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



CI-A Simple Interest, Compound Interest, Annu



Simple Interest, Compound Interest & Annuity Username



Gamification of Interactive Learning using Android Mobile Application for Business Mathematics

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.

Sci-A Copyright Reserve@2023







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

USEFULNESS AND APPLICATION

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

COMMERCIALISATION

POTENTIAL

Target users: Secondary school students & Tertiary level students

INVENTORS

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• Yii Ming Leong

NOVELTY

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



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.



Sci-A	Student Attitudes Toy	ward Learning	
204278	With Sci-	A	
8721154		4.41	This learning gam
253000 4.33	With Sci-A, I discover new knowledge besides what I got from the textbook.	4	understand mat
331084 4 33	•	561694477	This learning game ma
4,30	I enjoy learning using Sci-A because I can study	4.37	The second
1204278 4 4 4	Business Mathematics (Simple Interest) anytime and anywhere without limited space and time.	4	I love to learn mathemat because it is a
56547 1.6 2 2.6 3 3.6 4 4.5	s 0 05	1 1.5 2 2.5 3 3.5 4 4.5 5	
Standard deviation	■Mean ■Mode ■Median ■	Standard deviation	The problem presented learning game help mathematics





Effectiven	less of ScI-A
This learning game makes me want to understand mathematics further.	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
his learning game makes me like to learn mathematics.	0.884934889
we to learn mathematics through this App because it is attractive.	4.07
he problem presented in the mathematics learning game helps me understand mathematics concepts.	4.30 4 4

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Saya yang menjalankan amanah,

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