



IIEF 2025

INTERNATIONAL INNOVATION &
EXHIBITION FAIR 2025

KOLEJ MARA KULIM

PROJECT:

INTEGRATION ESCAPE ROOM

INSTITUTION:

KOLEJ MATRIKULASI JOHOR

YOUTUBE LINK:

[https://youtu.be/uz2O7KILM3o?
si=tcWe7w6Ut5yTMudp](https://youtu.be/uz2O7KILM3o?si=tcWe7w6Ut5yTMudp)

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Introduction

In the modern educational and business landscapes, integrating new tools, systems, or methodologies can often present significant challenges. To address these challenges effectively, gamification—applying game-design elements in non-game contexts—has emerged as a powerful strategy. By incorporating game mechanics into the integration process, organizations and educators can enhance engagement, improve learning outcomes, and streamline the adaptation process.



Objective

"TO EMPHASIZE THE SIGNIFICANCE OF INTEGRATION IN MATERIAL ENGINEERING, TO ENCOURAGE THE USE OF GAMIFICATION IN LEARNING TO CREATE AN ENJOYABLE AND INTERACTIVE EXPERIENCE FOR STUDENTS IN MASTERING INTEGRATION, AND TO INCORPORATE VISUAL ELEMENTS AND AUDIO EFFECTS TO FACILITATE THE LEARNING PROCESS FOR ENGINEERING STUDENTS, HELPING THEM EFFECTIVELY UNDERSTAND AND APPLY INTEGRATION IN THEIR STUDIES."

Problems

Lack of time in lecture and tutorial class: Mostly students are having packed schedule, making them hard to fork out extra time doing revision to reinforce their understanding. At the same time, the lecturers are short of time for face-to-face class and in the rush of finishing the syllabus, making them could bring interactive method like gamification during the limited tutorial time to assess students' comprehension on certain topics.





Method

There are three room

First room: circus

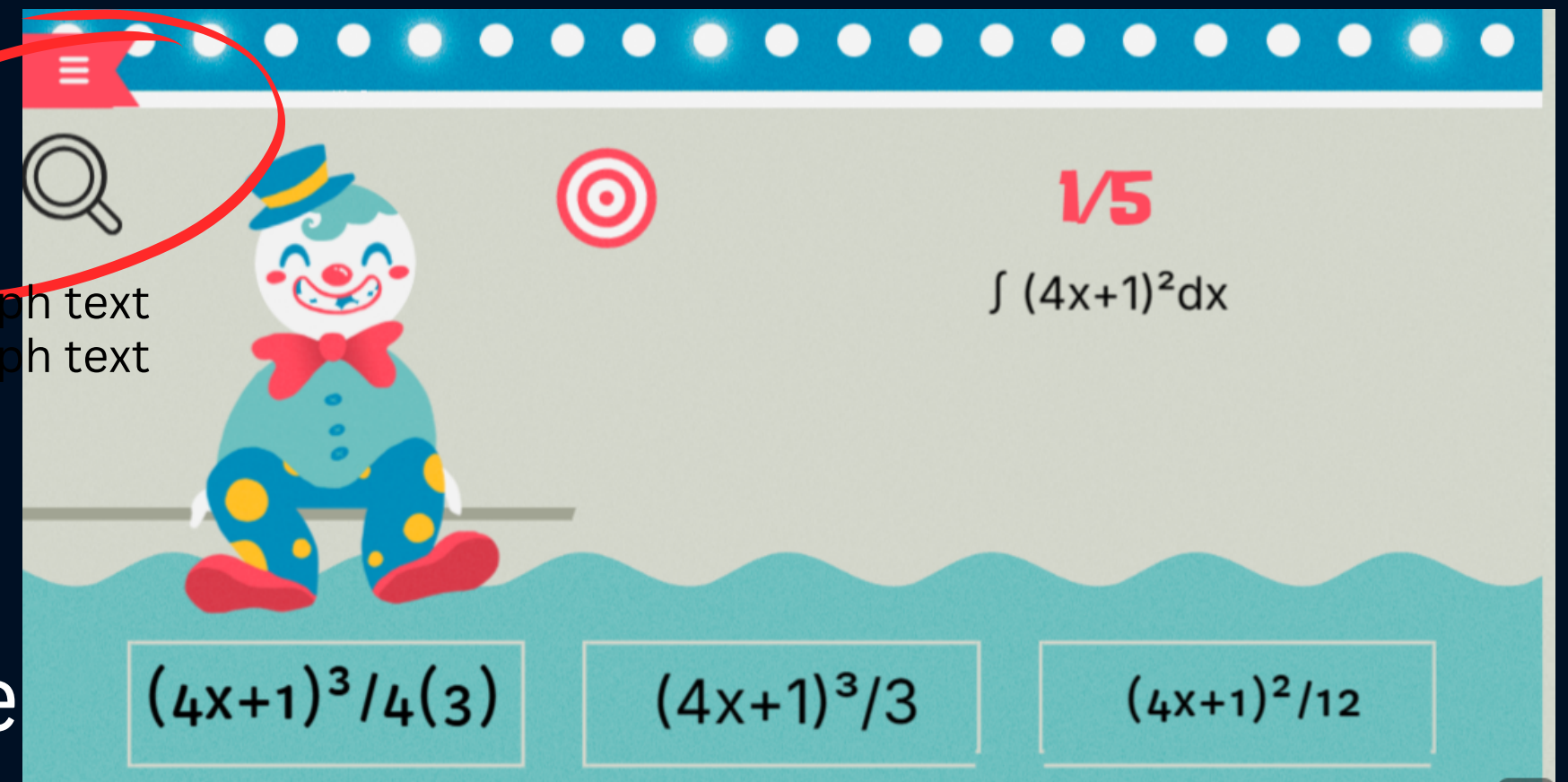
Players solve a basic indefinite integral to unlock the door and move to the next room

hint involves formula

correct answer:display a long message

incorrect answer:the clown will

“Hahahaha...” and display “Try again”



Second room: mirror maze

Players calculate the volume of a solid using definite integration.



- Correct answer:display message and can next level or next room
- Incorrect answer:display “so sorry” and repeat this room with broken heart

Third room: The House Of Terror
Players solve a trigonometric integral and
use it to calculate a volume of revolution.



correct answer:display a long message
incorrect answer:player will be Intimidated
,display message and repeat this room

Design and project detailing



integrates puzzles, creative tasks, and teamwork to unlock different stages. This design can inspire the Integration Escape Room for Innovation by combining interactive storytelling, creative challenges, and technology like augmented reality or sensors to enhance engagement. Tasks can focus on innovative thinking, STEM integration, and collaboration, creating an immersive educational experience



Gamification : use interactive design to enhance learning experiences.

Immersive experience :combine story, tricks and visual effects to attract user attention.

Practice creativity and Innovation through solving problems

Support cross-curriculum learning

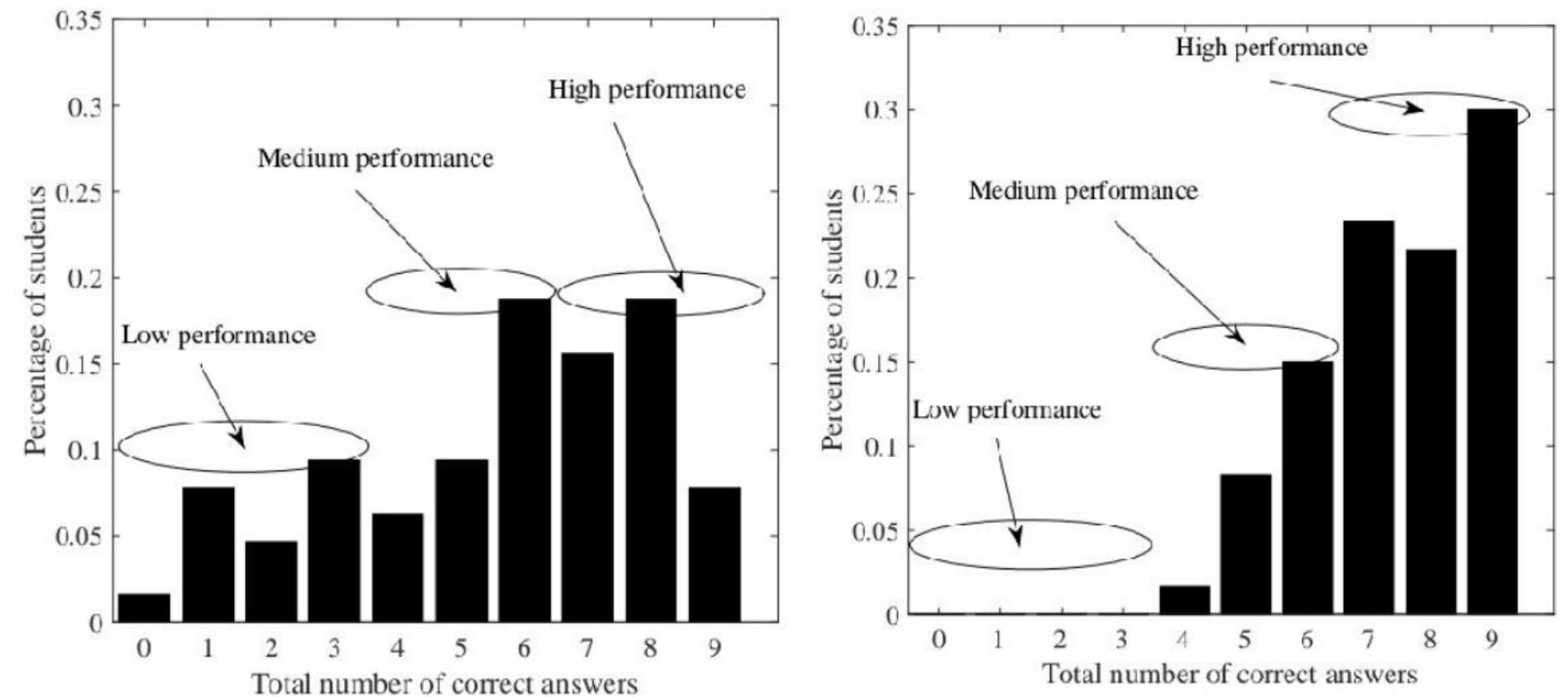
This game can be adapted in various educational field and corporate training to improve teaching and learning efficiency.





The study employed a survey that consists of the problems faced by students when it comes to learning integration in school. Problems from the survey such as time constraint, lack of pedagogical knowledge and confidence and resource constraint.

Result and Discussion



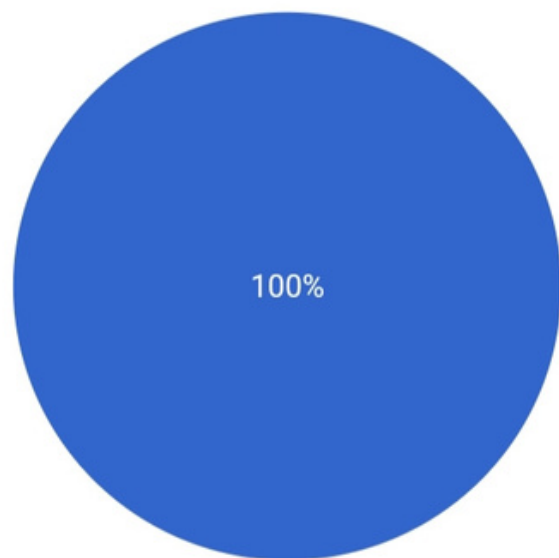
Is this escape game can help to improve your integration?



Copy chart

game?/comment

● Yes
● No



can create more escape room

can increase hard level

increase the hard

already good

no i think it already good for me.i will play it again and again

before playing i think integration easy but when i play i found that actually it is not easy at all.there many types of integration.

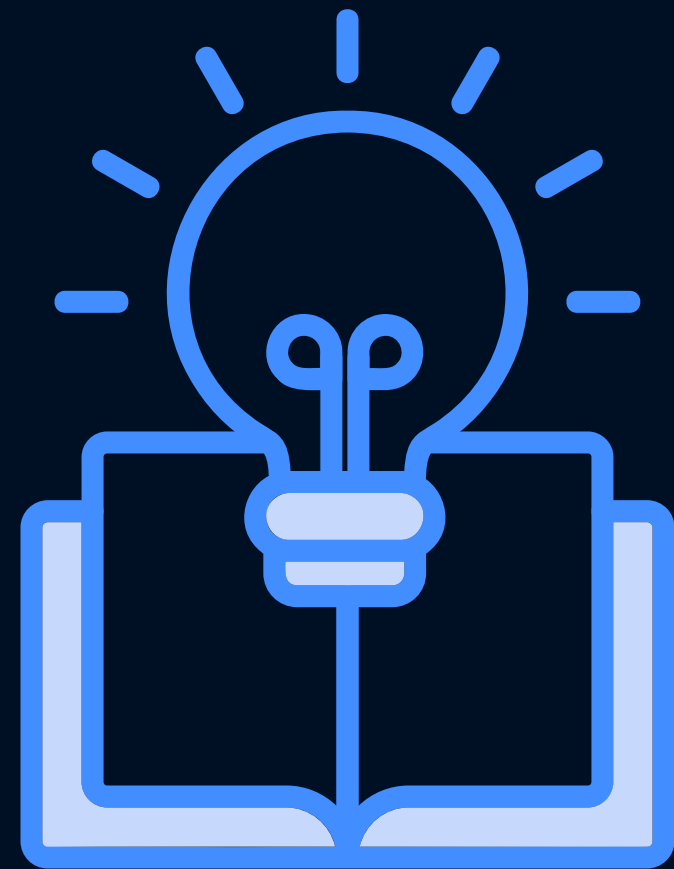
feedbacks from the students who use the game shows effective improvements for students to master integration easily, providing them a fun-based learning experiences

Benefits



1.Reduced Anxiety: The game format may reduce test anxiety and make learning math feel less like a high-stakes endeavor, encouraging a growth mindset.

2.Enhanced Understanding: By solving problems in a practical, game-based context, students may develop a deeper understanding of mathematical concepts and see their real-world applications.



RECOMMENDATION

The study demonstrates that gamification is an effective tool for engineering students to master difficult topics like integration. By incorporating interactive challenges, adaptive feedback, and motivational elements, this game fosters active learning and helps address common misconceptions about integration. Students showed significant improvement in problem-solving skills and a deeper grasp of integration concepts, highlighting the potential of gamification as an innovative approach to difficult topics and math concepts in engineering.



Conclusion



Future research should explore the scalability and long-term impact of gamified systems across diverse educational settings and student demographics. Integrating more topics like calculus that also plays an essential role in engineering. By integrating gamification with collaborative learning features or real-world applications could further enhance its effectiveness. Educators are encouraged to adopt gamified tools as a supplementary method to traditional teaching to better engage students and improve learning outcomes in calculus and other complex subjects.

OUR PRODUCT



scan it
to play

<https://view.genially.com/66e3029dbe7e6c157273b346/interactive-content-geniallyland-breakout>

see video

https://youtu.be/WymK7YTULMI?si=SdZE_MALxq5m2eQr





**TEAM LEADER
LIM LI NING**

LIM LI JING

CHONG POHYI

FITT



**ADVISOR
MADAM LIM HWEE CHENG**



Our Team





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THANK YOU!

"POWERING WHAT'S NEXT"



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