

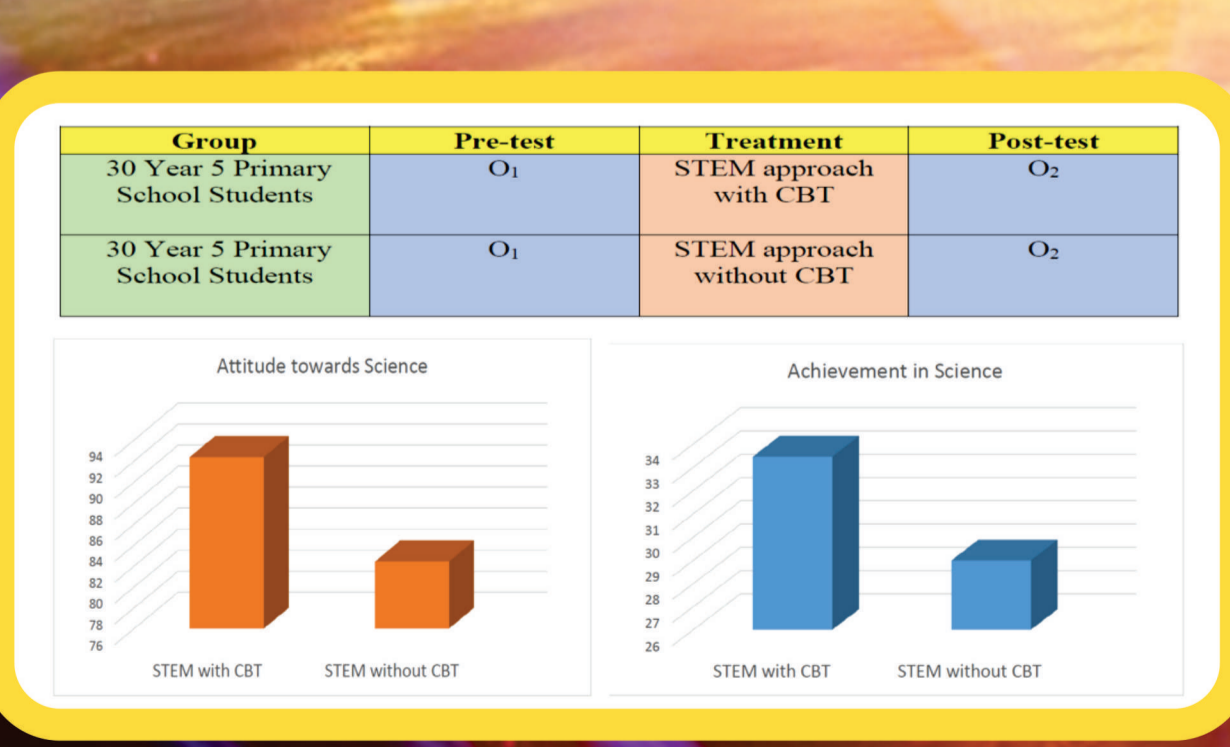
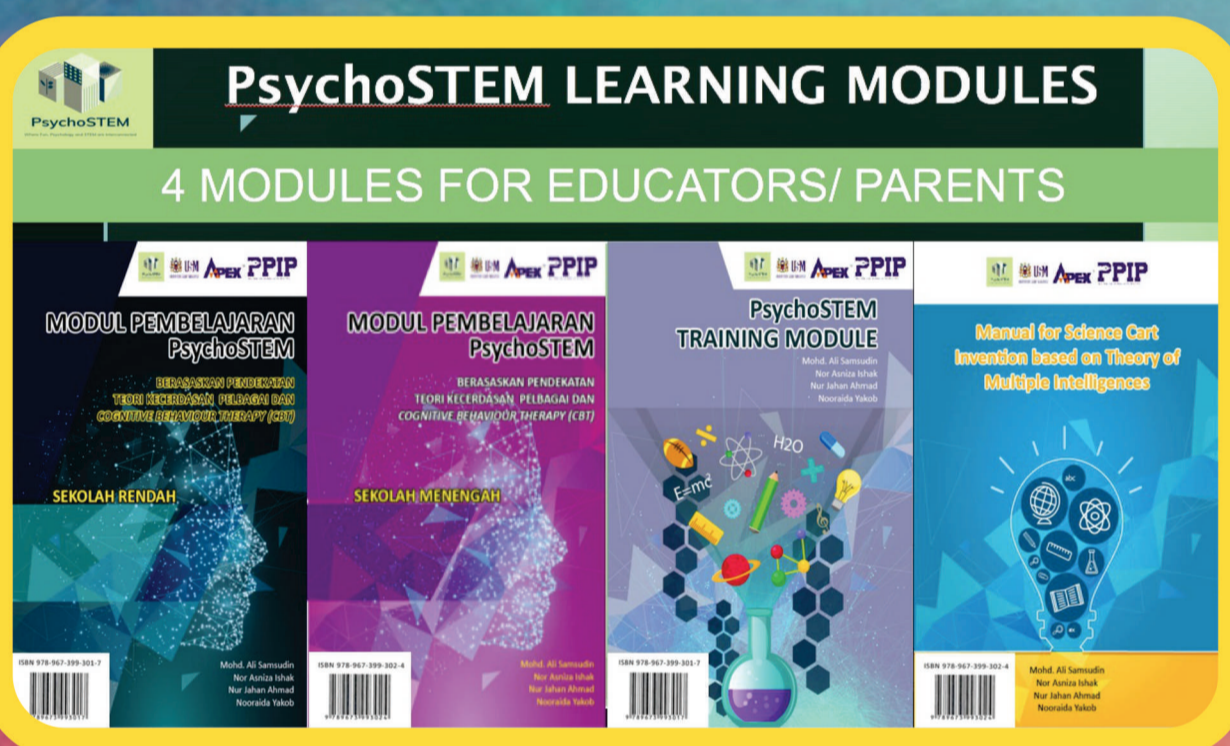
Researchers:

**DR. NOR ASNIZA ISHAK**  
 Assoc. Prof. Dr. Mohd Ali Samudin  
 Dr. Nur Jahan Ahmad  
 Dr. Nooraida Yakob

**INTELLECTUAL PROPERTY:**

- COPYRIGHT (LY2018003743) ▲
- COPYRIGHT (LY2018003755) ▲
- COPYRIGHT (LY2018003759) ▲
- COPYRIGHT (LY2018003761) ▲
- COPYRIGHT (LY2018003757) ▲
- COPYRIGHT (LY2018003758) ▲
- COPYRIGHT (LY2018003754) ▲
- COPYRIGHT (LY2018003756) ▲
- COPYRIGHT (AR2020000472) ▲
- COPYRIGHT (LY2020000473) ▲
- COPYRIGHT (LY2020000474) ▲

# PsychoSTEM



**INTRODUCTION**

- PsychoSTEM combines the elements of Cognitive Behaviour Therapy, Multiple Intelligences and STEM education in fun learning approach.
- It brings the concepts of triangulation between STEM approach, psychology and fun which ease the students who are taking STEM by reducing the anxiety and discomfort during STEM learning.
- It consists of PsychoSTEM learning modules, PsychoSTEM trolleys and PsychoSTEM trolleys CD

**PROBLEM STATEMENT**

- Students' attitude towards STEM is declining.
- They felt that STEM subjects are very abstract and difficult to pass.
- Therefore, this will cause the development of anxiety, low self-esteem and STEM phobia which eventually will lead to depression among the students.
- PsychoSTEM which combines the elements of Cognitive Behaviour Therapy, Multiple Intelligences and STEM education in fun learning approach could solve the problem.

**NOVELTY AND INVENTIVENESS**

- Combine 3 areas in 1 module: Psychology, Counselling, STEM Education
- Integrate Multiple Intelligences
- Use CBT to decrease anxiety towards STEM subjects
- Permit convenient mobility services for users

**INTELLECTUAL PROPERTY (IP) STATUS**

- PsychoSTEM learning modules with ISBN
  - ISBN 978-967-399-301-7
  - ISBN 978-967-399-302-4
- PsychoSTEM Trolleys CD

**USEFULNESS AND APPLICATION**

- Filled in the weaknesses of existing STEM products in the market which do not have psychology / counselling (CBT) element.
- Delivered through a variety of learning mediums across 8 different intelligences using a moving cart that allows experiments to be conducted without the need for a science lab.
- Ease students who are taking STEM by reducing the anxiety and discomfort during STEM learning
- Make STEM learning more fun, not boring and can make students easy to pass STEM exam

**STATUS OF INVENTION**

- TRL 5: Large scale prototype: Tested in an intended environment
- TRL 6: Prototype system: Tested in intended environment

**COMMERCIAL POTENTIAL**

- PsychoSTEM is a comprehensive product combining STEM, Cognitive Behaviour Therapy with Multiple Intelligences, Problem Based Learning, Project Based Learning, Inquiry Based Learning for all science's field which is difference from existing modules in the market that focused only on STEM.
- PsychoSTEM provides affordable prices which inclusive of all the modules, trolleys and CDs which is cheaper compared to building or renovating a science lab in school.

**POTENTIAL PARTNERS**

- Ikatan Guru Indonesia & Serumaster STEM
- Ministry of Maldives
- NCIA/ NCER
- Petrosains

**KNOWLEDGE MANAGEMENT**

- Science Trolleys is financially supported by PRGS grants (PRGS/1/2015/22109/USM/02/1)
- Output: Scientific publications
- PsychoSTEM workshops
- Involves in Asian African Dialogue (AAD)
- Producing PhD students with research related to PsychoSTEM

**IMPACT OF THE PRODUCT**

- By bringing in the concepts of triangulation between STEM approach, psychology and fun, this product will ease students who are taking STEM by reducing the anxiety and discomfort during STEM learning.
- It will also increase the interest towards STEM for the sake of economic prosperity, PISA and TIMMS achievement, students' low self-esteem enhancement, and anxiety and phobia reduction towards STEM.
- Indirectly, PsychoSTEM would also be useful for teachers and parents to train STEM either in formal or informal education.

Contact Person

**DR. NOR ASNIZA ISHAK**  
 School of Educational Studies, Main Campus,  
 Universiti Sains Malaysia, MALAYSIA  
 Tel: +604-653 5184 Fax: +604-657 2904 E-mail: [asnizaishak@usm.my](mailto:asnizaishak@usm.my)