# PHYSICS IS EASY... CHECK IT OUT!

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**ABSTRACT**

The aim of this innovation is to produce a physics activity book. The book is based on the syllabus of Fundamental of Physics, which is suitable for SPM, STPM, Matriculation and Diploma level students. Despite the many studies which have been conducted and many methods that have been introduced, the effectiveness remains localized. With the current curriculum, the students in higher learning education have limited contact hours with the instructors. This book can help to make the learning process more interesting and assist to improve students' conceptual understanding for each chapter. Questions are designed using crossword puzzles and free online platforms like Kahoot and Google Form. Questions on online platforms can be reached through QR Code included in the book. Crossword puzzle questions are an interesting and creative way to test their understanding of each chapter, meanwhile online platform methods could provide immediate feedback when students complete their tasks. This real-time interactive learning approach can provide our students with a positive boost and motivation. The activity also allows the student to go through the quizzes as many times without being penalised. It will give the student another platform that they could access anytime and chance to comfortably go through in understanding more about physics.

**Keyword:** physics, crossword puzzles, online platforms, learning process, interactive learning

## 1. INTRODUCTION

Reportedly, 17967 numbers of books were published in Malaysia in 2014 and the number is expected to decrease in future especially for science books [1]. The declining number of science stream students in Malaysia is not new and the agenda on empowering sciences, technology engineering and mathematics (STEM) has been clearly stated in Malaysian Education Blueprint 2013-2025 [2]. As for physics, many students complain that lessons in this subject are difficult to understand. This can be seen in the declining number of students entering the Science stream after finishing their high school. Therefore, one approach to attract students is using interactive learning mechanisms. Reliable and interesting contextual illustrations are needed as the substance of physics textbooks. This serves as one of the ways to attract the students' interest in reading [3]. The goal of this study is to construct a book on the efficacy of physics activities based on selected chapters. It will approach the conceptual understanding of the student for each chapter.

## 2. METHODOLOGY

Questions are designed using crossword puzzles and free online platforms like Kahoot and Google Form. Questions on online platforms can be reached through QR Code included in the book. A survey has been done using Google Form to identify the effectiveness of the physics activity book (*Physics*).

## 3. RESULT AND DISCUSSION

Table 1. Results from survey done using google form on Physics

| No | Questions | Strongly Disagree (%) | Not Agree (%) | Not Sure (%) | Agree (%) | Strongly Agree (%) |
|---|---|---|---|---|---|---|
| 1 | The design of this book has caught your attention. | - | - | 38% | 38% | 24% |
| 2 | The content of this book is very well suited for the use of high school science students up to Diploma level. | - | - | 30% | 38% | 32% |
| 3 | Activities in this book attract your interest in t he study of physics. | - | 8% | 23% | 46% | 23% |
| 4 | The activities in the book are very interesting. | - | 8% | 23% | 46% | 23% |
| 5 | The processing of info and phrases in this boo k is very interesting and clear. | - | - | 31% | 46% | 23% |
| 6 | This book uses a simple approach to strengthe n students' basic understanding | - | 8% | 23% | 38% | 31% |
| 7 | Provision of questions in the form of QR codes for students to access related queries and receive instant user feedback | - | 8% | 15% | 54% | 23% |
| 8 | Crossword approach can help students identify and adapt to new terms | - | - | 31% | 38% | 31% |
| **No** | **Question** | **Yes** | **No** | **Maybe** | | |
| 1 | You're interested in buying this book | 78% | 0 | 22% | | |

From the results, it shows that most of the respondents agreed that the design of this book has caught their attention and the content of this book is very well-suited for the use of high school science students up to Diploma level. However, 8% from the respondent did not agree that the activities in this book attract their interest in the study of physics. 46% of the respondents agreed that the processing of information and phrases in this book is very interesting and clear and they mostly agreed that this book uses a simple approach to strengthen students' basic understanding. 54% of them agreed with the provision of questions in the form of QR codes for students to access related queries and receive instant user feedback. The item on crossword approach received almost equal responses, but more than two-third leaned towards agreement. Last but not least, 78% of the respondents stated their interest in buying this book.

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

Sekian, terima kasih.

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