



ICE2017

International Congress on Education
for the 21st Century



**Making a Difference:
Shaping a New Learning Paradigm
for a Sustainable Southeast Asia**

3 - 4 May 2017
Thailand

Enhancing Regional Competitiveness
Through STEM Education:

**Strengthening Curriculum and
Instruction for STEM Education in
Primary and Secondary Schools**

**Tan Sri Dr. Khair bin
Mohamad Yusof**

Director-General of Education
Ministry of Education
Malaysia



STEM Education in Malaysia

CONCEPT

Life-long learning which encompasses integrated formal learning for Science, Technology, Engineering and Mathematics based on curriculum, non-formal learning through co-academic or co-curricular activities and informal learning via indirect means at every age level starting from education at early childhood, primary, lower secondary, upper secondary, tertiary and industry/community.

GOAL

The ultimate goal for STEM education is to produce STEM-literate students who are capable of thinking in a logical manner, using technology, solving problems, creating new ideas, and designing/inventing new products through an integrated learning encompassing STEM which applies real world context into teaching and learning process and immerse students in hands-on inquiry and open-ended exploration.

CONCEPTUAL FRAMEWORK

STRATEGY

Enhance curriculum

Up-grade infrastructure

Up-skill teachers

Multi resources

Promote parents' support

Real-world context

Hands-on

STEM T&L

OUTPUT

Increase pupils' interest & skills

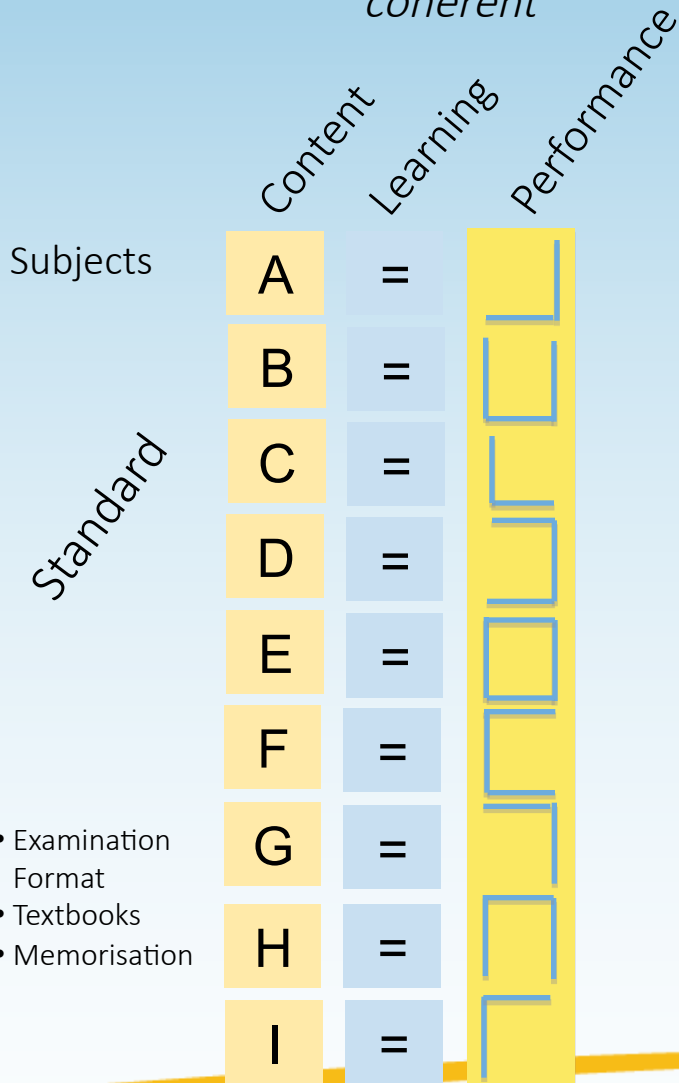
OUTCOMES

Pupils solve problems, create new ideas and innovate

Teaching and Learning Concept of KSSR and KSSM

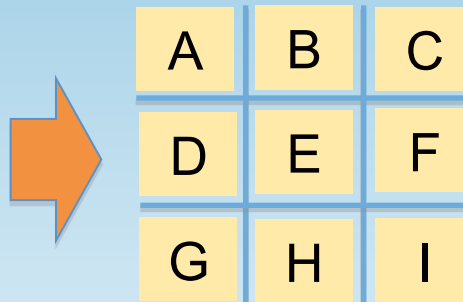
1 Linear Teaching

- Follow schedule
- One by one
- Successive - *coherent*



2 Modular Teaching

- Image/ Pattern
- Arrangement
- Separate units
- Constructivism



- Time is variable
- Performance is constant

3 21st Century T&L

- Student-centered
- Activities
- Teacher's pedagogy
- 4 Cs
- Resources
- Leadership
- Parents' support

4 Assessment (As)

- Central As
- School As
- P&CCA As
- Psy As

School As

- Band 6
- Band 5
- Band 4
- Band 3
- Band 2
- Band 1

Values/
Attitude

Knowledge/
Content

5 PLC

- Educational leaders & teachers collaboration
- Continuous cooperation
- Best teaching methods
- Enhancing performance

THANK YOU