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2023

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**JOHOR
INNOVATION
INVENTION
COMPETITION
AND
SYMPOSIUM
2023**



" Innovation Inspires a Society
to be Critical and Creative"

JOHOR INNOVATION INVENTION COMPETITION AND SYMPOSIUM 2023

"Innovation Inspires a Society to be
Critical and Creative"

Editors-in-Chief

**AHMAD KHUDZAIRI KHALID
NUR INTAN SYAFINAZ AHMAD**



الجامعة التكنولوجية
UNIVERSITI
TEKNOLOGI
MARA

**Cawangan Johor
Kampus Pasir Gudang**

2023



First Edition 2023

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e ISBN: 978-967-0033-17-4

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NUR INTAN SYAFINAZ AHMAD**

**Art & Cover Designer: DR. WAN MUNIRAH WAN MOHAMAD
& DR. NUR IDAYU ALIMON**

**Published in Malaysia by
Universiti Teknologi MARA Cawangan Johor
Kampus Pasir Gudang
81750 Masai**





Preface

In the name of Allah, the Almighty who gives us the enlightenment, the truth, the knowledge and with regards to Prophet Muhammad (peace be upon him) for guiding us to the straight path. We thank to Allah for giving us guidance and strength to write this e-book.

This e-book compiles the extended abstracts that submitted to Johor Innovation Invention Competition and Symposium 2023 (JIICaS2023), where JIICaS2023 is a virtual platform for all creative minds to share and present their invention and innovation. The extended abstracts are divided into two categories, which are Category A (Higher Educational Student/ Any Recognized Institutional Students in Malaysia) and Category B (Primary/ Secondary School Students / Special Education School Students in Johor). Each abstract gives a brief background on the innovation or project.

We hope that this e-book will help the readers to get to know the innovation done by the students from both categories and get some ideas to develop future innovation products.



MATRIX BOARD

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ABSTRACT

Matrix Board is produced to increase the interest of students in learning the subject of matrix and make learning matrix more interesting. It also reduces dependence on the use of calculators and improves exam performance in mathematics subjects. The results of the Pre and Post Tests show an increase in student achievement in answering Matrix questions among 50 form 5 students. The increase in the number of students who obtained higher scores in the Post test shows the effectiveness of using the Matrix Board. The findings of the survey show that the Matrix Board is able to increase students' interest, provide a positive effect and impact and it is more effective in helping to attract students' interest. It is hoped that the Matrix Board can be used by other school students in mastering the matrix topic. In addition, Matrix Board has the potential to be marketed as a learning stimulant as well as a board game that has a positive impact on student learning.

Keywords: Matrix

1.0 INTRODUCTION

Matrix is one of the hardest topic in SPM's Mathematic. The purpose of this project is to overcome the problem of students on facing the topic Matrix and helping them to understand better about the topic. It also helps the students to improve their grades in Mathematic.

2.0 OBJECTIVE

Matrix Board is produced to increase the interest of friends in learning matrix topics and make learning matrices more interesting. Matrix Board helps reduce dependence on the use of calculators. Matrix Board also improves exam performance in mathematics subjects

3.0 DESCRIPTION OF INNOVATION/METHODOLOGY

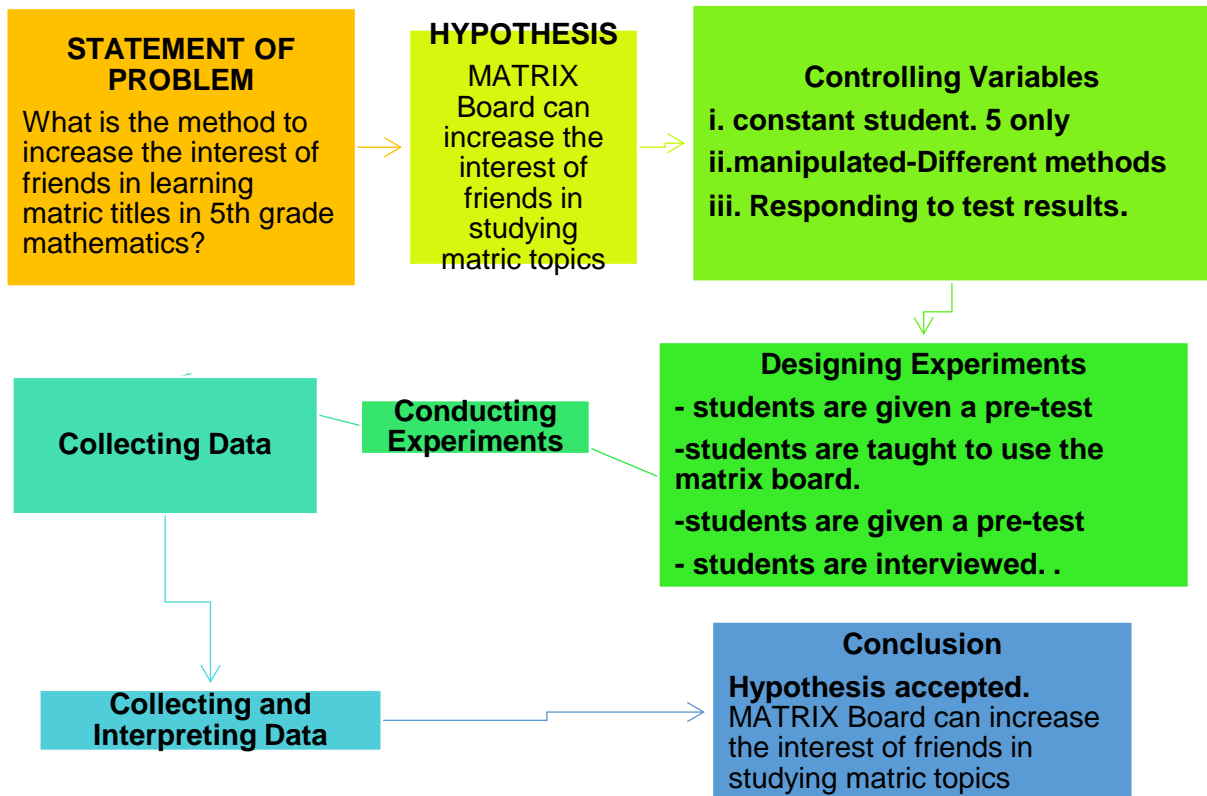


Figure 1: Flowchart of progress & methodology

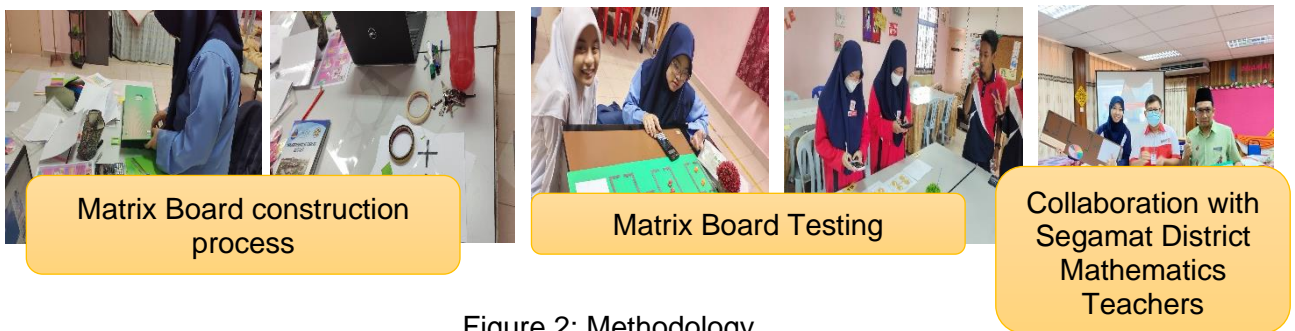
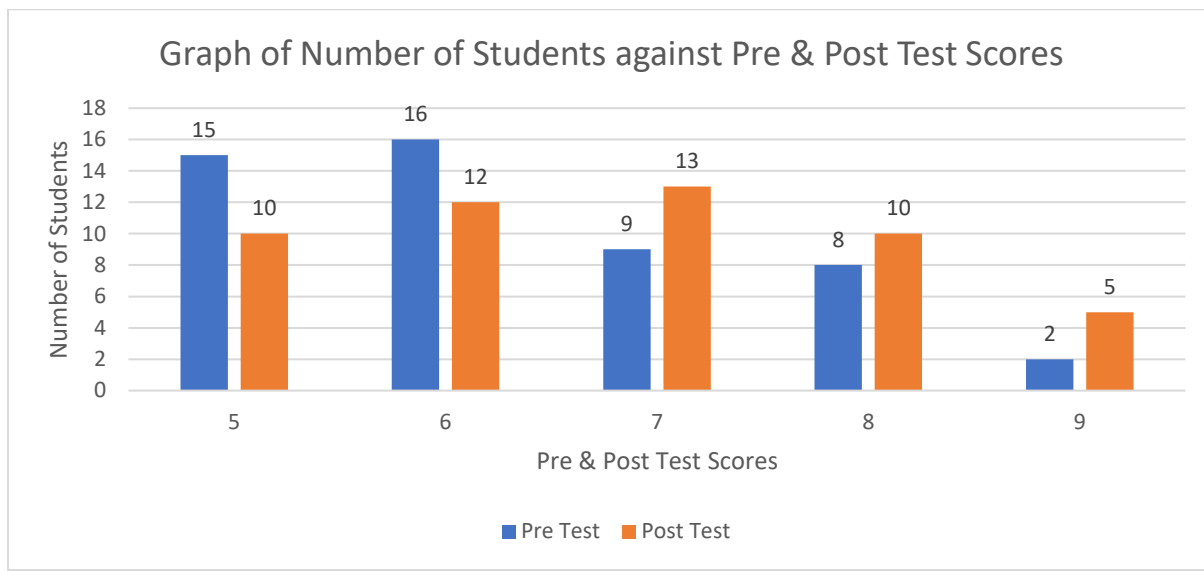


Figure 2: Methodology

4.0 ADVANTAGE/IMPACT/RESULTS/NOVELTY



Graph 1: Number of Students against Pre & Post Test Scores

The results of the Pre and Post Tests show an increase in student achievement in answering Matrix questions among 50 form 5 students. The increase in the number of students who obtained higher scores in the Post test shows the effectiveness of using the Matrix Board.

QUESTION ASPECT	Yes	No	Results
Product effectiveness	8	1	Effective in increasing students' interest and understanding
Student interest	9	0	Increase student interest
Comparison with the traditional	7	2	Matrix board method is more effective

Table 1: Survey Results

The results of the survey show that this Matriks Board is able to increase students' interest, provide a positive effect and impact and it is more effective in helping to attract students' interest.

5.0 CONCLUSION

In conclusion, Matrix Board can be used by students from other schools in mastering matrix topics. In addition, Matrix Board has the potential to be marketed as a learning stimulant as well as a board game that has a positive impact on student learning.

Suggestions for improvement:

1. Design Matrix Board into an easily accessible online application.
2. Can be combined with other subjects.

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