

# **Gamification of Interactive Learning using Android Mobile Application for Business Mathematics**

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## **Abstract**

Many students frequently encounter difficulties while dealing with the concepts of simple interest, compound interest, and annuity in the field of Business Mathematics. Consequently, a novel mobile application, SCI-A, has been created with the aim of augmenting students' comprehension of these subjects. Every question inside the SCI-A framework is intentionally crafted to include a comprehensive solution upon request. This functionality would allow users to recognize and correct their errors as they advance in each subject matter. A preliminary investigation was undertaken at UiTM Sarawak Branch, encompassing six students pursuing a diploma and 21 students pursuing a degree, all of whom were enrolled in the Business Mathematics course. The findings of the study reveal that a majority of students regarded the SCI-A mobile application is user-friendly, entertaining, and capable of enhancing their learning experience, comprehension, and understanding. SCI-A has the potential to serve as a source of motivation for users to engage in other learning endeavours. This application aligns with the fourth Sustainable Development Goal (SDG4), which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all individuals.

**Keywords:** Business mathematics, mobile application, interactive learning, lifelong learning, gamification

# TEACHING AND LEARNING POSTER IDEAS

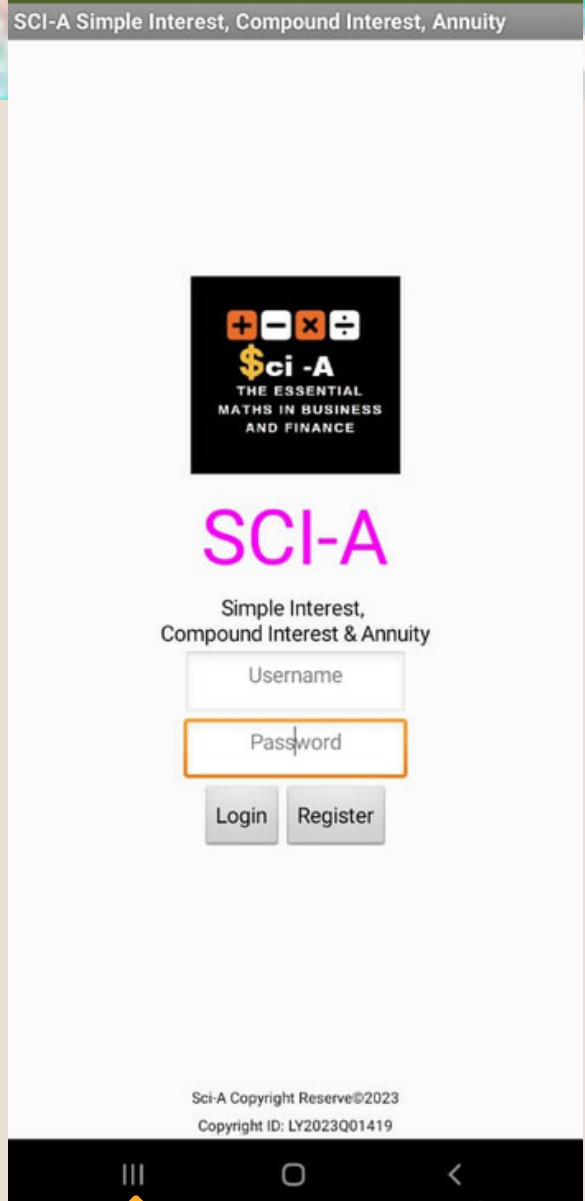
## TALPI 2023

"TOWARDS INNOVATIVE GLOBAL TRENDS IN EDUCATION"

VIRTUAL COMPETITION

### Gamification of Interactive Learning using Android Mobile Application for Business Mathematics

**ABSTRACT** Many students frequently encounter difficulties while dealing with the concepts of simple interest, compound interest, and annuity in the field of Business Mathematics. Consequently, a novel mobile application, SCI-A, has been created with the aim of augmenting students' comprehension of these subjects. Every question inside the SCI-A framework is intentionally crafted to include a comprehensive solution upon request. This functionality would allow users to recognize and correct their errors as they advance in each subject matter. A preliminary investigation was undertaken at UiTM Sarawak Branch, encompassing of six students pursuing a diploma and 21 students pursuing a degree, all of whom were enrolled in the Business Mathematics course. The findings of the study reveal that a majority of students regarded the SCI-A mobile application as being user-friendly, entertaining, and capable of enhancing their learning experience, comprehension, and understanding. SCI-A has the potential to serve as a source of motivation for users to engage in other learning endeavors. This application aligns with the fourth Sustainable Development Goal (SDG4), which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all individuals.



AB

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#### OBJECTIVES

To develop an interactive mobile application for teaching and learning business mathematics of Simple Interest, Compound Interest and Annuity (SCI-A)

3

#### USEFULNESS AND APPLICATION

- User-friendly mobile app via devices such as smartphones and tablets.
- Full solutions and hints are provided to guide students.

4

#### NOVELTY

New approaches and new educational technologies to engage students in learning mathematics

2

#### ADVANTAGES

- Students**  
Students can enjoy learning Business Mathematics using Sci-A beyond classroom limitations.
- Students can clearly differentiate between the topics of Simple Interest, Compound Interest, and Annuity without confusion. The questions in Sci-A are set based on different difficulty levels in the cognitive domain, which exposes students to a diversified range of questions.
- Educators**  
Sci-A can be used in the classroom to provide an interactive and engaging platform that helps both secondary and tertiary-level students learn Business Mathematics in a fun way. Sci-A provides a complete solution for each question that involves basic and complex problems through real-life applications that can be used by educators.



5

#### COMMERCIALISATION POTENTIAL

Target users: Secondary school students & Tertiary level students

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#### INVENTORS

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6

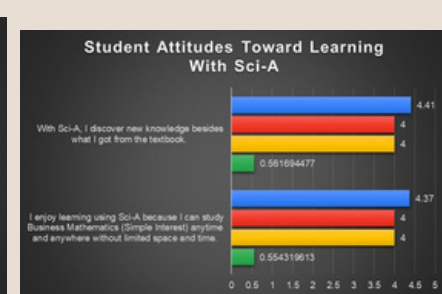
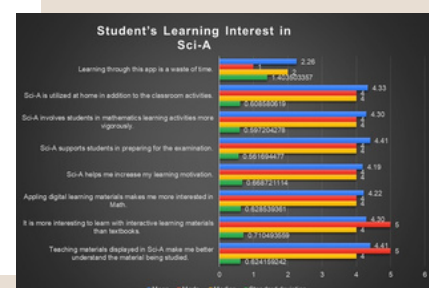
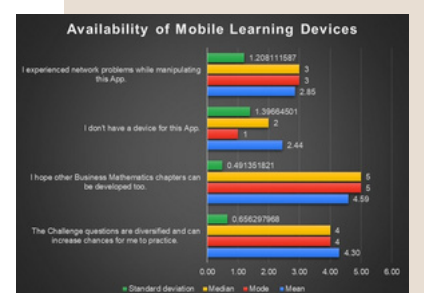
#### ANALYSIS

Pilot test on 6 diploma students and 21 degree students

- Sci-A is a potential Business Mathematics study tool to enhance students' self-learning and improve their understanding of the three topics.

8

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Prof. Madya Dr. Nur Hisham Ibrahim  
Rektor  
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Cawangan Perak



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Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

“BERKHIDMAT UNTUK NEGARA”

Saya yang menjalankan amanah,

**SITI BASRIYAH SHAIK BAHARUDIN**  
Timbalan Ketua Pustakawan

*nar*

*Setuju.*

*27.1.2023*

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