in entrepreneurship education, it was subject to several limitations. To begin, the findings of this study cannot be extended to other courses because the entrepreneurship course was specifically chosen for its immersive and student-centred learning style, which corresponds with the study's aims. Thus, by narrowing the scope to a single course, the research does not account for potential differences in teaching styles, learning outcomes, and classroom dynamics that may exist across other courses. Therefore, the

results might not apply to classes that lean more toward theory-based frameworks or that place less emphasis on student participation.

Another limitation was the sample size and representation. The study included 19 entrepreneurship educators from various Kulliyahs at IIUM, which, while diverse, did not include representatives from the Kulliyah of Architecture and the Kulliyah of Law. This absence may have limited the comprehensiveness of the findings, as perspectives from these two fields could have provided additional insights regarding the adoption of gamification in entrepreneurship education. Educators from these disciplines could have contributed unique viewpoints, particularly given the interdisciplinary nature of entrepreneurship education and the potential for gamification to be applied differently across fields.

The third limitation of this study was the educators' lack of understanding and awareness of gamified learning. Some participants were not very familiar with gamification systems, which may explain why they were less willing to fully adopt it or critically evaluate the gamification elements used in their courses. As a result, the detail in their responses was likely influenced by their different levels of knowledge and experience with gamification. This shows that without enough training or exposure, educators may struggle to see the potential of gamification, which makes it harder for them to use it effectively in teaching.

### **3.8 CONCLUSION**

This study employs a qualitative approach to explore how gamification influences social interactions in an entrepreneurship course. The in-depth interviews provided the researcher with a deeper understanding of educators' and students' experiences with gamified learning. This approach allowed the researcher to uncover rich, nuanced insights into the strategies, challenges, and interaction dynamics associated with gamification in the educational setting. In summary, the qualitative approach proved to be the most appropriate for addressing the research objectives and capturing the complexity of students' interactions within gamified environments. The findings derived from this approach are presented in the subsequent chapter.

## **CHAPTER FOUR**

### **FINDINGS AND DISCUSSION**

#### **4.1 INTRODUCTION**

This chapter presents the study's findings. The in-depth interview data are organised into three main themes, with supporting sub-themes that directly address the research questions and align with the objectives of this study. The three main themes are: 1) the adoption dilemma in gamified learning systems; 2) gamification incorporation strategies, and 3) interactional mechanisms in gamified environments.

#### **4.2 THE ADOPTION DILEMMA IN GAMIFIED LEARNING SYSTEM**

The adoption of gamified learning systems presents several challenges that hinder their implementation. One of the key issues is resource constraints, as many educational institutions struggle with financial issues, inadequate infrastructure, and restricted access to suitable gamified platforms. Additionally, the adaptability and readiness of educators and students also play a crucial role. Educators often face difficulties in acquiring the competencies needed to effectively incorporate gamification, whereas students show varying levels of engagement and willingness to embrace this approach. Moreover, the success of gamified learning heavily depends on game design and technological feasibility. Poorly designed systems or those incompatible with existing educational tools can significantly hinder their effectiveness.

##### **4.2.1 Resource Constraints**

The most apparent constraints for gamification adoption in education is the unreliable and inconsistent internet connection. Nur, who is an educator from Kuliyyah of Allied Health Science, observed that the university's Wi-Fi infrastructure often fails to support even the minimum technical specifications fundamental for gamified learning platforms.

The problem is that sometimes the internet connection isn't reliable. So how should I put this? We're discussing about advancement of

technology, yet we can't even ensure stable Wi-Fi and internet access.  
(Nur, Google Meet, 3/8/2024)

Adding to this concern, Iffah, from Kuliyyah of Education, shared a personal experience highlighting the instability of internet access in the building. Sudden Wi-Fi disconnections and mobile data dependence demonstrate how fragile connectivity can disrupt digital learning engagement.

Usually, the main challenge for gamification is the reliability of the internet. For example, my Wi-Fi connection suddenly lost just as I entered my office. Fortunately, I managed to reconnect using my phone data, but that's really the core issue. (Iffah, Google Meet, 7/10/2024)

Moreover, Irfan, an assistant professor from Kulliyah of Allied Health Sciences, emphasised the students' dependency on the university's internet, stating that poor connectivity leaves them without alternatives and disrupts their ability to participate in gamified activities.

The students were highly dependent on the university's Internet connection. When problems occurred with that connection, they had no alternative ways to get online and were cannot access online platform.  
(Irfan, Google Meet, 2/9/2024)

Furthermore, Aisyah, from Kulliyah of Economics and Management Sciences, expressed concerns about fairness, as students face significant disadvantages in using gamification platforms like Kahoot due to the slow and unstable campus Wi-Fi.

If I use Kahoot as a quiz in my class, I feel it wouldn't be fair to the students because the IIUM Wi-Fi is very slow. (Aisyah, Google Meet, 29/8/2024)

At the same time, Zaleha echoed these concerns, highlighting students' frequent struggles with reliable internet access during class activities.

So far, I think technically hindrance it should be internet-related. Normally, students have reported difficulties using Wi-Fi. (Zaleha, Google Meet, 30/10/2024)

Another focus group participant expressed similar concern, highlighting how substandard internet connectivity posed challenges in sharing invitation links and delays in participant engagement.

There's usually an issue with the internet in that area. When I tried to post the invitation link, it took a long time, and then I had to wait for people to join. That was the challenging part. I hope the internet connection will improve (FGD, Group 3, 17/1/2025)

As a researcher, I strongly agreed with the participants' concerns that internet connectivity is the main challenge in adopting gamification. During my observation of a gamification activity in an entrepreneurship class, I noticed several instances where the session was delayed and disrupted because of unstable internet access. As a result, students were unable to fully engage or enjoy the experience. Listening to the educators' perspectives confirmed what I had seen that both students and lecturers struggle with the same issue. This ongoing problem clearly limits the effectiveness of gamified learning and hinders its potential impact in our university.

Moreover, the time investment required for implementing gamification was another impediment. An educator from Kulliyyah of Sustainable Tourism and Contemporary Languages, Syahmi, highlighted the reluctance among educators to explore gamified methods due to the significant time needed to understand and implement them.

Some people might be reluctant to explore gamification because it requires investing a significant amount of time. (Syahmi, KENMS, 9/10/2024)

Najwa, from Kulliyyah of Economics and Management Sciences, pointed out that the duration of a typical class, usually about 90 minutes, complicates the integration of gamification without sacrificing essential course content.

Because each class is only about 90 minutes long, I need to carefully consider the timing if I want to introduce a game into my lesson. (Najwa, KENMS, 36/9/2024)

Subsequently, participants in the focus group expressed a shared concern about time constraints.

However, due to the Dr's instruction, the game session was limited to five minutes. As a result, the input we gathered from the game was insufficient. The enjoyment was also limited because of the short duration. For those who had prepared extensively, the time wasn't enough, as we first had to conduct the lecture before running the game session (FGD, Group 1, 10/1/2025).

Afiqah shared the challenge of managing large classes, which requires additional preparation time to tailor gamified activities effectively.

So, I actually need more time, especially because my class is quite large. I need time to get to know the students and understand them better, both through preparation before class and reflection afterward. That would be my main consideration. (Afiqah, Google Meet, 3/10/2024)

Zulaikha, with a doctoral degree in Business Administration, noted the excessive time required to design gamified content as one of the constraints to adopting gamification in her class.

For lecturers, creating something new is very time-consuming, as it requires either developing it themselves or preparing materials to submit to others. (Zulaikha, Google Meet, 10/10/2024)

Similarly, Aniq, from Kuliyyah of Medicine in Kuantan, agreed with Zulaikha by further emphasising the impracticality of lecturers juggling multiple responsibilities beyond teaching.

In my case, if I were not holding any administrative position and could focus solely on teaching and research, it would be possible. But as things stand now, with so many responsibilities, implementing gamification is nearly impossible. (Aniq, Google Meet, 4/10/2024)

Financial constraint, on the other hand, is another critical challenge, as highlighted by several participants. Najwa and Nur discussed the costs associated with hosting gamified platforms, such as fees for app stores and platform maintenance.

But it will also incur costs to build a gamification software. So, I need to consider whether those costs would fall on the students or on me. I have to take all these factors into account. (Najwa, KENMS, 26/9/2024)

Nur further elaborated,

So, when it comes to apps, we need to purchase them, and we also have to buy the supporting platform. In addition, there are ongoing maintenance costs that we must cover. We have to make these investments, which is one of the key challenges we need to consider. (Nur, Google Meet, 3/8/2024)

Fitri, an educator who possesses substantial experience in the business industry, elaborated on the high budgetary requirements for gamified learning, stressing that implementing such systems is far from straightforward and often financially demanding.

It's something that requires a substantial budget — it's not as easy as it seems. That's right; it demands significant financial resources to gamify the entrepreneurship course. (Fitri, Google Meet, 6/9/2024)

The lack of access to suitable gadgets and equipment poses a significant barrier to the effective adoption of gamification in educational settings. This challenge is especially highlighted when all students are expected to equally participate in gamified activities, which often require digital tools and devices. As Irfan mentioned,

All students need to have access to gadgets. However, I believe this is the least of our concerns, as almost everyone today owns at least a smartphone — and a smartphone alone can accomplish many tasks. (Irfan, Google Meet, 26/9/2024)

While Irfan acknowledged that most students now own smartphones capable of supporting basic gamification apps such Kahoot! Or Quizizz, Nur emphasised the need for devices with higher capacity to handle more advanced gamified systems.

However, playing an online game requires suitable devices. That's right — you need gadgets powerful enough to handle the game's demands. (Nur, Google Meet, 3/8/2024)

Najwa confirmed a critical resource gap in the university, revealing how the lack of specialised gamified equipment has further limited its implementation possibilities.

We don't really have the equipment, that one. (Najwa, KENMS, 26/9/2024)

Finally, the physical and infrastructural environment, which forms the foundation for any educational activity, poses significant constraints that directly impact the implementation of gamification. Najwa pointed out the limitations of traditional classroom settings, which are incompatible with the spatial and technical demands of a gamified learning environment.

Secondly, it concerns the environment, specifically the physical classroom setting. (Najwa, KENMS, 26/9/2024)

Similarly, Nabila and Aisyah emphasised the inadequacy of classroom facilities, such as small spaces and outdated PCs, which reduced the effectiveness of gamification.

Facilities play a crucial role. As I mentioned, regular classes can be challenging and less effective. With the right environment, learning becomes much easier and more impactful. (Nabila, Google Meet, 25/9/2024)

Aisyah, who is also an assistant professor, articulated her frustration in having to work with deficient classroom infrastructure.

As for the facilities, it wasn't my fault. Some semesters, they assigned me to very small classrooms, so I had to request a change every time—at least to a room with proper tables and better computers. (Aisyah, Google Meet, 29/8/2024)

Hence, Zaleha, who just been teaching for 1-3 years, highlighted the broader need for well-equipped facilities to support both students and lecturers in seamlessly integrating gamified approaches into teaching and learning activities.

Especially at the university level, if gamification is to be used more in teaching and learning, the facilities must be well-prepared to ensure that both students and lecturers can engage in the process smoothly and without issues. (Zaleha, Google Meet, 30/10/2024)

In my observation, the condition of the university's computer labs also added to the problem. Many of the computers were either not functioning at all or were too outdated to support the educational games used in gamification. In one session, some students could not even turn on the computers, while others were unable to use them because the systems were too slow or incompatible with the platforms. These issues led to unnecessary delays and frustration, disrupting the flow of learning. This experience showed me that the lack of updated and reliable equipment within the university is a significant barrier to implementing gamified learning effectively, leaving both students and lecturers discouraged.

In conclusion, resource constraints present significant challenges to the widespread adoption of gamification in educational settings. The effective implementation of gamified learning systems is restricted by: 1) poor internet connectivity, 2) time factor, 3) financial limitations, and 4) inadequate technological infrastructure. A study suggested that a comprehensive strategy should include the implementation of effective time management techniques, improvements to educational infrastructure, financial support, and the expansion of institutional facilities (Ghoulam et al., 2024). Overcoming these barriers requires strategic planning, targeted investment in technological resources, and robust institutional support.

#### **4.2.2 Educator and Student Adaptability and Readiness**

Educators who are willing to step out of their comfort zones regarding their teaching pedagogy also play a crucial role in driving innovation and fostering dynamic learning environments. Their openness to new ideas and approaches demonstrates a commitment

to continuous improvement and adaptability in the face of evolving educational needs. Syahmi, in his physical interview session highlights the reluctance of some lecturers to explore gamification methods, which often stems from an attachment to conventional teaching practices.

However, I believe the main hindrance lies in the lecturers' willingness to explore effective ways to incorporate games. The question is—are we truly ready to step out of our comfort zones? (Syahmi, KENMS, 9/10/2024)

Najwa, who has been teaching entrepreneurship course for about 4 years, emphasises the importance of raising awareness and advocating for gamification as a valuable teaching tool. She argues that many educators perceive gamification as merely a trend or a surface-level approach, failing to recognise its deeper potential to transform learning experiences. By fostering understanding and encouraging its adoption, she believes educators can shift their perspectives and appreciate gamification as a meaningful and innovative pedagogical strategy.

So, when we use gamification, one of the challenges is that some colleagues are not very open to it, as they still view teaching in a very conventional way. That's why I believe it's important to create awareness and help them understand that this approach offers a more meaningful and engaging method of teaching. (Najwa, KENMS, 26/9/2024)

However, this shift requires strong institutional support. Ikhwan and Aisyah emphasised the importance of workshops and training sessions to equip educators with the necessary skills to use gamification tools effectively.

I believe there should be a workshop or training session available—something hands-on—that guides people like me on how to effectively use this kind of platform (Ikhwan, Google Meet, 2/10/2024)

Aisyah supports the idea.

I believe training is necessary on how to use the website, as not all lecturers are familiar with its features. (Aisyah, Google Meet, 29/8/2024)

Irfan, for instance, acknowledges that his understanding of gamification and its application to specific subjects is quite limited. This reveals a broader challenge: educators often lack adequate exposure to gamification and the necessary training to implement it effectively.

I'm not sure about gamification in entrepreneurship. Based on my knowledge at this point, I don't think I can come up with any games that

would relate well to my classroom teaching. (Irfan, Google Meet, 2/9/2024)

Additionally, Aqief, an assistant professor from Kuliyyah of Pharmacy, also stressed that specific efforts should be implemented to help educators understand gaming better by showing them how it can be used and what tools are available.

Provide them with training on what gamification is, the types of gamification that can be implemented, and how to use the tools effectively—so even those unfamiliar with gamification can understand and apply it (Aqief, Google Meet, 6/9/2024)

Subsequently, Syahirah and Zulaikha highlighted that age and workload disparities further compound these issues, with senior lecturers would prefer traditional teaching methods and others citing the additional tasks required as a disincentive.

I think the main barrier for senior lecturers is the difficulty in adapting to new methods, as they tend to prefer traditional approaches. (Syahirah, Google Meet, 30/10/2024)

Zulaikha explained that,

One barrier is the variation in teaching methods among course instructors in entrepreneurship. In my department, for example, lecturers come from different age groups and backgrounds, which can lead to differences in how we approach and deliver the course. Most of them still prefer traditional way. (Zulaikha, Google Meet, 10/10/2024)

The FGD response also revealed the challenges faced by older lecturers in adopting new teaching methods, particularly in the context of gamification and interactive learning techniques.

For example, Dr. Ismail, one of the older lecturers, generally prefers traditional teaching methods. He often questions the need for games in the classroom and rarely uses slide presentations, opting instead to write on the whiteboard (FGD, Group 1, 10/1/2025).

Aniq added that the simplicity of delivering lectures in the conventional method makes it more appealing than incorporating gamified activities, despite the latter's potential to make learning more engaging.

However, I believe the main barrier for my colleagues is that they see it as adding to their workload. They find it easier to just deliver lectures rather than incorporating additional activities. But in the end, students benefit more and find the learning experience much more enjoyable. (Aniq, Google Meet, 4/10/2024)

Preparation of material is another major challenge for educators. Aisyah and Afiqah point to the intensive preparation required, including designing activities, conducting analytics, and embedding gamification into lesson plans. The time and effort needed to prepare gamified content can be overwhelming, especially when educators are already burdened by significant workloads.

I did consider using gamification in the entrepreneurship course, but the preparation involved is quite tedious for me at the moment, as I have other priorities to focus on. (Aisyah, Google Meet, 29/8/2024)

Afiqah further elaborated,

What's on my mind right now is the preparation. The class is next week, so there's a lot to get ready planning the activities for the first and second sessions, integrating gamification elements, and conducting some analytics as well. (Afiqah, Google Meet, 3/10/2024)

Aniq particularly specified that effective preparation involves not only creativity and content development but also a solid understanding of IT and technical aspects, requiring educators to invest substantial effort in self-learning before implementing gamification.

The provider must first gain a clear understanding and develop relevant content. This requires creativity, familiarity with IT technical aspects, and some preliminary study or research. (Aniq, Google Meet, 4/10/2024)

From my observation during the interviews, I noticed that most of the educators were already familiar with the concept of gamification and understood its potential benefits. However, many of them expressed reluctance to explore or implement it in their teaching. Some felt that it would require extra effort and time, while others believed that the existing challenges, such as unstable internet and limited devices, made gamification impractical in their classrooms. This hesitation highlighted a gap between awareness and actual practice, showing that familiarity alone does not guarantee adoption.

On the students' side, adaptability levels vary significantly, with many students finding it quite challenging since they are still adapting and not familiar with the new gamified systems. Nabila, who has been teaching entrepreneurship for almost 10 years, observed that some students, particularly those accustomed to traditional methods, struggled to adjust to gamified learning, expressing dissatisfaction and even feeling disoriented by the end of the semester.

One of the main barriers is the students themselves. Based on feedback, some of them dislike this kind of approach—they are more traditional, preferring structured lectures. These 'nerd-type' students often struggle and feel lost by the end of the semester because gamified learning doesn't match their preferred style (Nabila, Google Meet, 25/9/2024)

Irfan, who has been teaching entrepreneurship for 4-6 years, highlighted the issue of commitment, with students often lacking the engagement needed to fully participate in gamified activities.

One thing I noticed is that when I assign tasks—like asking students to come up with a business idea and possibly set up an actual business, such as selling food or beverages—the main challenge they face is maintaining commitment. (Irfan, Google Meet, 2/9/2024)

Zaleha, an educator from Kuliyyah of Engineering, highlighted the inherent uncertainty surrounding how students will react to gamification tools, pointing out that their responses can often be unpredictable. She explains that the level of engagement among students vary significantly depending on the tools being utilised.

It examines how students respond to each tool I employ, and whether they choose to participate. (Zaleha, Google Meet, 30/10/2024)

Ammar, as an associate professor from Kuliyyah of Engineering, raised concerns about students not taking gamified elements seriously, although attendance in entrepreneurship classes remains high due to course requirements.

I believe some students do not take gamification seriously. Similarly, in entrepreneurship courses, I've noticed that many students attend simply because it is a required subject, rather than out of genuine interest to be an entrepreneur. (Ammar, Google Meet, 1/10/2024)

Aniq, who has been an entrepreneurship educator for almost 6 years, pointed out the difficulties of assessing students' adaptability and ethical behaviour through gamification, as it often fails to capture essential soft skills like body language and communication, which are integral to entrepreneurship education.

Because the gamification activity is limited to a single topic, we are unable to fully assess students' adaptability and ethical responses. Additionally, it restricts our ability to observe their body language, soft skills, and communication abilities (Aniq, Google Meet, 4/10/2024)

From my observation during the focus group discussion, I found the students' perspectives to be the opposite of the educators'. The students were very enthusiastic and thrilled to share their thoughts on gamification, showing clear readiness to adopt it

as part of their learning experience. Many of them expressed that while gamification should not be implemented in every session, they welcomed it as an occasional approach to make learning more engaging and enjoyable. Their excitement reflected a strong openness to innovation, in contrast to the hesitation shown by many educators.

In summary, the adaptability and readiness of both educators and students are pivotal for the successful implementation of gamification in educational environments. Educators must be open to adopting innovative teaching methods, willing to step outside their comfort zones, and committed to continuous professional development. Khasawneh & Khasawneh (2024) assert that the willingness of teachers to embrace innovative teaching methodologies greatly impacts student engagement. The results highlight that although teacher experience holds immense significance, the favourable perceptions of gamification play a more crucial role in achieving effective integration. Similarly, students also must be encouraged to embrace new learning experiences, develop digital literacy skills, and actively engage in gamified activities.

#### **4.2.3 Game Design and Technical Feasibility**

This study found that the success of gamification implementation within the course depended on three factors: 1) effective game design, 2) technical feasibility, and 3) suitability of course content. Irfan emphasised the importance of aligning the gamification process with the course content, noting that entrepreneurship topics may be more adaptable to gamification and equally amenable.

One consideration we need to look into is the course content itself. For entrepreneurship, I'm not sure—perhaps the content is relatively easy to gamify. (Irfan, Google Meet, 2/9/2024)

Aniq highlighted that specific topics, particularly lecture-based content, pose difficulties in gamification either due to their abstract nature or the need for theoretical depth. The gamified methods must also align with the objectives of the course to ensure coherence and meaningful learning outcomes.

Not every topic is suitable for gamification, especially those typically delivered in a lecture hall setting. It's also important to consider the learning objectives. These are the curriculum topics I believe are either suited or not suited for gamification. (Aniq, Google Meet, 4/10/2024)

Similarly, Syahirah, a female assistant professor from Kuliyyah of Engineering, noted that successful gamification implementation depends on the course structure, with technology-driven courses being easier to adapt due to their inherent integration of interactive activities.

I believe another important factor is the number of students, as well as the nature of the course itself. For instance, in the Technology Entrepreneurship course I teach, we incorporate a lot of gamified activities compared to other core courses. (Syahirah, Google Meet, 30/10/2024)

The technical aspects of gamification are another significant factor affecting its feasibility. Intan stressed the importance of inclusivity and reliability, suggesting that the game design should benefit all students rather than a select few, ensuring equitable participation.

I would consider whether it's suitable for my course, inclusive for all students—not just beneficial to a few—and engaging for the majority. As for the rest, we can encourage them to adapt and learn through this approach. (Intan, Google Meet, 18/10/2024)

Syahmi emphasised that reliability is a significant challenge, observing that unstable platforms may discourage lecturers from utilising gamification.

I think the main factors I would consider are technicality and reliability related to content delivery itself. Sometimes, the platform isn't reliable enough, so I believe reliability plays a very important role. (Syahmi, KENMS, 9/10/2024)

Ikhwan, as an educator from Kuliyyah of Nursing, on the other hand, pointed out the importance of simplicity in game software, suggesting a user-friendly design that enables instructors to seamlessly incorporate gamified elements into their lessons without the need for advanced technical skills.

I would consider using the software if it were simple—ideally, something that allows me to just drag and drop within the platform. If such a user-friendly feature is available, I'd be more inclined to practice gamification in my class. (Ikhwan, Google Meet, 2/10/2024)

Similarly, Aisyah agreed that the simplicity of gameplay would directly influence educators' willingness to adopt gamification.

The first thing to consider about the game is its simplicity—whether it's easy to understand and play. (Aisyah, Google Meet, 29/8/2024)

Meanwhile, Zaleha raised concerns about the limitations of gamified systems, such as difficulties in incorporating subjective responses, which could constrain their adaptability to diverse teaching needs.

The main barrier is likely when we want to include subjective questions, as they can be challenging due to the possibility of varied responses. (Zaleha, Google Meet, 30/10/2024)

Zulaikha also stressed the importance of validating the effectiveness of gamified methods in achieving learning outcomes through the implementation of pre-tests and pilot tests.

The final step is to ensure that gamification effectively supports the course learning outcomes, which is why conducting pre-tests and pilot tests is essential. (Zulaikha, Google Meet, 10/10/2024)

Overall, these results indicate that the simplicity, reliability, inclusivity, alignment with course objectives, and adaptability of gamified platforms to various teaching environments are essential in the context of technological feasibility. By evaluating these aspects, educators can select appropriate digital gamification tools that align with their teaching goals, ultimately facilitating a more effective learning experience (Božić et al., 2024). Hence, for effective integration and best outcomes, the gamified tasks must be: 1) aligned with course objectives, 2) powered by user-friendly and dependable tools, and 3) designed to be inclusive and engaging.

#### **4.3 GAMIFICATION INCORPORATION STRATEGIES**

Gamification incorporation strategies have emerged as an innovative approach in enhancing engagement and improving skills in educational contexts, particularly within the teaching and learning domain. The first strategy is related to game design and development, which emphasises the creation of interactive experiences that not only captivate students' attention but also align with educational objectives. The second strategy involves the integration of gamified elements into the learning environment, ensuring their seamless incorporation into educational methods, thereby enhancing the academic experience. Lastly, fostering engagement and skill development through gamification empowers students to actively participate and refine their critical thinking and problem-solving abilities.

### 4.3.1 Game Design and Development

This subtheme emphasises how educators can develop engaging gamified experiences through creative and innovative approaches. The participants stressed the need to create both physical and digital games that can be adapted into the educational syllabus to guarantee effectiveness and make the games more relevant. The data highlighted that designing educational games requires creativity and precision, as pointed out by Syahmi, who believed in the need for lecturers to develop engaging games that enhance students' understanding of the subject matter.

The first step involves lecturers being creative in designing effective games that help students better understand the subject matter. (Syahmi, KENMS, 9/10/2024)

Hence, Nur described the detailed process of designing game mechanics, planning storytelling, and customising characters that align with the topics being taught. The complexity of digital game development often necessitates collaboration with studios.

When it comes to game design, we need to carefully develop and organize the game mechanics step by step. The more complex the game, the more detailed the design process becomes—sometimes even requiring studio work to properly arrange the mechanics. This results in a heavier and more intricate game experience. (Nur, Google Meet, 3/8/2024)

She further emphasises the adherence to high content validation standards, involving subject matter experts to ensure the educational material's credibility and accuracy.

It's essential to ensure that the game content is detailed and accurate, especially when the goal is to deliver knowledge. That's why content validation is a crucial part of the process. It involves consulting experts in the relevant field to review and verify the material. This is exactly what I do—we invite subject matter experts to evaluate the content when developing educational games. (Nur, Google Meet, 3/8/2024)

On the other hand, Nabila shared that she preferred physical games over digital ones. She also noted that gamification could involve simpler physical games that actively engage students in learning.

The gamification approach I use in this class primarily involves physical games. It emphasises active learning, requiring students to engage and participate directly. (Nabila, Google Meet, 25/9/2024)

Nabila's perspective aligns with the FGD participants' experience, where physical games were described as more interactive, engaging, and lively, contrasting with that of online games, which were perceived as quieter and more individualistic. These perspectives underline that both educators and students prefer physical games.

You can observe the difference in our environment during gameplay—when we play physical games, it gets noisy and lively. But during online games, even the lecturer asked why everyone was so quiet. That's the key difference: online games tend to be more individual and lack the interactive, energetic atmosphere of physical games. Physical games are generally more engaging and fun.

Another important aspect of game design is aligning the game with specific learning objectives. Hanis, from Kuliyyah of Information and Communication Technology, stressed the importance of matching game design with educational goals to prevent inefficient use of time.

That's why, when I develop AR and VR content, I make sure it aligns with my course objectives; otherwise, it risks wasting students' time. (Hanis, KICT, 30/9/2024)

Similarly, Nur noted that setting clear learning outcomes ensures the game's effectiveness in imparting knowledge and skills.

That's why when an educator designs a game—whether it's a board game or a digital one—the first step is to define the game's learning outcomes. What should players gain by the end of the game? This needs to be established from the outset. (Nur, Google Meet, 3/8/2024)

Subsequently, the findings underscored the significance of carefully selecting topics to be gamified. Participants noted that this step requires a careful evaluation of the subject matter to ensure its compatibility with gamified learning. Nabila, from Kulliyah of Information and Communication Technology, emphasised that educators should focus on the learning objectives when making decisions. These objectives should be specific and easy to measure.

For example, you may start by learning about profit and loss. But once you play this game, you gain much more than just the intended learning objectives — especially valuable soft skills. (Nabila, Google Meet, 25/9/2025)

This perspective aligns with a response from one of the Focus Group Discussions, in which participants described their experiences of curiosity-driven learning being stimulated by the game. One participant indicated that the game

facilitated the gaining of new insights and subsequently motivated him / her to pursue additional information independently. This connection highlights the potential for gamified learning to go beyond learning objectives, promoting curiosity and self-directed learning in participants.

So when we were playing the game, we were like, ‘Oh, really? That’s interesting!’ That’s how we started to learn. And for me, after the game, I felt curious to know more—so I looked it up. That’s how I deepened my understanding. (FGD, Group 1, 10/1/2025).

Aniq further elaborated that the timing and effort required to design appropriate games for specific topics also play a significant role, with lecturers often needing to allocate substantial time to brainstorming and refining game-based activities to ensure their alignment with learning outcomes.

It ultimately depends on the lecturer or person in charge taking the time to identify topics that can be effectively integrated with gamification. It’s a question of time and finding the right fit. (Aniq, Google Meet, 4/10/2024)

In conclusion, game design and development highlight the complex and thoughtful process of creating gamified learning experiences. Educators must carefully select appropriate topics that align with the specific learning objectives, develop engaging mechanics, and validate content with experts, thereby balancing creativity, learning outcomes, and practicality. Smirani & Yamani (2024) underscore the importance of integrating gamification elements that correspond with educational goals to improve learning. By carefully selecting gamification technology and validating its content, educators can develop engaging and enjoyable e-learning experiences that boost motivation and learning performance. Hence, gamification not only helps students understand complex topics better but also encourages them to work together and develop important soft skills throughout their learning process.

#### **4.3.2 Implementation in Learning Environment**

The majority of educators emphasised the importance of combining theoretical knowledge with practical applications through gamification. Najwa highlighted that games provide an opportunity for the students to experience strategy-based scenarios. For instance, Monopoly can be used to teach business strategies, where students apply their theoretical understanding to real-world contexts.

For example, Monopoly strongly reflects business strategies and related concepts. This is where students can integrate the theoretical knowledge they already have. In my view, this is the greatest advantage of using gamification as a teaching method. (Najwa, KENMS, 26/9/2024)

This approach would allow students to see the relevance of abstract concepts, making learning more meaningful and applicable. Similarly, Aqief described gamification as a “connecting platform” that bridges foundational knowledge with practical value. The flexibility of gamified tools enables educators to design activities tailored to specific learning objectives, fostering a more integrated and holistic educational experience.

Regarding the complementary learning objectives of gamification, I believe it serves as an effective connecting platform between fundamental knowledge and its practical application. Gamification is highly flexible, allowing educators to design activities that are as practical and hands-on as needed. (Aqief, Google Meet, 6/9/2024)

Another critical component is aligning gamified activities with course content and concepts. Aniq elaborated that gamification is particularly useful for achieving conceptual clarity, as it enables educators to use scenarios and targeted questions to assess and reinforce students’ grasp of the material.

I believe gamification is well-suited to assess the first objective, which is to help students understand the concept. Through gamification, we can ask questions, present scenarios, and engage learners in various interactive ways. (Aniq, Google Meet, 4/10/2024)

Aiman, from Kulliyyah of Sustainable Tourism and Contemporary Languages in Pagoh, agreed that incorporating gamified elements into coursework makes it easier for students to understand challenging concepts, particularly when these elements are embedded into their regular class activities.

I think that incorporating gamification during the class makes it easier for students to understand certain concepts. Embedding it into lessons and coursework can truly enhance learning. (Aiman, Google Meet, 27/9/2024)

The FGD feedback further supported these insights, with participants expressing that gamification simplifies complex learning processes and makes them easier to remember. A participant mentioned how gamification improved his / her focus during lectures, underscoring its role in maintaining student engagement and attention throughout the learning process.

Some things are difficult at first, but when gamification is used, it becomes easier to remember and learn. I feel it also helped me stay more focused during the lecture (FGD, Group 2, 17/1/2025).

The findings also highlighted the importance of interactive tools in enhancing the gamification experience for teaching and learning. Najwa pointed out how simple games can serve as icebreakers in teambuilding and foster student affection.

Everyone was very shy during the group's first meeting. But with that simple game, we managed to break the ice and, in doing so, fostered a sense of connection and affection among them. (Najwa, KENMS, 26/9/2024)

The FGD participants further support this view by sharing their experiences and noting how teamwork-based games encourage communication and relationship-building among group members. A participant explained,

When we need to play a game in a team, we usually don't talk to each other beforehand, but through the game, we end up getting to know each other. It's teamwork — and having to work together helps us build that connection. (FGD, Group 3, 17/1/2025)

Nur and Nabila emphasised upgrading teaching methods by incorporating board games and customised activities like Jenga to create engaging learning environments.

So, there is already some integration of games in your course. However, I would now like to enhance my own teaching tools. (Nur, Google Meet, 3/8/2024)

Nabila quoted that,

With the growing role of technology in education, I've been teaching this subject for quite some time. Five or six years ago, my focus was on board games—sometimes I created my own, other times I brought in tools, even using Jenga to enhance learning. (Nabila, Google Meet, 25/9/2024)

Zaleha added that combining teaching slides with gamified activities, such as quizzes and surveys, offers a dual advantage. It reinforces the lesson content and provides immediate feedback on student comprehension.

After that, we can conduct a simple quiz to gauge the students' understanding, followed by a survey to gather their feedback on the content. (Zaleha, Google Meet, 30/10/2024)

Syahirah supported this perspective, noting that interactive tools excite students and encourage active participation, resulting in a more dynamic classroom atmosphere.

From my personal perspective, incorporating interactive tools in the classroom makes students genuinely excited. (Syahirah, Google Meet, 30/10/2024)

Similarly, the reflections of FGD participants indicate that gamification elements, such as earning points, enhance their drives to contribute and collaborate with peers.

With gamification, earning more points makes us more eager to participate — and ultimately, more motivated to win (FGD, Group 1, 10/1/2025)

The findings also stress the importance of embedding gamification within the broader course design. Syahmi observed that traditional teaching methods were weak to capture students' attention, making it essential to integrate gamification as a form of entertainment that simultaneously educates.

I think nowadays we need to acknowledge that traditional methods can be quite boring. If we could incorporate elements of entertainment, for example, games, it might help people better understand the concepts. (Syahmi, KENMS, 9/10/2024)

This aligns with the FGD participants' reflections, which highlight a shift in classroom dynamics when games are introduced. They noted that gamification created a more relaxed and less stressful learning environment, fostering a sense of enjoyment that was previously absent in a rigid, traditional lecture-based classroom.

Previously, we saw the lecturer as very serious about teaching, and the classroom felt tense and not enjoyable. But when we played the game, there was a shift—we let our guard down a little, and the class became more relaxed (FGD, Group 1, 10/1/2025).

The detailed examination of these components demonstrates that the successful implementation of gamification in the learning environment requires thoughtful planning and execution. By integrating theory and practicality, aligning games with academic concepts, leveraging interactive tools, and embedding gamification into course plans, educators can create dynamic and impactful learning experiences. This is supported by a study that underlines the need to integrate gamification-based educational technology to improve learning experiences. Using interactive tools and embedding gamification into course designs generates enthusiasm for learning, thereby addressing diverse educational needs (Irhadtanto et al., 2024). These strategies collectively highlight the potential of gamification to transform traditional classrooms

into interactive spaces that foster deeper understanding and sustained student engagement.

#### **4.3.3 Enhancing Engagement and Skill Development**

Moreover, educators also emphasised the methods of gamification to enhance student engagement by creating opportunities for social interaction within learning environments. Syahmi observed during his experience teaching entrepreneurship for 1-3 years that gamification helps students engage more actively in class, contrasting the passive behaviours often seen during traditional lectures.

Secondly, it can complement teaching by encouraging greater student engagement in class. Normally, during traditional lectures, students tend to participate less. However, when gamification is introduced, students become more interested and involved. (Syahmi, KENMS, 9/10/2024)

In addition, Najwa notes the importance of incorporating devices into gamification to intensify interactions, as technology-mediated activities can transform quiet and passive classrooms into dynamic and lively spaces.

So, they interact through a device. Nowadays, gamification requires using a device to make interactions more engaging and dynamic. Without it, the process tends to remain passive, quiet, and overly meticulous. (Najwa, Google Meet, 26/9/2024)

Similarly, Zulaikha, from Kulliyyah of Sustainable Tourism and Contemporary Languages, highlighted that gamified sessions foster interactivity by encouraging students to play and participate alongside educators, making teaching and learning more engaging and collaborative. This suggests that social interactions facilitated by gamification not only enhance engagement but also create a supportive and collaborative learning atmosphere.

I think gamification is a method of delivering teaching and learning in a fun and engaging way. It should be interactive, meaning that when we conduct sessions in class, we encourage students to actively participate and play along with us to make the experience more dynamic and engaging. (Zulaikha, Google Meet, 10/10/2024)

Participants in the focus group discussions expressed that educators who repeated the same games without actively engaging with students risked making the sessions monotonous. They recommended that the educators participate in the game sessions to show their engagement.

For example, if the lecturer keeps using the same game, it could become boring. So, I think it would be better if the lecturer engaged with us and helped conducting the game. It would also be great if the lecturer actively joined and participated in the game as well (FGD, Group 2, 17/1/2025).

Furthermore, the integration of games in educational settings is widely acknowledged as an effective way to create an engaging and interactive learning experience. Nur, who is an educator from Kuliyyah of Allied Health Science, noted the value of educational games in embedding knowledge, emphasising that such games are informative and accessible to all students, regardless of their prior knowledge.

If the goal is to embed knowledge, I believe the game can help significantly. It's an educational game designed to be informative, so players don't need prior knowledge to start. They will naturally acquire knowledge as they play. (Nur, Google Meet, 3/8/2024)

From my observation during the gamification session in the entrepreneurship course, I noticed that most of the students became more eager to attend class and participate in the games. The activity seemed to detach them from the usual seriousness of teaching and learning, creating a more relaxed and enjoyable environment. They were highly engaged and immersed in the session, to the point where the classroom grew lively and noisy with their excitement, reflecting how much they enjoyed the experience.

Conversely, Aqief, who has been teaching entrepreneurship for 4 years, proposed designing games that closely mimic real-life entrepreneurial scenarios, such as a café or restaurant setup, to make the learning process more relatable and memorable.

Why don't we create a game set in a café or restaurant environment? This setting would be more relatable for students as they can directly see how a business operates. The fun and engaging context would also help them better understand and remember key concepts in entrepreneurship. (Aqief, Google Meet, 6/9/2024)

Zulaikha shared her experience being in a treasure hunt game as an example of combined theoretical and practical learning through multiple stations, offering students a comprehensive and enjoyable way to grasp complex concepts like money management. This example illustrates how interactive games can transform abstract ideas into memorable experiences and educate students about money management.

We aim to teach children about money in a simple and engaging way. For example, we organise a treasure hunt where students move from one station to the next. Across five different stations, they learn both the

theory and practical aspects of managing money. (Zulaikha, Google Meet, 10/10/2024)

The focus group participants also shared their experiences with interactive educational games that taught them complex concepts like money management through memorable and engaging methods.

We joined a money management simulation called 'Ringgit In'. For example, we were given RM10,000 and had to decide what to do first—whether to buy a house or something else. We discussed what was most important at that moment and planned our next steps. If we ran out of money, we considered taking a loan, and we also discussed risks like scams. It felt very practical. (FGD, Group 1, 10/1/2025)

Besides, gamification is also recognised as a powerful tool for developing real-world skills by simulating practical challenges and encouraging experiential learning. Nur highlighted that games often require players to accept failure, mirroring the unpredictability and cultivating the resilience needed in real-world scenarios.

In a real game—or in real business—there are moments when you must accept failure. Ultimately, you need a live, shared experience; it's not something you can do alone. (Nur, Google Meet, 3/8/2024)

This "live experience" aspect of games is vital for skill development, as it immerses students in realistic situations they might face in their careers. Aqief pointed out that combining real-life entrepreneurial practices with classroom knowledge through gamified activities is invaluable. It not only deepens understanding but also prepares students for practical applications in their future endeavours.

When you engage in practical activities, you can bridge real-life entrepreneurial experiences with the theoretical knowledge learned in class. This game helps amplify and share those insights with others. (Aqief, Google Meet, 6/9/2024)

To sum up, the study underscores the transformative potential of gamification in education, particularly in encouraging engagement and skill development. Gamification offers a dynamic approach to teaching and learning by fostering social interactions during game sessions, promoting interactive and relatable learning experiences, and incentivising the development of real-world skills. Studies have shown that gamification can significantly improve students' engagement and collaboration skills, which are closely linked to adaptability. By working in teams and adapting to different roles and tasks, students develop the ability to adjust to various situations (Mustikasari & Yugopuspito, 2024). These findings demonstrate that gamification not only teaches

theoretical knowledge but also equips students with essential skills such as problem-solving, resilience, and adaptability.

#### **4.4 INTERACTIONAL MECHANISMS IN GAMIFIED ENVIRONMENTS**

Gamified settings introduce innovative social dynamics by combining elements of cooperation, exchange, and competition. Cooperative game mechanisms cultivate unity and support through cohesive teamwork to achieve shared goals, simultaneously fostering a sense of belonging and mutual accountability among participants. Exchange mechanisms, on the other hand, create dynamic networks of interdependence, where the sharing of resources, ideas, or support encourages negotiation, collaboration, and strategic thinking. Meanwhile, competitive mechanisms introduce structured rivalry, motivating individuals or groups to strive for excellence through goal-oriented challenges. While each mechanism contributes uniquely to the learning environment, they collectively create a balanced and engaging gamified experience that enhances social connections and active participation.

This multifaceted impact of gamification is further illustrated in Table 4.1, which provides an overview of various digital and physical games, highlighting their types, descriptions, levels of student engagement, interaction dynamics, and the challenges encountered during game sessions. It reveals that physical games generally promote higher engagement and teamwork through active participation and creative tasks. In contrast, digital games offer competitive, fast-paced experiences but may be restricted by internet connectivity issues and limited peer interaction. Together, these observations reflect how different game formats, shaped by cooperative, exchange, and competitive mechanisms, influence student motivation, collaboration, and learning effectiveness in the classroom.

Table 4.1 Game Description Based on Classroom Observation

| Name of Game | Type of Game  | Game Description                                                                                                                                                | Level of Engagement                                                                                                 | Interaction                                                                                          | Challenges                                                                                                               |
|--------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Kahoot!      | Digital game  | A quiz-based game where students answered multiple-choice questions in real-time on their devices.                                                              | Moderate: Students were quite motivated due to the ranking, but some showed boredom since it is a common game.      | Low: Students played the game individually; hence, there was no interaction with their peers.        | i. Low internet connectivity in the class.<br>ii. Students were reluctant to join because they were bored with the game. |
| Pictaurus    | Physical game | A physical game where a group representative draws a picture based on a word given by the host, and the other groupmates guess the answer without verbal clues. | High: Students enjoyed the creativity and the challenge of guessing correctly.                                      | High: Encouraged teamwork because they needed to guess the picture through non-verbal communication. | i. Difficulty in interpreting drawings caused occasional frustration.                                                    |
| Mix & Match  | Digital game  | A matching game where students paired related terms, concepts, or definitions.                                                                                  | High: Enjoyable for most students, but they desperately needed to find the correct answers after just three trials. | High: Encouraged active peer-to-peer collaboration to find correct matches.                          | i. Slow internet connectivity in the classroom.<br>ii. Some students do not actively participate in the group task.      |
| Racing       | Digital game  | A virtual racing game where progress                                                                                                                            | Very high: The competitive and fast-paced nature kept                                                               | High: Promoted teamwork as students need to work together                                            | i. Slow internet connectivity in the classroom.                                                                          |

|              |               |                                                                                                                              |                                                                                                               |                                                                                                                                                                   |                                                                                                                                                                                                         |
|--------------|---------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |               | depended on answering questions correctly.                                                                                   | students highly focused and motivated.                                                                        | to answer all the questions correctly to quickly finish the race.                                                                                                 |                                                                                                                                                                                                         |
| Crossword    | Digital game  | A digital crossword game, requiring students to fill in answers to questions related to the theme.                           | Moderate: Appealed to students since it is a new kind of game, but the questions were quite difficult.        | Moderate: Fostered small group discussions to brainstorm answers.                                                                                                 | <ul style="list-style-type: none"> <li>i. Slow internet connectivity in the classroom.</li> <li>ii. Difficult questions frustrated some students, requiring additional hints.</li> </ul>                |
| Take a Guess | Physical game | A physical game where a representative from each group stands in front of the class and guesses what is shown on the screen. | High: The competitive atmosphere and suspense kept everyone engaged, especially the guessing representatives. | Moderate: Interaction was limited to the representative doing the guessing, with minimal involvement from the rest of the team members during the guessing phase. | <ul style="list-style-type: none"> <li>i. Representatives could feel pressured to be in front of the class.</li> <li>ii. The lack of team support during guessing could make it challenging.</li> </ul> |

#### 4.4.1 Cooperation

Cooperation constituted a fundamental aspect of social interactions within the gamified entrepreneurship course. Students worked in teams to accomplish tasks, address entrepreneurial challenges, and create innovative solutions. This collaboration necessitated that all group members distribute responsibilities, share their knowledge, and provide mutual support to attain shared goals. Gamification plays a crucial role here by structuring activities around collective targets, making success dependent on teamwork rather than individual achievement. Intan, who has been teaching entrepreneurship more than 10 years observed that the transition from individual to group fostered deeper engagement among students, especially in achieving common objectives such as sales goals. The group interaction not only involved local students but also included international students.

I explained that the target is no longer individual—it's a group target. This means they need to actively interact with one another, especially since we have international students involved. Everyone must stay focused on the shared goal. For example, if the target is to achieve a certain sales amount, it's a collective responsibility. (Intan, Google Meet, 18/10/2024)

The course design, as noted by Hanis and Najwa, integrated self-learning with collaborative discussions, enabling students to combine their diverse perspectives and foster a dynamic learning environment.

You begin with self-learning, followed by discussion and collaboration, where you share and build upon your different perspectives (Hanis, KICT, 30/9/2024)

As Najwa stated,

When I previously designed my simulation, it focused on interaction between groups. However, the objective of my course is to ensure that students interact within their own groups. (Najwa, KENMS, 26/9/2024)

Furthermore, Afiqah, who is from the Kulliyyah of Information and Communication Technology, also pointed out that the game-like format with goals and milestones, as part of the gamification approach, played a crucial role in making collaboration easier. By providing clear objectives and structured progression, gamification encouraged consistent communication and coordination between group members to ensure that work was submitted on time and ideas were developed collectively. This structured, game-like framework eventually compelled them to

cooperate as a team, highlighting gamification's role in shaping teamwork and accountability.

So, by hook or by crook, these students are required to communicate within their groups, pushing themselves to generate ideas and produce a draft for submission during the class. Ultimately, this will subtly compel them to engage in communication. (Afiqah, Google Meet, 3/10/2024)

Additionally, Zulaikha observed that students bonded through gamification, underscoring how these cooperative efforts not only enhanced academic learning but also fostered interpersonal connections, further enriching the students' overall experience in the course.

I think the students enjoy the gamification process. It allows them to interact playfully and engage in friendly competition, which ultimately helps them bond with one another. (Zulaikha, Google Meet, 10/10/2024)



Figure 4.1 Students Working Collaboratively in Groups to Compete with One Another

The FGD noted that team-against-team games push students to cooperate more effectively within their teams, with participants demonstrating a stronger sense of teamwork and collaboration driven by one common goal of outdoing the opponent team.

But if it's a team-against-team type of game, we have to communicate with each other. It strengthens cooperation within the team because we're united in competing against the others. (FGD, Group 2, 17/1/2025)

I observed that the gamification session in the entrepreneurship course encouraged students to be more interactive and collaborative with their peers. They actively communicated, exchanged ideas, and cooperated with one another in order to

win the games. This collaborative atmosphere not only increased their engagement but also showed how gamification can foster teamwork and peer learning in the classroom.

In conclusion, the gamification of the entrepreneurship course effectively fostered cooperation among students by promoting group-based targets, collaborative problem-solving, and consistent communication encouragement. Through structured activities and shared objectives, students were encouraged to interact, exchange ideas, and support one another, leading to enhanced teamwork and stronger interpersonal connections. According to Zekan et al. (2024), this approach not only enhances motivation but also facilitates consistent communication among students, leading to improved learning experiences and outcomes. Ultimately, this collaborative approach not only contributed to academic success but also equipped students with essential skills for real-world entrepreneurial environments.

#### **4.4.2 Knowledge Exchange**

Knowledge exchange interactions in the gamified entrepreneurship course highlight the dynamic and meaningful communication that occurred throughout the learning process. Students and instructors would actively engage in discussions, exchanging ideas and providing feedback to enhance mutual understanding. As Intan pointed out, gamification encouraged better interactions among students as they worked toward achieving specific goals, like winning an award witnessed based on her experience teaching entrepreneurship for more than a decade.

It gets them to work together more effectively so they can hit the target and win the award. (Intan, Google Meet, 18/10/2024)

These findings demonstrate that gamification establishes an effective platform for idea exchange among team members. Hanis added that discussions often led to new insights, especially when students engaged in conversations, offering differing viewpoints that sparked creative solutions.

Sometimes, you gain new insights effortlessly—half the people may simply agree without argument. But when disagreements arise, that's often when the most valuable insights emerge. (Hanis, KICT, 30/9/2024)

Similarly, Syahmi noted that the two-way communication, where both students and instructors contribute productively to the flow of ideas, can lead to enhanced social interactions compared to traditional learning methods.

Gamification often fosters two-way communication: the instructor initiates the game, while students actively participate. This approach naturally enhances social interaction in the classroom, often surpassing that of traditional learning methods. (Syahmi, KENMS, 9/10/2024)

Moreover, insights from different cultures also played a significant role in the exchange process. Irfan observed that students brought unique cultural perspectives into their projects, such as incorporating traditional elements into their product ideas. In this context, gamification served as a facilitative tool by providing an engaging platform that encouraged students to share and integrate these diverse perspectives more openly, thereby enriching collaboration and creativity.

For example, in the past, students from Indonesia tended to sell products that incorporated elements of their tradition—often traditional foods, although I can't recall the exact types. They infused a strong sense of their cultural heritage into their business ideas. (Irfan, Google Meet, 2/9/2024)

This proves that exchange interactions extend beyond tangible interactions to include intangible cultural elements such as tradition. Additionally, Afiqah highlighted how students learned from each other's cultural backgrounds, with the nature of the project initiating conversations that led to knowledge exchange.

Some students possess unique knowledge from their own cultures that others may not have, offering valuable learning opportunities. This diversity naturally encourages us to initiate conversations as part of the project. At times, students themselves introduce fascinating ideas inspired by their cultural backgrounds. (Afiqah, Google Meet, 3/10/2024)

Furthermore, the reward system encouraged students to exchange not only information but also strategies for success, as Aniq mentioned, motivating them to perform well for recognition and rewards.

It serves as a reward and can be visualised as a tangible incentive. In the end, students know they will receive something for their efforts. I was specifically looking for an extra element — something they could gain by winning. For example, at the end of the Entrepreneurship course, we present a 'Best Group' award, accompanied by a monetary token from our IHK unit. This motivates students to give their best in order to earn the recognition. (Aniq, Google Meet, 4/10/2024)

The FGD participants reported experiencing excitement and personal satisfaction upon hearing their names announced as winners, describing it as a sense of achievement and adrenaline rush. This exchange of recognition is more than just a reward; it also serves as a personal fulfilment.

For example, when our presence is visible in the classroom—like during games—people used to wonder, ‘Who’s the winner?’ Then suddenly, my name gets announced. That moment gives me a sense of personal satisfaction. For me, it’s an adrenaline rush. (FGD, Group 1, 10/1/2025)

Fitri noted that another perspective discovered alongside the interactions in the entrepreneurship course was the importance of skill development and collaboration, where students from different disciplines i.e. engineering and architecture, exchanged knowledge and collaborated to create prototypes of products for sales.

They need to conduct research, read extensively, and collaborate in groups—it's not just one person doing all the work. If you want to draw but don't know how, you must either collaborate with an architect or work with the engineering team. (Fitri, Google Meet, 6/9/2024)

In conclusion, the gamification of the entrepreneurship course facilitates meaningful exchange interactions among students and instructors. Through collaborative teamwork, cultural exchanges, and open discussions, students were able to share knowledge, gain new insights, and develop essential entrepreneurial skills. This strategic engagement encourages individuals to interact more meaningfully, share knowledge, and work towards common goals, ultimately leading to enriched social exchanges (Sharma et al., 2024). The dynamic environment fostered by gamification not only enhanced students’ learning experience but also promoted the growth of interpersonal communication, critical thinking, and problem-solving abilities.

#### **4.4.3 Competition**

Another major interaction mechanism that was found in the gamified entrepreneurship course is competition. This element not only encourages students to actively engage with their peers but also creates a stimulating environment where they strive to outperform one another. Intan highlights that the course structure, which includes an end-of-semester exhibition where students compete for awards and marks, incentivises participants to perform their best. This system fosters a sense of friendly rivalry as students strive to fulfil expectations and achieve higher scores. She further elaborates:

Sometimes, people from other professions like doctors or lawyers might think, 'You studied well, you have a good job — why start a business?' That kind of mindset can be discouraging. But actually, we need a strong 'why' — a deeper reason that drives us to pursue it. In this course, for example, the students aren't just sitting in class listening to lectures. They're challenged to organise an exhibition, showcase their ideas, and compete for an award. Their grades depend on how well they carry out their campaign, and those who go above and beyond earn the highest marks. This is where gamification comes in—it turns the whole process into something exciting, almost like a game, where recognition, achievement, and even the thrill of competition pushes the students to give their best. (Intan, Google Meet, 18/10/2024)

Syahmi further clarified Intan's points by emphasising the group-based nature of competition, where students are divided into teams and interact within their own groups as they strategise and collaborate with each other.

When we incorporate games into learning, we usually divide students into groups, turning it into a group competition. This encourages them to interact and collaborate with one another. (Syahmi, KENMS, 9/10/2024)

Aqief also noted that platforms like Kahoot introduce a personal competitive element, allowing even introverted students to shine and demonstrate their abilities in a less intimidating environment. This shows that gamification provides introverted students opportunities to be in the spotlight.

In this case, it becomes clear that you're highly competitive. Since there isn't much direct interaction with others, introverted individuals often take the opportunity that gamification offered to express their competitiveness more freely. (Aqief, Google Meet, 6/9/2024)

Aniq also mentioned quizzes added additional layers to the competition, which stimulated interaction among participants and created a sense of accomplishment for high achievers.

Additionally, quizzes foster interaction among participants. They are eager to answer correctly and often ask me about their scores and standings. (Aniq, Google Meet, 4/10/2024)

Zulaikha pointed out that gamification enhances students' motivation by linking tangible rewards, such as higher marks for the highest profits, with their levels of enthusiasm based on their performance.

Gamification enhances the student experience and motivates them to achieve more. For example, in my course, students are rewarded based on performance—those with the highest profit receive the highest marks.

This encourages healthy competition among them. (Zulaikha, Google Meet, 10/10/2024)

The FGD participants expressed that the satisfaction derived from competing in a game comes from the rewards as well as the sense of accomplishment gained from healthy competition.

The satisfaction in the game comes from the rewards we earn through healthy competition with others. Defeating opponents fairly brings a sense of fulfilment and joy. (FGD, Group 3, 17/1/2025).

During the gamification session in the entrepreneurship course, I observed that students worked together enthusiastically, cooperating closely to win the games. Their competitiveness brought out a strong sense of engagement, making the session more interactive and dynamic. The classroom atmosphere turned noisy and lively, filled with excitement and energy, which showed how gamification can transform a typical lesson into an enjoyable and motivating learning experience.

In summary, competition within the gamified entrepreneurship course plays a crucial role in boosting student engagement and motivation. By fostering a sense of excitement and challenge, students become more invested in their learning journey. Key elements such as awards and marks serve as tangible incentives. Group challenges and interactive tools promote collaboration, creativity, and active participation, ultimately driving students to perform their best. This competitive aspect not only makes learning more enjoyable but also fosters a sense of achievement as students work to improve their skills and knowledge (Prasetyo et al., 2024). Moreover, the competitive environment encourages a healthy spirit of rivalry, which pushes students to strive for continuous improvement and personal growth.

## **4.5 DISCUSSION**

### **4.5.1 Strategic Gamification Deployment**

The findings revealed that educators employ various strategies to incorporate gamification into their teaching practices, including game design, integration into the learning environment, and fostering skill development. These practices reflect the instrumental frame, where gamification is understood as a practical tool or as an instrument to enhance educational outcomes. Based on the findings, educators

employed gamification by aligning game mechanics with learning objectives, such as utilising board games to impart profit-loss principles or digital simulations for entrepreneurship training, thereby enhancing students' comprehension and understanding.

Besides, the result indicate that it is essential to establish distinct learning objectives and involve subject matter experts in the process of content validation. This highlights the fact that careful planning is necessary in order to develop functional gamified material. The instrumental frame places a strong focus on utility, and this method aligns with the use of gamification to deliver course content. Along the same line, integrating interactive tools into the curriculum, such as quizzes and games that require students to collaborate, made it possible to bridge the gap between theoretical knowledge and practical application. Thus, this demonstrates that gamification is an effective teaching and learning tool.

To summarise, gamification is an effective teaching method that converts traditional classroom education into purposeful and goal-driven learning opportunities. Educators are able to transform passive classroom interaction into an interactive and problem-solving-oriented one through educational games that have been specifically built for educational purposes. This is consistent with Goffman's (1974) idea of keying, wherein the meaning of an activity could change while its underlying structure remains unaffected. Educators who strategically employ gamification not only inspire critical thinking but also foster information acquisition, which is in line with the functionality of this modern pedagogy.

#### **4.5.2 Overcoming Adoption Barriers**

The findings indicate that the adoption of gamified learning systems faces substantial challenges, including limited resources, time constraints, lack of technical infrastructure, and varying levels of readiness among educators and students. The motivational framework of Goffman's (1974) theory reveals that these difficulties are a reflection of interruptions in the cues and signals that are ordinarily responsible for encouraging participation. Students were unable to fully participate in digital games caused by slow internet connectivity or lack of compatible devices, thus breaking the continuity of motivation that gamified experiences are meant to foster. For the same

reason, instructors who are reluctant to break away from conventional teaching practices may fail to establish a motivating environment that is essential to reframe learning as an enjoyable and purposeful activity.



Figure 4.2 Enthusiastic Students Participating in the Game Session

Nevertheless, the research shows that these barriers do not diminish the intrinsic motivational potential of gamification itself. Contrastively, a significant number of students stated that when gamification was properly implemented, gamified activities generated environments that improved their enthusiasm, curiosity, and sense of accomplishment. They also continued to demonstrate interest in competing, working together, and receiving rewards, even when the conditions were uncondusive. Because of this, the motivating frame demonstrates how reinterpretation of learning settings is capable of motivating students, even when they are facing technical or environmental challenges.

Moreover, students' positive responses to gamification suggest that these systems satisfy both their extrinsic and intrinsic motivational needs. Earning points, receiving recognition, and winning a game were frequently mentioned as meaningful motivators. More importantly, students noted increased focus, enjoyment, and a desire to explore topics beyond class content, portraying the indicators of intrinsic motivation.

Goffman's (1974) theory underscores how the redefinition of educational tasks through gamification can inspire action, regardless of underlying challenges. Therefore, while the adoption dilemma is real, the motivational capacity of gamification remains evident and impactful.

#### **4.5.3 Engagement in Action**

The final theme explores how gamified environments foster various forms of social interaction: cooperation, exchange, and competition, which are interpreted through the engagement frame. Drawing from Goffman's (1974) theory, this frame highlights how activities built around shared goals and group tasks naturally foster deeper involvement and interaction among students. This study found that when students take part in team challenges, collaborative problem-solving, or competitive games, they tend to be more engaged and passionate. These activities shift the classroom experience from passive learning to active engagement that is lively and participatory, consistent with Goffman's (1974) concept of rekeying social interactions.

Therefore, working together in team-based games and collaborative activities helped students strengthen their communication skills and feel more connected to their peers. Students may also exchange ideas through brainstorming sessions or share insights from different cultural backgrounds that could enrich their learning experience by introducing new ways of thinking and solving problems. These interactions turned learning into a more social and inclusive process, shifting it from a solitary task into a shared journey. This mirrors the engagement frame, where everyday classroom activities are reframed through gamification into fun, interactive challenges that still meet learning goals, but do so in a way that changes how students interact and engage.

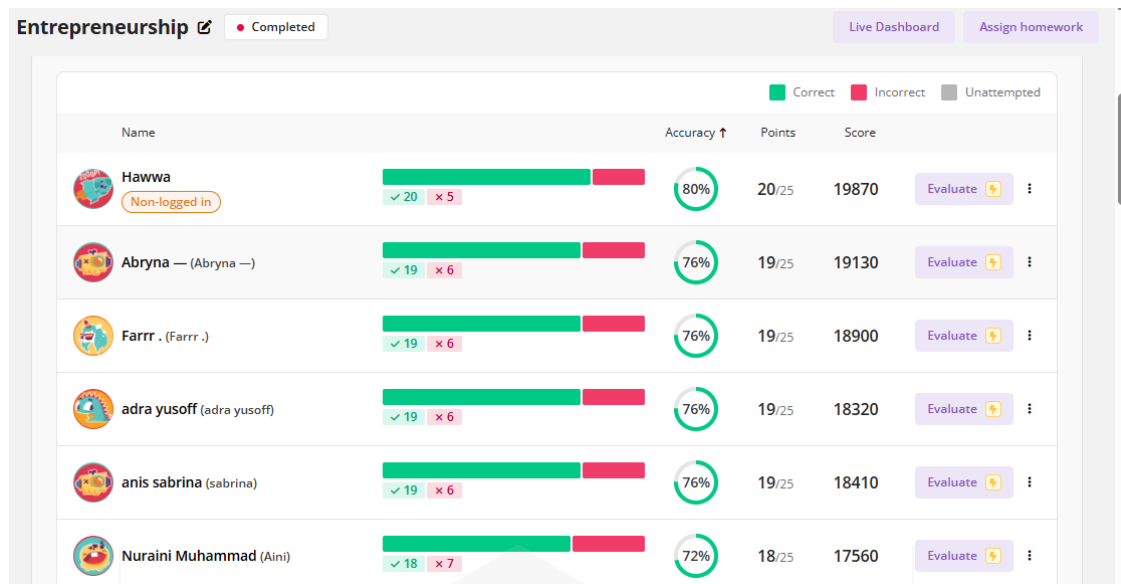


Figure 4.3 A Leaderboard Displaying the Ranking of Students who Joined the Quiz

Additionally, game elements like quizzes and leaderboard systems are also crucial in driving participation by appealing to students' competitiveness. The excitement of earning recognition or reaching the top of a leaderboard made learning feel purposeful and rewarding. Such engagement frames not only encourage students to take initiative but also to persist in challenging situations, promoting resilience and performance. Thus, gamified settings make lessons more engaging and create a space where students are more willing to take initiative, work through challenges, and grow socially and academically.

## 4.6 CONCLUSION

In conclusion, effective gamification strategies can enhance learning by integrating game design with thoughtful implementation and skill development. Educators can create an environment where students thrive by carefully designing gamification materials that essentially align with educational objectives. The gamification adoption dilemma is caused by resource constraints, varying levels of adaptability among educators and students, and technological challenges. Addressing these barriers requires concerted efforts from all stakeholders to provide better training to educators, improve infrastructure, and design more flexible game-based solutions. Finally, the interactional

mechanisms of cooperation, exchange, and competition in gamified environments play a crucial role in shaping students' engagement and learning outcomes. Ultimately, by fostering teamwork, interdependence, and healthy rivalry, these mechanisms enhance the overall learning experience and social dynamics.



## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1 CONCLUSION**

The findings from this research underscore the innovative teaching and learning of gamification in higher education, particularly within the context of entrepreneurship education at IIUM. Integrating game-based elements into the curriculum has been shown to significantly enhance student engagement, motivation, and comprehension. Feng et al. (2024) mentioned that when educators design gamified activities that align with specific learning objectives, students not only develop a deeper understanding of complex concepts but also cultivate essential soft skills such as critical thinking, problem-solving, and collaboration. A study by Vaidya and Kaushik (2024) emphasises the importance of carefully considering educational goals when designing these games to ensure that they effectively contribute to learning outcomes while addressing challenges such as equity and inclusion in diverse classroom settings. Interviews and focus group discussions revealed that both physical and digital gamification methods fostered a more dynamic and engaging learning environment, with students expressing enthusiasm and active participation in the classroom.

Nevertheless, the success of gamification also relies heavily on how seamlessly it blends into the curriculum. Educators must adopt a balance between traditional teaching approaches and game-based learning to ensure that learning objectives are met. Integrating games into both theoretical and practical learning activities can cater to different learning styles, allowing students to experience a more dynamic and inclusive learning environment (Ferreira et al., 2024). Responses from the focus groups revealed that physical games often led to more excitement and interactions between peers, while digital games were perceived as more individualistic. Educators also mentioned that combining both approaches would foster a more lively classroom atmosphere and help students to have a better understanding of the entrepreneurial concepts.

Despite gamification's numerous advantages, its adoption in the IIUM entrepreneurship course remains challenging, the most prominent being resource limitations such as unreliable internet access, outdated technology, and financial

constraints, all of which can hinder the effective implementation of gamified systems. Educators are often pressured for time and competing responsibilities, which can make it difficult to design and manage gamified activities (Qudsi, 2024). The same concern has been repeatedly stated during the interviews. Thus, the result highlighted that poor internet connectivity and insufficient access to equipment were common barriers experienced by both students and educators.

On the other hand, the readiness and adaptability of both educators and students play a significant role in the implementation of gamification in education. While some educators eagerly embrace gamification, others may feel hesitant or overwhelmed by unfamiliar digital tools, particularly if they lack adequate training and institutional support. A study highlighted the necessity for educators to develop competencies in using ICT and digital gamification, as the integration of these tools into education is increasingly prevalent (Babić & Bošnjaković, 2024). These sentiments were also quoted in the interviews, where educators acknowledged that older lecturers often struggled with digital platforms and technology, while some students preferred the conventional teaching methods. Therefore, educators should embrace innovative teaching methods and continuously upgrade their skills to effectively integrate gamification into their classrooms.

The social interactions that emerge within gamified environments can significantly shape the learning experience, where students learn via these three core social dynamics: cooperation, knowledge exchange, and competition. Cooperation, in particular, encourages students to work together with their peers, fostering a spirit of teamwork and mutual support. When students collaborate on group tasks, simulations, or problem-solving challenges, they not only enhance their academic understanding but also develop key interpersonal skills such as leadership and conflict resolution (Du et al., 2024). Findings from interviews and focus group discussions confirmed that team-based physical games created a sense of solidarity among students, allowing them to bond and engage more deeply with the subject matter. Students shared that working towards group goals often led to better cooperation and communication, improving their overall learning experience.

Furthermore, mechanisms of knowledge exchange and competition further enrich these interactive experiences. Knowledge exchange allows students to share

ideas, cultural insights, and strategies, nurturing critical thinking and enhancing their understanding of diverse perspectives (Shanthi et al., 2024). Educators observed that gamified learning encouraged open discussions where students exchanged knowledge and learned from one another. Competition, on the other hand, can stimulate motivation, pushing students to strive for excellence and celebrate their achievements (Qiao et al., 2022). Focus group participants noted that competitive digital games like quizzes and point-based activities increase their excitement and engagement; however, some expressed concerns that it might undermine their teamwork. By carefully balancing these social factors, educators are able to create a gamified atmosphere that not only improves students' academic achievement but also prepares them for the realities of working in the industry.

## **5.2 CATALYST FOR CHANGE**

In the pursuit of enhancing social interactions through the integration of gamification in the IIUM Entrepreneurship Course, it is vital to consider the collective responsibilities and contributions of key stakeholders. Educators, the university and the government each play a crucial role in fostering an environment conducive to the successful adoption of gamified learning experiences.

### **5.2.1 Learning Experience Designers**

First and foremost, educators play a significant role in bringing changes to the educational landscape, especially in the effort to adopt gamification. Hence, educators must be willing to step out of their comfort zones and embrace the evolving teaching methodologies that resonate with the current educational demands. Traditional lecture-based approaches may no longer captivate students who are increasingly immersed in digital experiences nowadays. Moreover, adapting to gamification involves shifting mindsets towards innovation and experimentation. Soares et al. (2024) found that gamification not only nurtures students' entrepreneurial thinking skills but also builds their teamwork and communication skills, which are crucial in today's rapidly changing professional landscape. Therefore, stepping beyond traditional methods and embracing gamification allows educators to stay relevant in the digital age.

Moreover, educators should prioritise collaborating closely with other educators across different Kulliyyahs within IIUM to exchange ideas, share challenges, and develop innovative teaching practices centred around gamification. Entrepreneurship educators from diverse disciplines can benefit greatly from interdisciplinary collaboration (Dias et al., 2024). For instance, educators from the Kulliyyah of Information and Communication Technology (KICT) could provide technical expertise in programming or developing gamification software, while other lecturers with hands-on experience in designing gamified entrepreneurship activities can offer practical insights. This collaborative spirit fosters a culture of continuous improvement, enabling lecturers to collectively refine their strategies and build confidence in using gamification as an innovative teaching tool.

### **5.2.2 Learning Ecosystem Curators**

Subsequently, the university should also provide ample training opportunities for educators to enhance their understanding and application of gamification. Attending workshops and professional development programs can ensure that lecturers stay updated on the latest educational trends and technologies. Equally important, the university should facilitate industry-academic partnerships to co-create gamification content that focuses on real-life experiences. These collaborations would provide students with exposure to real-world entrepreneurial challenges while fostering stronger ties between the academic and business communities (Teng et al., 2024). Hence, hosting annual forums that bring together academics, industry experts, and students can stimulate dialogues on the latest trends in gamified education and foster collaborative innovation.

Moreover, the university should broaden its course offerings to include more subjects that integrate gamification within their study plans, in line with the growing demand for innovative learning methods and tools. Introducing a dedicated gamification-focused course outline can serve as a platform to teach students the principles of game-based learning while immersing them in practical applications. A study by Satria et al. (2024) found that these courses could explore the design and implementation of gamified business simulations, fostering students' entrepreneurial creativity while enhancing their understanding of business concepts through gamified

learning. This approach could equip future educators and entrepreneurs with a holistic understanding of how emerging technologies can be leveraged to enhance classroom engagement and learning effectiveness.

### **5.2.3 Education Transformation Stewards**

Additionally, the government needs to align their support for gamification initiatives with the policies outlined in the National Education Blueprint. The Malaysia Education Development Plan 2015-2025 emphasises the integration of globalised online learning to ensure quality education and to leverage technology to enhance learning experiences and outcomes. Thus, this alignment ensures consistency in educational objectives and provides a structured approach to implementing gamification at all levels. Therefore, one important suggestion is that the government should offer grants and incentives to universities that incorporate gamification into their academic programs. Financial support can alleviate the cost burden associated with digital infrastructure and encourage institutions like IIUM to innovate their course delivery.

Besides, the government should invest in developing an innovative, standardised gamified educational software platform that can be used across various educational levels. This platform should be designed with input and feedback from educators, students, and industry experts to ensure it aligns with both academic goals and real-world applications. Additionally, gamified platforms should adhere to universal design principles to ensure inclusivity and accessibility for all learners, including students with disabilities. Research has shown that gamification can effectively engage students with diverse abilities, provided that universal design principles are applied (Pazhanivel, 2024). Ultimately, this platform could become a benchmark for educational innovation, positioning Malaysia as a leader in gamified learning solutions.

Lastly, to achieve the successful adoption of gamification, continuous collaboration and commitment from all stakeholders are crucial. Educators must embrace change and innovate their teaching; the university should embed gamification into policies and curricula; and the government must provide structural and financial support. When these efforts align, gamification can truly benefit the educational experience, enhancing social interactions and preparing students for the future

challenges of the entrepreneurial sector. Hence, implementing robust evaluation mechanisms to assess the impact of gamification will ensure that this educational strategy remains adaptable and effective.

### **5.3 SUGGESTIONS FOR FUTURE RESEARCH**

Despite having provided useful insights regarding the use of gamification in the IIUM entrepreneurship course to enhance social interactions, numerous components of the gamified learning system have yet to be examined. In order to establish a more comprehensive understanding of the efficacy and applicability of gamification in education, it is essential to identify the existing gaps. Future research endeavours can build upon this foundation to come up with a more comprehensive understanding.

One important direction for future research is to place more focus on students' perspectives. This study mainly looked at gamification from the educators' point of view, but students are the ones who actually experience the systems. It is crucial to understand how students feel about gamified learning, what challenges they face, and how it affects their learning process. Researchers could further explore students' emotions, such as anxiety, excitement, or frustration, to better understand how gamification influences their learning experiences. It is also important to investigate how gamification impacts different types of students, such as those with learning difficulties, to ensure the approach is inclusive and accessible to all. This could help create gamified approaches that better match students' varying needs and learning styles.

Another interesting area to explore is how gamification works at different educational levels. This study may have focused on a specific age group, but gamification can be used across all age groups. Since primary school students, high school students, and university students have different ways of learning, future research could look at how gamification can be adjusted to fit these differences. Researchers could also compare how gamification affects different subjects, such as science, math, and humanities, to identify which areas would benefit the most. It would also be helpful to study gamification outside the classroom setting, such as in extracurricular activities or informal learning spaces, to understand how it supports hands-on and self-directed learning.

Additionally, future research should also focus on the specific skills that gamified learning helps to develop. While this study mentioned general benefits, more research is needed to see how gamification builds both soft skills (teamwork and communication skills) and hard skills (general knowledge and problem-solving). Students' own reflections on their skill development could also give valuable insights into the long-term impact of gamification on their personal and professional growth. Surveys and interviews could provide qualitative data that enriches quantitative findings, offering a more comprehensive picture of the learning experience.

Lastly, it is important to study how gamified learning prepares students for the workforce. As employers increasingly look for adaptable and tech-savvy workers, it is worth exploring whether students who experience gamified learning feel more confident and more career-ready. Researchers could also examine whether gamification helps students develop the skills they need in the workplace, such as time management, adaptability, and digital literacy. Additionally, exploring how gamified learning influences students' ability to use technology and adapt to fast-changing, team-based work environments could prove its value beyond academic settings. Thus, gamified experiences that simulate real workplace scenarios may also offer evidence of how this approach prepares students to handle complex tasks and collaborate effectively in their future careers.

## REFERENCES

- Abu-Hammad, R. M., & Hamtini, T. M. (2023). A gamification approach for making online education as effective as in-person education in learning programming concepts. *International Journal of Emerging Technologies in Learning*, 18(7) 28-49.
- Adzmi, N. A., Bidin, S., Selvaraj, B., & Saad, S. (2024). The role of gamification in enhancing engagement and motivation in language learning. *International Journal of Research and Innovation in Social Science*, 8(9), 2402-2411.
- Ahmad, N. A., Ayub, A. F. M., & Khambari, M. N. (2019). Gender digital divide: Digital skills among Malaysian secondary school. *International Journal of Academic Research in Progressive Education and Development*, 8(4), 668-687.
- Ahmed, S. K. (2024). The pillars of trustworthiness in qualitative research. *Journal of Medicine, Surgery, and Public Health*, 2, 1-4.
- Ajemba, M. N., & Arene, E. C. (2022). Ensuring ethical approach to research. *Magna Scientia Advanced Research and Reviews*, 6(1), 046-050.
- Akter, F., Rashid, F., & Tasnim, N. (2024). Reading the room: Understanding and enhancing classroom interaction with nonverbal communication. *International Journal of Scientific and Management Research*, 07(11), 155–162.
- Alkaabi, K. (2022). Applying the innovative approach of employing a business simulation game and prototype developing platform in an online flipped classroom of an entrepreneurial summer course: A case study of UAEU. *Education Sciences*, 13(1), 1-20.
- Al-Khalifa, H. S., & Al-Matham, R. (2021, October). Tadawl: An educational platform for gamifying startup investment. In *Proceedings of the 22nd Annual Conference on Information Technology Education* (pp. 147-150).
- Allison, F., Newn, J., Smith, W., Carter, M., & Gibbs, M. (2019, May). Frame analysis of voice interaction gameplay. In *Proceedings of the 2019 CHI Conference on*

*Human Factors in Computing Systems* (pp. 1-14).

- Almeida, F., & Buzady, Z. (2023). Exploring the impact of a serious game in the academic success of entrepreneurship students. *Journal of Educational Technology Systems*, 51(4), 436-454.
- Alzahrani, F. K., & Alhalafawy, W. S. (2023). Gamification for learning sustainability in the blackboard system: Motivators and obstacles from faculty members' perspectives. *Sustainability*, 15(5), 1-19.
- Amin, M. M., Shamsuddin, S. N. W., & Hamzah, W. M. A. F. W. (2024). Enhancing engagement in learning management systems using gamification framework. *The International Journal of Multimedia & Its Applications*, 16(5), 21-31.
- Apandi, A. M. (2022). Gamification meets mobile learning: Soft-skills enhancement. In *Research Anthology on Developments in Gamification and Game-Based Learning* (pp. 1280-1299). IGI Global Scientific Publishing.
- Arifin, M. Z., Gani, R. A., Windiyani, T., Kulsum, S., & Yusup, M. K. P. (2025). Peningkatan kompetensi guru sekolah dasar dalam menghadapi era digital melalui pelatihan gamifikasi Wordwall dan ChatGPT. *Jurnal Pengabdian Masyarakat (ABDIRA)*, 5(3), 152-162.
- Ashraf, M. N., Riaz, M., & Mujahid, M. N. (2024). Investigating the causes of dropout in BS programs: Insights from public sector universities. *Journal of Policy Research*, 10(2), 559–567.
- Asmara, E. R. B., & Putra, Y. H. (2023, December). Gamification method-based learning strategy in eleventh grade software engineering entrepreneurship learning at: Igar Pindad Vocational High School Bandung. In *2023 9th International Conference on Signal Processing and Intelligent Systems (ICSPIS)* (pp. 1-4). IEEE.
- Aspers, P., & Corte, U. (2021). What is qualitative in research. *Qualitative Sociology*, 44, 599-608.

- Ayob, N. H., Aziz, M. A., & Ayob, N. A. (2022). Bridging the digital divide: Innovation policy and implementation in Malaysia. *International Journal of Academic Research in Business & Social Sciences*, 12(8), 1373-1389.
- Azab, M., & Ab-Hashima, M. (2024). Gamification of soft skills training and learning for leadership development. *International Journal of Internet Education*, 1-6.
- Babić, I. Đ., & Bošnjaković, N. (2024). Neural networks in identifying teachers' self-perceived competencies in digital gamification. *Human, Technologies and Quality of Education*, 131-140.
- Bachtiar, N. K., Fariz, M., & Arif, M. S. (2024). Conducting a focus group discussion in qualitative research. *Innovation, Technology, and Entrepreneurship Journal*, 1(2), 94-101.
- Benson, D. E., Haney, W., Ore, T. E., Persell, C. H., Schulte, A., Steele, J., & Winfield, I. (2002). Digital technologies and the scholarship of teaching and learning in sociology. *Teaching Sociology*, 140-157.
- Biswas, M. (2025). The ideation of qualitative methodologies in business management and education. In *IGI Global eBooks* (pp. 215–258).
- Bizzi, L. (2023). Why to gamify performance management? Consequences of user engagement in gamification. *Information & Management*, 60(3), 1–12.
- Božić, A. V., Hoić-Božić, N., Dlab, M. H., Stančin, K., & Jaguš, T. (2024). Analysis of the gamification aspects of digital educational tools using gamification classification. In 2024 *International Conference on Software, Telecommunications and Computer Networks (SoftCOM)* (pp. 1-6). IEEE.
- Buetow, S. (2010). Thematic analysis and its reconceptualization as 'saliency analysis'. *Journal of Health Services Research & Policy*, 15(2), 123-125.
- Casau, M., Dias, M. F., & Amorim, M. (2023, October). Entrepreneurship and game-based learning in higher education: A systematic review. In *Proceedings of the 17th European Conference on Games Based Learning* (pp. 94-101).
- Christopher, S. C., Anding, P. R., Hussaini, N., Stephen, C., & Vi-Vian, L. (2023).

- Circuit smart: Understanding electricity through collaborative learning and gamification. *Journal of Cognitive Sciences and Human Development*, 9(1), 42-62.
- Christopoulos, A., & Mystakidis, S. (2023). Gamification in education. *Encyclopedia*, 3(4), 1223-1243.
- Chuah, K. M., Mohamad, F. S., Minoi, J. L., & Kabilan, M. K. (2021, November). Of marbles and Minecraft: Designing STEM educational games for culturally diverse young learners in Malaysia. In *2021 World Engineering Education Forum/Global Engineering Deans Council (WEEF/GEDC)* (pp. 44-49). IEEE.
- Da Costa, A. I. L., Rosa, M. D. L. J. M. D. A., & Dioga, P. M. J. (2024). Considering participant observation methods for nursing qualitative research. *The Qualitative Report*, 29(9), 2430-2439.
- Dancsa, D., Štempeľová, I., Takáč, O., & Annuš, N. (2023). Digital tools in education. *Journal of Advanced Natural Sciences and Engineering Researches*, 7(4), 289-294.
- Datta, A., & Babu, M. R. N. (2022). Student engagement and achievement in online versus traditional classroom instruction: A comparative study. *Journal of Namibian Studies: History Politics Culture*, 32, 1036-1059.
- Debouzy, J. C., Crouzier, D., & Verdu-Negro, P. (2019). Research ethics in education. *Paripex Indian Journal of Research*, 8(12), 40-41.
- Deterding, S. (2012). Gamification: Designing for motivation. *Interactions*, 19(4), 14-17.
- Deterding, S. (2013). *Modes of play: A frame analytic account of video game play* (Doctoral dissertation, University of Hamburg).
- Dias, M. F., Alves, C., & Amorim, M. (2024, October). Board games and entrepreneurial skills acquisition: A mixed-methods study on the efficacy of the EntreComp framework in higher education. In *Proceedings of the 18th European Conference on Games Based Learning* (pp. 275-280). Academic

Conferences and publishing Publishing Limited.

- Djibrán, A. K. S., Subiyanto, P., Wakhudin, W., & Rahayu, N. S. (2024). Transforming education in the digital age: How technology affects teaching and learning methods. *Journal of Pedagogi*, 1(3), 141-155.
- Douglas, H. (2022). Sampling techniques for qualitative research. In *Principles of Social Research Methodology* (pp. 415-426). Singapore: Springer Nature Singapore.
- Du, X., Pothabathula, G., & Tan, M. (2024, October). Empowering student transition and engaging students using Actionbound: A gamified collaborative community learning platform. In *European Conference on e-Learning* (pp. 507-515). Academic Conferences International Limited.
- Economic Planning Unit. (2006). *Malaysia Digital Economy Blueprint*. Putrajaya: Prime Minister's Department.
- Eftekhari, H. (2024). Transcribing in the digital age: Qualitative research practice utilizing intelligent speech recognition technology. *European Journal of Cardiovascular Nursing*, 23(5), 1-8.
- Elhamma, A. (2024). Participant observation as a qualitative research method in management sciences: Interests, conditions, and limitations. In *Applying Qualitative Research Methods to Management Science* (pp. 75-91). IGI Global.
- Feng, J., Tan, W. H., & Yu, B. (2024). A systematic literature review of the impact of gamification instruction on students' problem-solving skills. *International Journal of Evaluation and Research in Education*, 13(6), 4082-4092.
- Ferreira, G. R. S., Marques, F. R. V., De Souza E Silva, A. P., Marinho, M. P. R., Da Silva, A. A., De Barros Pimenta, T., Da Cruz Marques, L. H. D. S., Neves, C. M. D., Oliveira, S. X., De Lourdes Soares Guida, J., De Oliveira Nery, I., & Morais, H. S. E. S. (2024). The contributions of playful games and digital technologies to education. In *Seven Editora eBooks*, 1-7.
- Fine, G. A. (2024). The frames of group culture: Moments and their teams. *Symbolic*

*Interaction*, 47(4), 512-524.

Firdaus, M. (2025). Inovasi pembelajaran berbasis digital dalam meningkatkan kualitas pendidikan. *ELEMENTARY: Journal of Primary Education*, 3(1), 10-13.

Folomieieva, N., Pelekh, V., Haidamashko, I., Sivak, N., & Koriakin, O. (2024). Gamification in the educational process of higher education institutions. *Amazonia Investiga*, 13(73), 331-343.

Fuchs, K. (2024). Challenges with gamification in higher education: A narrative review with implications for educators and policymakers. *International Journal of Changes in Education*, 1(1), 51-56.

García-López, I. M., Acosta-Gonzaga, E., & Ruiz-Ledesma, E. F. (2023). Investigating the impact of gamification on student motivation, engagement, and performance. *Education Sciences*, 13(8), 1-17.

Gerson, K., & Damaske, S. (2020). Analyzing interviews: Making sense of complex material. *The Science and Art of Interviewing*, 143-171.

Ghoulam, K., Bouikhalene, B., Babori, A., & Falih, N. (2024). Gamification in e-learning: Bridging educational gaps in developing countries. *International Journal of Advanced Corporate Learning*, 17(1), 85-95.

Gimino, G., Rahim, R., Ibrahim, J., & Yusof, T. A. (2023, May 24). Almost half of SPM students from 2021 session chose not to further studies, says Fadhlina. *The Star*. <https://www.thestar.com.my/news/nation/2023/05/24/almost-half-of-spm-students-from-2021-session-chose-not-to-further-studies-says-fadhlina>

Goffman, E. (1974). *Frame analysis: An essay on the organization of experience*. Harvard University Press.

Goyal, D. (2024). The future of education: trends and innovations in teaching and learning. *Global International Research Thoughts*, 12(1), 36-42.

Guenther, K. M. (2009). The politics of names: Rethinking the methodological and ethical significance of naming people, organizations, and places. *Qualitative Research*, 9(4), 411-421.

- Hakim, L. (2023, November 30). Empowering students to use digital technology. *NST Online*. <https://www.nst.com.my/news/nation/2023/11/985036/empowering-students-use-digital-technology>
- Hamari, J., Shernoff, D. J., Rowe, E., Coller, B., Asbell-Clarke, J., & Edwards, T. (2016). Challenging games help students learn: An empirical study on engagement, flow and immersion in game-based learning. *Computers in Human Behavior*, 54, 170-179.
- Hariadi, H., & Nopiana, R. (2023). Penerapan metode interaktif dalam meningkatkan keaktifan siswa pada pembelajaran penjaskes. *Jurnal Porkes*, 6(2), 837–853.
- He, Z., Liu, Y., Wang, X., Li, R., & Lv, N. (2023). Gamified entrepreneurship courses motivate college students' satisfaction: An integrated flow framework. *SAGE Open*, 13(2), 1-16.
- Herisnawan, D., & Ningsih, T. (2024). Educational social interaction in learning development at SMP ZIIS Cilogok. *Jurnal Riset Ilmu Pendidikan*, 4(4), 137-143.
- Herzog, C., Handke, C., & Hitters, E. (2019). Analyzing talk and text II: Thematic analysis. In *The Palgrave Handbook of Methods for Media Policy Research* (pp. 385-401). Cham: Springer International Publishing.
- Heyworth-Thomas, E. M. (2023). Creating experiential learning opportunities in enterprise education: An example of a facilitator-led business simulation game in a taught setting. *Journal of Work-Applied Management*, 15(2), 173-187.
- Hidayat, D. (2021). The implementation of gamification system in Asian higher education teaching. *Journal of Games, Game Art, and Gamification*, 2(1), 6-10.
- Hoang, L. C., Thi, H. N. V., Thi, N. Q. N., Nhat, T. T. B., & Le Nguyen, Y. N. (2022). The impact of business simulation games on Vietnamese students' entrepreneurial intention. *Journal of Economics, Law and Management*, 6(4), 3574-3588.
- Huotari, K., & Hamari, J. (2017). A definition for gamification: Anchoring gamification

- in the service marketing literature. *Electronic Markets*, 27(1), 21-31.
- Irhadtanto, B., Rohmah, T., Isnaini, I., Cuhazriansyah, M. R., & Cahyaningrum, Y. (2024). Implementation of educational technology based on gamification in interactive Monopoly games in the 4.0 era. *International Journal of Interactive Mobile Technologies*, 18(18), 157-166.
- Islam, F., Krishna, A., & Kumari, S. (2025). The impact of gamification in research and education: A communication review. *Gamification and Augmented Reality*, 3, 1-7.
- Ismath, N. H. M., Mohtar, N. Z. N., Johari, A., Ahmad, S. Y., & Abd Aziz, A. H. (2023). Focus group discussion on students' perception of gamification in learning cohesion in Arabic. *LSP International Journal*, 10(2), 91-97.
- Javed, K. A. I. N. A. T., Rafique, S. A. I. M. A., & Azhar, T. (2022). Impact of gamification on education prime time. *Pakistan Journal of Medical & Health Sciences*, 16(03), 18-19.
- Jędrzejczak, M. (2024). Gamification as a method supporting the adaptation of first-year students to the university life. *Beyond Philology an International Journal of Linguistics, Literary Studies and English Language Teaching*, (21/2), 11-32.
- Johnston, H., & Alimi, E. (2013). A methodology analyzing for frame dynamics: The grammar of keying battles in Palestinian nationalism. *Mobilization: An International Quarterly*, 18(4), 453-474.
- Jun, M., & Lucas, T. (2025). Gamification elements and their impacts on education: A review. *Multidisciplinary Reviews*, 8(5), 1-7.
- Kamal, N. N. M., Adnan, A. H. M., Yusof, A. A., Ahmad, M. K., & Kamal, M. a. M. (2019, January). Immersive interactive educational experiences – Adopting education 5.0, industry 4.0 learning technologies for Malaysian universities. *In Proceedings of the International Invention, Innovative & Creative (InIIC) Conference* (pp. 190-196).
- Kampff, A. J. C., Libermann, N. M. L., Conforto, D., Nunes, A. C. B., & Kurtz, G. B.

- (2022). Entrepreneurial competences development through game strategies: A case study of a card game focused on social transformation with health students. In *Handbook of Research on the Influence and Effectiveness of Gamification in Education* (pp. 598-617). IGI Global Scientific Publishing.
- Kara, A., & Russell, L. M. (2024). How to embed “gamification” into entrepreneurship courses to enhance student engagement. *Small Business Institute Journal*, 20(2), 28-31.
- Khaitova, N. F. (2021). History of gamification and its role in the educational process. *International Journal of Multicultural and Multireligious Understanding*, 8(5), 212-216.
- Khasawneh, Y. J. A., & Khasawneh, M. A. S. (2024). The impact of teacher attitudes and beliefs on the integration of gamified learning: A study of key attitudinal variables. *International Journal of Learning, Teaching and Educational Research*, 23(10), 364-378.
- Khokhar, S., Pathan, H., Raheem, A., & Abbasi, A. M. (2020). Theory development in thematic analysis: Procedure and practice. *Review of Applied Management and Social Sciences*, 3(3), 423–433.
- Knott, E., Rao, A. H., Summers, K., & Teeger, C. (2022). Interviews in the social sciences. *Nature Reviews Methods Primers*, 2(1), 1-15.
- Kolachina, S., Gaurav, K., Ishwarya, M., Supritha, K. S., Prabha, A., & Sherine, S. B. (2025). Gamification in employee training and development on enhancing learning outcomes and engagement. In *Multidisciplinary Approaches to AI, Data, and Innovation for a Smarter World* (pp. 111-124). IGI Global Scientific Publishing.
- Kovecses, Z. (2006). *Language, mind, and culture: A Practical Introduction*. Oxford University Press.
- Krajger, I., Lattacher, W., & Schwarz, E. J. (2018, September). Creating and testing a game-based entrepreneurship education approach. In *International conference on interactive collaborative learning* (pp. 697-709). Cham: Springer

International Publishing.

- Kusdiyanti, H., Karkono, S., Sopingi, Febrianto, I., Wijaya, R., & Agustina, N. I. (2022). Development of Edu-kit media for entrepreneurship learning based on gamification model toward disruptive education. *International Journal of Interactive Mobile Technologies.*, 16(4), 17-29.
- Kwon, B. Y., & Lyou, C. G. (2015). The meta-analysis of domestic gamification research: Status and suggest. *Humanities Contents*, 39, 97-124.
- Lamichhane, B., & Lamichhane, B. (2024). The most commonly used qualitative research methods and their using technique. *The Journal of Nuwakot Adarsha Multiple Campus*, 5(1), 100-108.
- Langendahl, P. A., Cook, M., & Mark-Herbert, C. (2016). Gamification in higher education. *Working Paper Series/Swedish University of Agricultural Sciences, Department of Economics*, 1-43.
- Lanzi, D. (2013). Frames and social games. *The Journal of Socio-Economics*, 45, 227-233.
- Lau, Y. Y., Wong, M., Yang, Z., Nam, C. K., & Shih-Kuei, H. A. (2023). Enhancing student professionalization through business simulation games. In *Handbook of Research on Implications of Sustainable Development in Higher Education* (pp. 144-166). IGI Global.
- Law, P., & Storrar, R. (2025). The motivation to earn digital badges: A large-scale study of online courses. *Distance Education*, 46(2), 190-208.
- Li, H., Ke, N., Zhang, A., & Huang, X. (2024). Unraveling the motivational tapestry of AI-driven gamification in education. *International Journal of Global Perspectives in Academic Research*, 1(3), 36-46.
- Limantara, N., Meyliana, N., Gaol, F. L., & Prabowo, H. (2023). Designing gamified learning management systems for higher education. *International Journal of Information and Education Technology*, 13(1), 25-32.
- Lochmiller, C. R. (2021). Conducting thematic analysis with qualitative data. *The*

- Loos, L. A., & Crosby, M. E. (2017, June). Gamification methods in higher education. In *International Conference on Learning and Collaboration Technologies* (pp. 474-486). Cham: Springer International Publishing.
- Low, J. Y., Balakrishnan, B., & Yaacob, M. I. H. (2023). Educational game-based design training on newton's laws for physics teachers: A need analysis for module development. *Asian Journal of Education and Social Studies*, 45(4), 9-19.
- Lubis, M. A., Ariffin, S. R., Muhamad, T. A., Ibrahim, M. S., & Wekke, I. S. (2009, July). The integration of ICT in the teaching and learning processes: A study on smart school of Malaysia. In *Proceedings of the 5th WSEAS/IASME International Conference on Education Technology* (pp. 189-197).
- Lynch, M., Kubberød, E., Sanne, N., & Finrud Josendal, A. H. (2025). Deliberate practice through the gamification of entrepreneurship education. *Entrepreneurship Education and Pedagogy*, 8(3), 485-510.
- Lyons, R. M., Fox, G., & Stephens, S. (2023). Gamification to enhance engagement and higher order learning in entrepreneurial education. *Education+ Training*, 65(3), 416-432.
- Manining, M. A. B., Soon Singh, A., Singh, L. B., & Wardani, L. M. I. (2022). A conceptual framework for evaluating the effectiveness of robotic game approaches to motivation and performance in geography. *Metode*, 6(1), 646-660.
- Manzano-León, A., Camacho-Lazarraga, P., Guerrero, M. A., Guerrero-Puerta, L., Aguilar-Parra, J. M., Trigueros, R., & Alias, A. (2021). Between level up and game over: A systematic literature review of gamification in education. *Sustainability*, 13(4), 1-14.
- Marinov, E., & Spasova, E. (2023). Gamification in business and entrepreneurship education—theory and applications. *Digital Age in Semiotics & Communication*, 6, 17-31.

- Mayer, I., Warmelink, H., & Zhou, Q. (2016). A frame-reflective discourse analysis of serious games. *British Journal of Educational Technology*, 47(2), 342-357.
- Mazla, M. I. S. B., Jabor, M. K. B., Tufail, K., Yakim, A. F. N., & Zainal, H. (2020, September). The roles of creativity and innovation in entrepreneurship. In *International Conference on Student and Disable Student Development 2019 (ICoSD 2019)* (pp. 213-217). Atlantis Press.
- Mazlan, A., Ahmad, I., & Salam, S. (2023, May). A systematic literature review in gamification implementation and game elements in Malaysia education. In *2023 IEEE 13th Symposium on Computer Applications & Industrial Electronics (ISCAIE)* (pp. 25-31). IEEE.
- Melo, F. L. N. B. D., Soares, A. M. J., Sampaio, L. M. B., & Lima-de-Oliveira, R. (2023). The impact of gamification on entrepreneurial intention in a Brazilian technical business school. *BAR-Brazilian Administration Review*, 20, 1-16.
- Mertens, D. M., & Hesse-Biber, S. (2013). Mixed methods and credibility of evidence in evaluation. *New Directions for Evaluation*, 2013(138), 5-13.
- Meydan, C. H., & Akkaş, H. (2024). The role of triangulation in qualitative research: Converging perspectives. In *Principles of Conducting Qualitative Research in Multicultural Settings* (pp. 98-129). IGI Global.
- Ministry of Education Malaysia. (2015). *Malaysian Education Blueprint 2015-2025 (Higher Education)*. Putrajaya: Ministry of Education.
- Miranda, D., Rocha, R., & Lobo, J. (2022). Gamification: Applying the playful through digital games. *International Journal of Advanced Research*, 10(11), 554-560.
- Mitchell, B., & Co, M. J. (2024). The impact of implementing gamification elements on motivation, engagement and academic achievement. In *Proceedings of the International Conference on Education Research, ICER 2024. Academic Conferences International Limited* (pp. 184-193).
- Mustafa, A. S., Alkawsi, G. A., Ofosu-Ampong, K., Vanduhe, V. Z., Garcia, M. B., & Baashar, Y. (2022). Gamification of e-learning in African universities:

- Identifying adoption factors through task-technology fit and technology acceptance model. In *Next-Generation Applications and Implementations of Gamification Systems* (pp. 73-96). IGI Global.
- Mustikasari, L., & Yugopuspito, P. (2024). The effect of gamification implementation on collaboration skills, engagement, and learning achievement of students in class X SMA XYZ. *Eduvest-Journal of Universal Studies*, 4(10), 9286-9297.
- Noble, H., & Heale, R. (2019). Triangulation in research, with examples. *Evidence-Based Nursing*, 22(3), 67-68.
- Ong, D., Chan, Y. Y., Cho, W. H., & Koh, T. Y. (2013). Motivation of learning: An assessment of the practicality and effectiveness of gamification within a tertiary education system in Malaysia. *A Proceeding of World Academy of Researchers, Educators, and Scholars in Business, Social Sciences, Humanities and Education Conference*, 1(1), 131-146.
- Ortega, L. de M., García-Cabo, A., & García López, E. (2017). Towards the social gamification of e-learning: A practical experiment. *International Journal of Engineering Education*, 33(1), 66–73.
- Padilla-Zea, N., Aceto, S., & Burgos, D. (2020). Training on social economy entrepreneurship: Social PlaNet. *Journal of Information Technology Research (JITR)*, 13(3), 156-173.
- Páez-Quinde, C., Arroba-Freire, E., Espinosa-Jaramillo, M. T., & Silva, M. P. (2023, May). Gamification as collaborative learning resources in technological education. In *2023 IEEE Global Engineering Education Conference (EDUCON)* (pp. 1-5). IEEE.
- Pazhanivel, K. (2024). “EDUPLAY”- Interactive game game-based learning platform. *International Journal of Innovative Research in Information Security*, 10(3), 173–177.
- Persson, A. (2018). *Framing social interaction: Continuities and cracks in Goffman’s frame analysis* (p. 198). Taylor & Francis.

- Peterková, J., Repaská, Z., & Prachařová, L. (2022). Best practice of using digital business simulation games in business education. *Sustainability*, 14(15), 1-19.
- Plangger, K., Campbell, C., Robson, K., & Montecchi, M. (2022). Little rewards, big changes: Using exercise analytics to motivate sustainable changes in physical activity. *Information & Management*, 59(5), 1-18.
- Polydorou, E. (2025). The effect of simulation games in entrepreneurship education. In *Integrating Simulation Tools Into Entrepreneurship Education* (pp. 445-468). IGI Global Scientific Publishing.
- Prasetyo, A. R., Iriaji, I. R., Aruna, A., Surya, E. P., Marcelliantika, A., & Wijaya, G. A. (2024). Optimalisasi pembelajaran kewirausahaan bahasa dan seni melalui integrasi interactive quiz gamifikasi dalam sistem pembelajaran jaringan. *EduInovasi: Journal of Basic Educational Studies*, 4(3) 1291-1306.
- Pretorius, A. (2024). Gamification elements in a virtual learning environment (VLE): An institutional case study. *International Journal of Technology-Enhanced Education (IJTEE)*, 3(1), 1-18.
- Qiao, Y., Jia, X., Wang, Y., & Wang, X. (2022, June). Research on the influence of competition mechanism in gamification test on learning experiences and learning effects. In *2022 IEEE 2nd International Conference on Educational Technology (ICET)* (pp. 46-50). IEEE.
- Qudsi, H. (2024). Gamification in education: Boosting student engagement and learning outcomes. *ShodhKosh: Journal of Visual and Performing Arts*, 5(4), 84-87.
- Rahmi, I., Rimenda, T., & Ariyanti, T. D. (2025). Gamification as an alternative to increase students' motivation: A scoping review. *Journal of Education and Learning (EduLearn)*, 19(2), 1125-1133.
- Road, R. Y. (2014, September 11). *Using Class Dojo in Korea*. Green Officetel. <https://greenofficetel.wordpress.com/2014/09/11/using-class-dojo-in-korea/>
- Roslan, R., Ayub, A. F. M., Ghazali, N. B., Zulkifli, N. N., Latip, S. N. H. B. M., &

- Hanifah, S. S. A. (2023). Investigating factors that affect the continuance use intention among the higher education institutions' learners towards a gamified M-learning application. *Journal of Information Technology Education: Research*, 22, 97-128.
- Rumianda, L., & Nindigraha, N. (2020, December). Gamification application in creating active, interesting, and fun sociological learning. In *6th International Conference on Education and Technology (ICET 2020)* (pp. 366-373). Atlantis Press.
- Saenboonsong, S., & Poonsawad, A. (2023). Promoting teamwork skills among Thai pre-service teachers through gamification on cloud technology. In *ACEID Official Conference Proceedings* (pp. 1-8).
- Samodumska, O., Pushkarova, T., Hrytsenko, O., Zahorulko, M., & Pshenychna, I. (2022). Professional and pedagogical training of future students of higher education with elements of gamification. *Revista Eduweb*, 16(4), 52-64.
- Saris, N. N. H., & Sapari, N. M. (2022). Non-major students' perception on the application of gamification and simulation in electrical and electronics engineering courses at universities in Malaysia. *Asean Journal of Engineering Education*, 6(2), 1-5.
- Satria, V. H., Zuhroh, N. F., & Sari, J. (2024). Enhancing student engagement in entrepreneurship education for undergraduate student through gamification methods. *Asian Journal of Education and Social Studies*, 50(8), 206–214.
- Shanthi, B., Ravichandran, C., Manimegalai, V., Parashar, A. K., & Hari, B. S. (2024). Critical thinking in higher education through innovative strategies. *Advances in Educational Technologies and Instructional Design Book Series*, 365–398.
- Sharma, D., Sharma, J., & Mehta, N. (2024). The art of gamification for societal mind shifts: Refining human behaviour through strategic engagement. *ShodhKosh Journal of Visual and Performing Arts*, 5(1), 619-631.
- Sharma, W., Lim, W. M., Kumar, S., Verma, A., & Kumra, R. (2024). Game on! A state-of-the-art overview of doing business with gamification. *Technological*

*Forecasting and Social Change*, 198, 1-21.

- Shatalova, L. (2022). The competence potential of the workforce under the influence of the digitalization of the economy. *Herald of Khmelnytskyi National University. Economic Sciences*, 312(6), 39-43.
- Shi, L., Cristea, A. I., Hadzidedic, S., & Dervishalidovic, N. (2014, August). Contextual gamification of social interaction—towards increasing motivation in social e-learning. In *International Conference on Web-Based Learning* (pp. 116-122). Cham: Springer International Publishing.
- Shi, Y., Horne, K. S., & Wu, Y. (2023, June). A gamification framework for exploratory learning in higher STEM education. In *2023 ASEE Annual Conference & Exposition* (pp. 36-46).
- Shin, J. (2018). Serious games and education: Lessons from South Korea. *Journal of Education & Social Policy*, 5(4), 90-99.
- Sidelinger, R. J., & Bolen, D. M. (2010). Frame analysis: Students' construction of involvement and noninvolvement in the college classroom. *Communication and Theater Association of Minnesota Journal*, 37(1), 7-26.
- Smirani, L., & Yamani, H. (2024). Analysing the impact of gamification techniques on enhancing learner engagement, motivation, and knowledge retention: A structural equation modelling approach. *Electronic Journal of e-Learning*, 22(9), 111-124.
- Soares, A. M. J., Melo, F. L. N. B. D., Dantas, S. D. T. A., Silva, M. P. D., & Genuino, S. L. V. P. (2024). Gamification in entrepreneurship education: A systematic literature review and future research agenda. *REGPE Entrepreneurship and Small Business Journal*, 13, 1-12.
- Sofiadin, A. (2023, October). Extended reality for experiential learning from students' perspective. In *2023 IEEE 8th International Conference on Engineering Technologies and Applied Sciences (ICETAS)* (pp. 1-4). IEEE.
- Soh, P. C., Yan, Y. L., San Ong, T., & Teh, B. H. (2012). Digital divide amongst urban

- youths in Malaysia - Myth or reality?. *Asian Social Science*, 8(15), 75-85.
- Solano, M. A. (2020). Triangulation and trustworthiness —Advancing research on public service interpreting through qualitative case study methodologies. *FITISPos-International Journal*, 7(1), 31–52.
- Sotirov, M., Petrova, V., & Nikolova-Sotirova, D. (2023, October). Implementing gamified learning in university environment. In *2023 International Conference Automatics and Informatics (ICAI)* (pp. 476-480). IEEE.
- Sujarwo, F., & Rejekiningsih, T. (2023). Interactive mobile learning-based gamification to improve the collaboration skills of 11th grade students in high school. *Journal of Education Technology*, 7(3), 400-410.
- Sziegat, H. (2024, October). Virtual simulation games in entrepreneurship education: Status quo and prospects. In *European Conference on Games Based Learning* (pp. 1099-1106). Academic Conferences International Limited.
- Takemoto, T., & Oe, H. (2021). Entrepreneurship education at universities: Challenges and future perspectives on online game implementation. *Entrepreneurship Education*, 4(1), 19-37.
- Tamrin, M., Latip, S. N. N. A., Latip, M. S. A., Royali, S. A., Harun, N. A., & Bogal, N. (2022). Students' acceptance of gamification in education: The moderating effect of gender in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 12(8), 1847-1860.
- Tem, S., Kuroda, A., & Tang, K. N. (2020). The importance of soft skills development to enhance entrepreneurial capacity. *International Educational Research*, 3(3), 1-7.
- Teng, X., Xue, X., Jiang, X., & Wang, H. (2024). Integration of industry-university collaboration, ideological and political education, and innovation methods: Paths and practices for educational and industrial innovation. *Journal of Educational Research and Policies*, 6(9), 53-57.
- Torlaković, A., Veselinović, L., & Bičo Čar, M. (2022). The application of gamification

- in a business environment: The most common themes and elements. In *International Conference "New Technologies, Development and Applications"* (pp. 996-1002). Springer, Cham.
- Ukgoda, H. (2025). Gamification in education: its impact on engagement, motivation, and learning outcomes. *Journal of Educational Technology Development and Exchange (JETDE)*, 18(3), 41-66.
- Uysal, A., & Yildirim, I. G. (2016). Self-determination theory in digital games. In *Gamer Psychology and Behavior* (pp. 123-135). Cham: Springer International Publishing.
- Vaidya, Y., & Kaushik, H. (2024). Gameful learning: Exploring the integration of board game design in education. *ShodhKosh Journal of Visual and Performing Arts*, 5(ICETDA24), 117-122.
- Van Der Vyver, A. G. (2015). Progressive incentivisation and gamification in a rural education development initiative. *Asean Journal of Management & Innovation*, 2(1), 81-90.
- Vegt, N., Visch, V., de Ridder, H., & Vermeeren, A. (2014). Designing gamification to guide competitive and cooperative behavior in teamwork. In *Gamification In Education and Business* (pp. 513-533). Cham: Springer International Publishing.
- Villegas, C. G., & Aguero, N. A. L. (2023). The gamification of e-learning environments for learning programming. *JOIV: International Journal on Informatics Visualization*, 7(2), 455-462.
- Vivek, R., Nanthagopan, Y., & Piriyaarshan, S. (2023). Beyond methodology: Theoretical foundations of triangulation in qualitative and multi-method research: A literature review. *Scientific Studios on Social and Political Psychology*, 2(29), 53-62.
- Wan Ariffin, W. N. J., Chik, A., Rosli, R., & Halman, N. N. A. N. (2024). Examining the impact of gamification assessment on motivation and engagement in learning social science courses in higher education. *International Journal of Academic*

*Research in Progressive Education and Development*, 13(3), 2888-2898.

Waseem, I. (2024). Frame analysis of digital games. *Global Social Sciences Review*, 9(3), 87-99.

Wei, T. X., Yunus, M. M., & Mohd Said, N. E. (2024). Level up literacy: Unveiling English teachers' gamified learning adventure in primary education. *International Journal of Academic Research in Progressive Education and Development*, 13(3), 200-225.

Weitl-Harms, S., Spanier, A., Hastings, J., & Rokusek, M. (2023). Framing gamification in undergraduate cybersecurity education. *Journal of the Colloquium for Information Systems Security Education*, 10(1), 1-7.

Werdiningsih, E. (2022). Lima pendekatan dalam penelitian kualitatif. *Likhitaprajna*, 24(1), 39-50.

Wulan, D. R., Sulistiadi, U., Nugraha, D., Rohman, T., & Fiyul, A. Y. (2024). Exploring the benefits and challenges of gamification in enhancing student learning outcomes. *Global International Journal of Innovative Research*, 2(7), 1657-1674.

Xu, A., Baysari, M. T., Stocker, S. L., Leow, L. J., Day, R. O., & Carland, J. E. (2020). Researchers' views on, and experiences with, the requirement to obtain informed consent in research involving human participants: A qualitative study. *BMC Medical Ethics*, 21, 1-11.

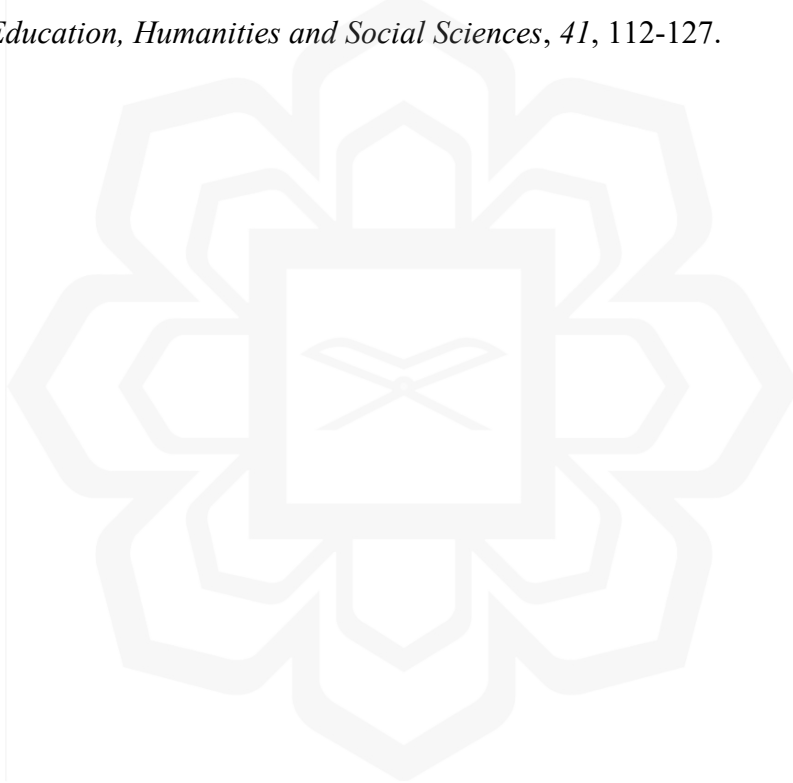
Yadav, N. (2024). The impact of digital learning on education. *International Journal of Multidisciplinary Research in Arts, Science and Technology*, 2(1), 24-34.

Yie, D. L., Sanmugam, M. A., Yahaya, W. A. J. W., & Abdullah, N. B. (2022, May). The dilemma of online gamified learning in Malaysian educational context: A qualitative study on Malaysian university students' perspective. In *2022 IEEE 12th Symposium on Computer Applications & Industrial Electronics (ISCAIE)* (pp. 61-65). IEEE.

Zekan, S. B., Russo, A., & Roje, A. (2024). Leveraging gamification using escape rooms to improve students' motivation and learning experience. In *Developing Managerial Skills for Global Business Success* (pp. 203-218). IGI Global Scientific Publishing.

Zhaksylyk, A., Zimba, O., Yessirkepov, M., & Kocyigit, B. F. (2023). Research integrity: Where we are and where we are heading. *Journal of Korean Medical Science*, 38(47), 1-11.

Zhang, Y., Tan, W. H., & Zhou, J. (2024). A bibliometric review of research on gamification in education: Reflections for moving forward. *Journal of Education, Humanities and Social Sciences*, 41, 112-127.



## APPENDICES

### APPENDIX A: INFORMATION SHEET

#### EXPLORING THE USE OF GAMIFICATION IN ENTREPRENEURSHIP COURSE TO ENHANCE SOCIAL INTERACTIONS IN THE CLASSROOM

I, **Auni Suhailah Binti Hasbullah (Matric No. G2320166)**, is a student at the Department of Sociology and Anthropology, AHAS KIRKHS, International Islamic University Malaysia (IIUM). Currently, I am conducting research for my MA thesis under the supervision of Associate Professor Dr. Nurazzura Mohamad Diah. The objective of this study is to investigate gamification in the IIUM entrepreneurship course in enhancing social interaction within classroom settings. You are invited to take part in this study.

The study will provide an in-depth analysis of why gamification has not yet been implemented in the entrepreneurship course at IIUM. It will also explore the constraints of incorporating gamification in the entrepreneurship course at IIUM. Subsequently, identify how gamification can be incorporated in the course, identifying strategies and methodologies for effective implementation. Furthermore, the research will investigate the types of social interactions that exist through gamification in the IIUM entrepreneurship course.

Participation in this study is voluntary. The duration of the interview will be about one hour, and with consent, the interview will be recorded. The reason for recording the interview is to ensure an accurate record of what was said for the analysis. The only person who will access the full information of this recording will be the researcher mentioned above. Once transcribed and analysed, the recording will be destroyed. To protect your privacy and confidentiality, your real names will be replaced with pseudonyms.

If you have further inquiries, you can contact me at 011-11173611 or email me at [aunisuhammad0182@gmail.com](mailto:aunisuhammad0182@gmail.com) or my supervisor, [nurazzura@iium.edu.my](mailto:nurazzura@iium.edu.my).

If you are willing to participate in this study, please complete the participant consent form.

## **APPENDIX B: PARTICIPANT CONSENT FORM**

### **EXPLORING THE USE OF GAMIFICATION IN ENTREPRENEURSHIP COURSE TO ENHANCE SOCIAL INTERACTIONS IN THE CLASSROOM**

I ..... have read the information sheet.  
I agree to be interviewed; however, I know that I may change my mind and stop at any time. I understand that all information provided will be treated as confidential and will not be released by the researcher unless they are required to do so by law. I understand that research data gathered for this study will be published and that unless I agree, my name or other information which might identify me or the people that I talk about will not be used.

Please circle the statement below:

- (a) I give permission to be interviewed.
- (b) I give permission for the interview to be recorded.
- (c) I give permission for the quotes from my interview to be used.
- (d) I give permission for my name to be replaced with pseudonyms.

Signature

Date

.....

.....

**THANK YOU VERY MUCH FOR YOUR COOPERATION &  
CONTRIBUTION**