

ATOM (A TOUCH OF MATHEMATICIAN)

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ABSTRACT

ATOM is a project combining the usage of technology and Matriculation Mathematics Syllabus. ATOM utilizes technology to convey Mathematics teaching at a greater speed and reachability. Students will be able to access all the necessary information by using their mobile phone and readily available apps downloaded from google play. The flow of ATOM is as follows; first, students will refer to the provided mind map to solve challenge questions regarding the topics. Then, they can check for the solution by scanning an AR (Augmented Reality) code to gain access to the video explaining step-by-step solution to the problem. The video tutorial provided will be helpful in order to provide an interesting and creative environment to learn mathematics, in contrast to the traditional and boring methods used before. Moreover, the AR code will be printed on a button badge, which students can stick to their bags or anywhere else convenient for them to carry around. No more bulky books and heavy materials needed. ATOM has been tested to certain groups of students, and they all show improvements and better performance in a certain test tailored to measure the efficiency of ATOM.

1. INTRODUCTION

ATOM is an innovation combining the knowledge in Mathematics and the advancement of today's technology. Making use of the AR technology introduction into our education world, ATOM manifests itself as the translation of the greatness of technology merged with an expertise in the Mathematical field. Often, students complain of the lack of time to see their lecturer to gain insight into certain areas or questions and to clarify confusion regarding Mathematics.

ATOM enables a remote, but comprehensive learning to ease students-lecturers consultation and reference. Students will gain access towards various learning materials and resources at the comfort of their own room or anywhere else they go. They do not have to meet their lecturers in the office or cubicle.

They can refer to the mind map provided and try the challenge questions. The most interesting part is, to get guidance on how to solve the question, they can just scan an AR code provided and automatically be directed to the required video.

2. APPLICATION

ATOM utilizes AR codes and HP reveal application, which is available on google play to convey its aim to the students. Students will download the required apps and do some simple signing in before the apps are ready to be used. This app's usage is widespread and familiar to many users. Apart from that, videos showing the solution to mathematics problems are also uploaded to YouTube, under a channel called 3N_KMKt.

2.1 Focus Group

Currently, this innovation focuses on Mathematics Matriculation content only. But, due to the availability of the applications used and the universal traits this innovation possesses, it soon can be further developed to include many others syllabus and target a bigger group than a small matriculation circle.

3. FINDINGS

A few respondents were selected to test the effectiveness of ATOM. The result is as follows:

Table 1: Comparison of students mark pre and post test

| Markah | Bilangan Pelajar (%) | |
|---------------|--------------------------------|-----------------------------|
| | S3BT1 (kumpulan eksperimen) | S3BT4 (kumpulan kawalan) |
| A | 11 (91.7) | 1 (8.3) |
| A- | 1 (8.3) | 0 (0) |
| B+ | 0 (0) | 0 (0) |
| B | 0 (0) | 2 (16.7) |
| B- | 0 (0) | 2 (16.7) |
| C+ | 0 (0) | 4 (33.3) |
| C | 0 (0) | 1 (8.3) |
| C- | 0 (0) | 1 (8.3) |
| D | 0 (0) | 1 (8.3) |
| F | 0 (0) | 0 (0) |
| Jumlah | 12 (100) | 12 (100) |

Table 1 shows a significant rise in student's performance after being exposed to ATOM innovation. A drawn conclusion from this data is, ATOM manages to improve student's achievement in Mathematics. Students which are susceptible to this kind of new norm teaching prove themselves to be better at topics they were exposed to.



Surat kami : 700-KPK (PRP.UP.1/20/1)
Tarikh : 30 Ogos 2022

YBhg. Profesor Ts Sr Dr Md Yusof Hamid, PMP, AMP
Rektor
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YBhg. Profesor

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Kelulusan daripada pihak YBhg. Profesor dalam perkara ini amat dihargai.

Sekian, terima kasih.

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