



iap SCIENCE
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ISTA
INTERNATIONAL SCIENCE, TECHNOLOGY,
INNOVATION CENTRE FOR SOUTH ASIA
COOPERATION UNDER THE AUSPICES OF IAP

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One Belt One Road

Fusion of Civilisations Education
Curriculum

Enhancing Science Education through Interdisciplinary Approaches – The Case of the One Belt One Road Fusion of Civilizations Education Curriculum

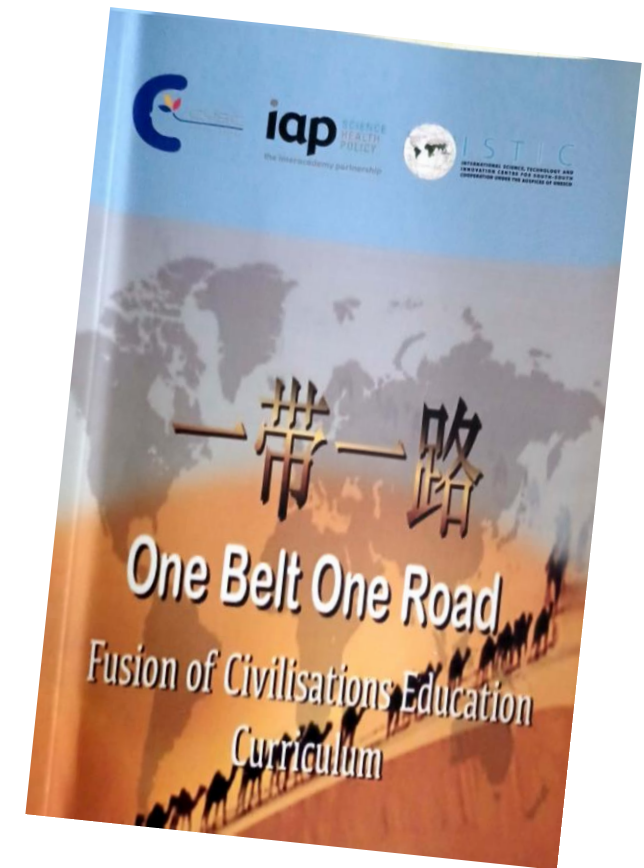
11 March 2025

Dr. Sharifah Maimunah Syed Zin

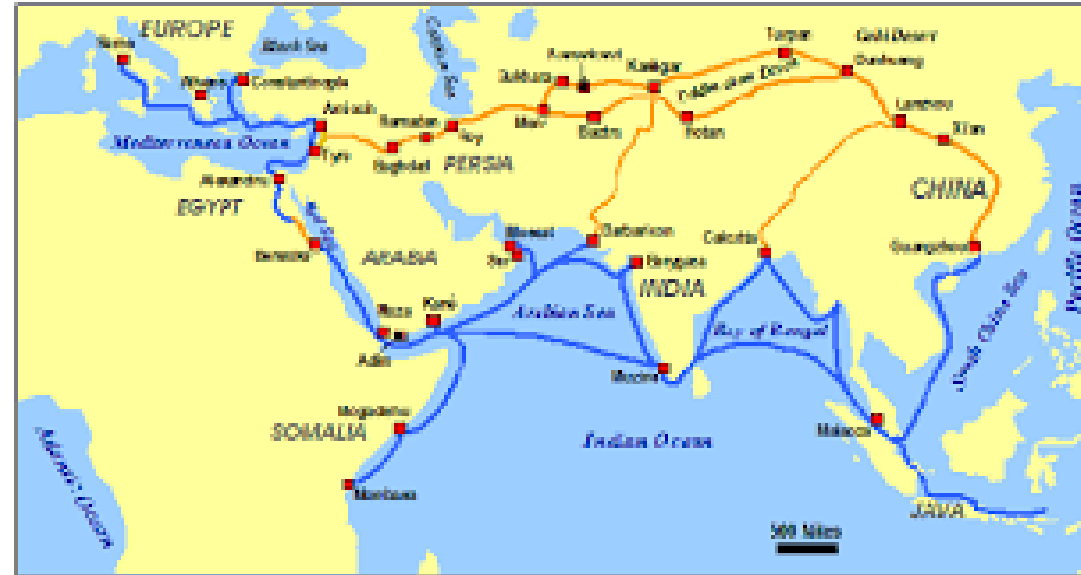
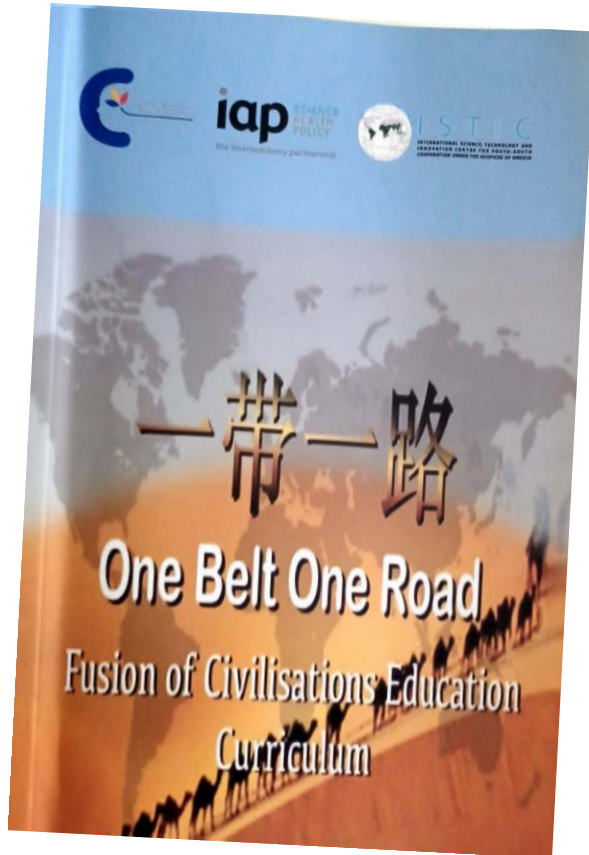
Module : ONE BELT ONE ROAD

Fusion of Civilisations Education Curriculum

- A Project under the Inter-Academy Partnership Science Education Programme
- Promotes the integration of education, science, technology, culture and civilisations along the Land and Maritime Silk Routes
- Many discoveries and innovations - language, cultural, religious and ethical values
- Curriculum team: Malaysia, China, Indonesia, Pakistan and Thailand



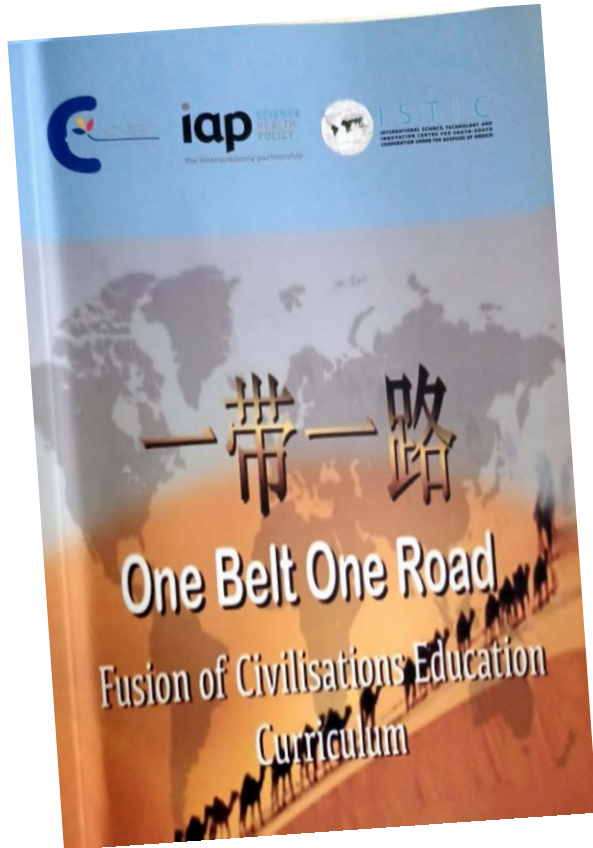
The Silk Routes



- Land Silk Route
- Maritime Silk Route

- Ancient network of trade routes that connect east and west of the world - East Asia and South-East Asia with Central Asia, West Asia, East Africa and Southern Europe by traders, travellers, scientist, philosophers, adventurers
- Important link between ancient civilisations like China, India, Mesopotamia, Egypt, Ancient Greece and Rome
- Trade in silk, plus others - wheat, cucumber, grapes, cotton, tables, chairs, spices etc.
- Cultural interchange among civilisations - arts, languages, religions, sciences and technologies and ethical values

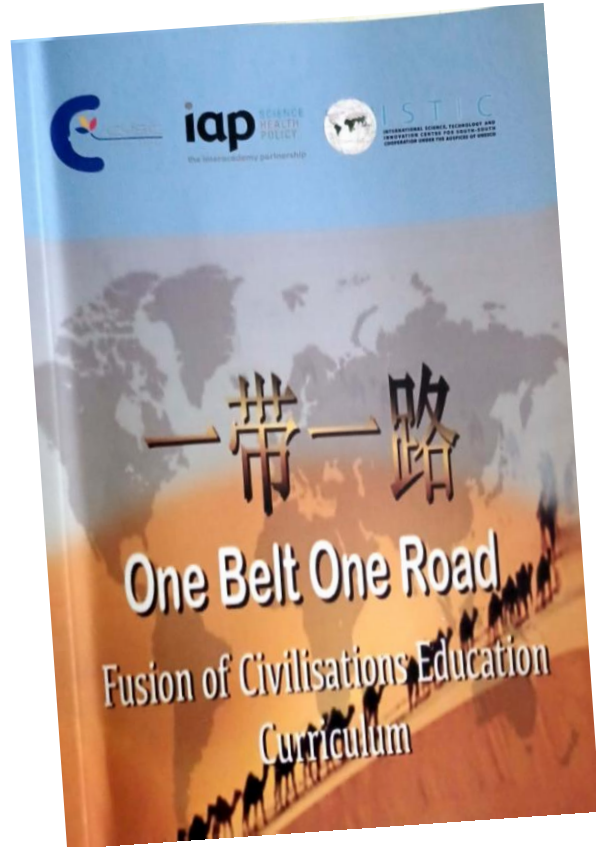
Ibn Battuta (1304 – 1377)



- explorer from Morocco
- recorded information about many nations and peoples in modern Egypt, Iran, Uzbekistan, Pakistan, India, Maldives, Bengal, Indonesia, Vietnam, and China
- made both land and sea travels



Zheng He (1371 - 1433)



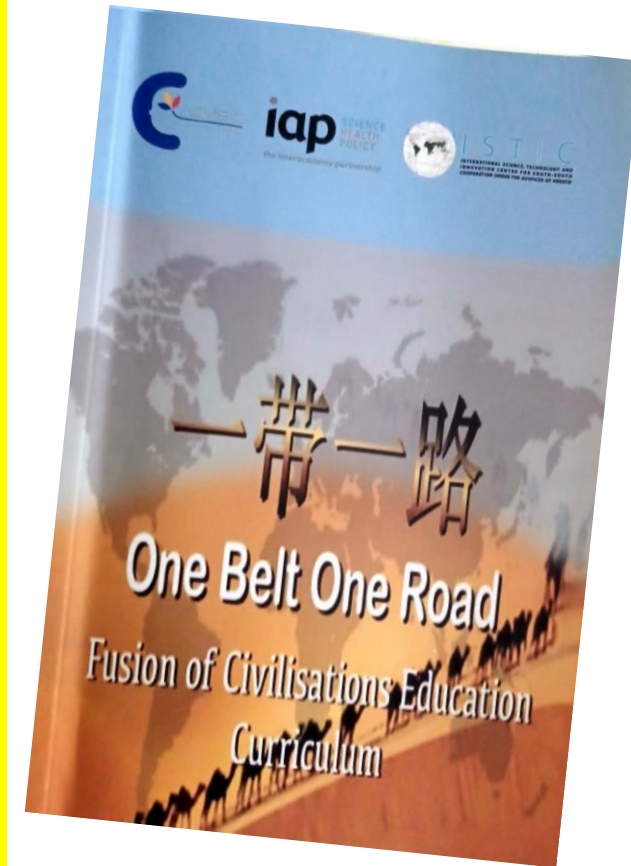
- Chinese Muslim - ancestors from Bukhara (Uzbekistan)
- spoke Arabic
- great navigator - strong knowledge in sailing and latest technologies in navigations
- made 7 Voyages between 1405 - 1433



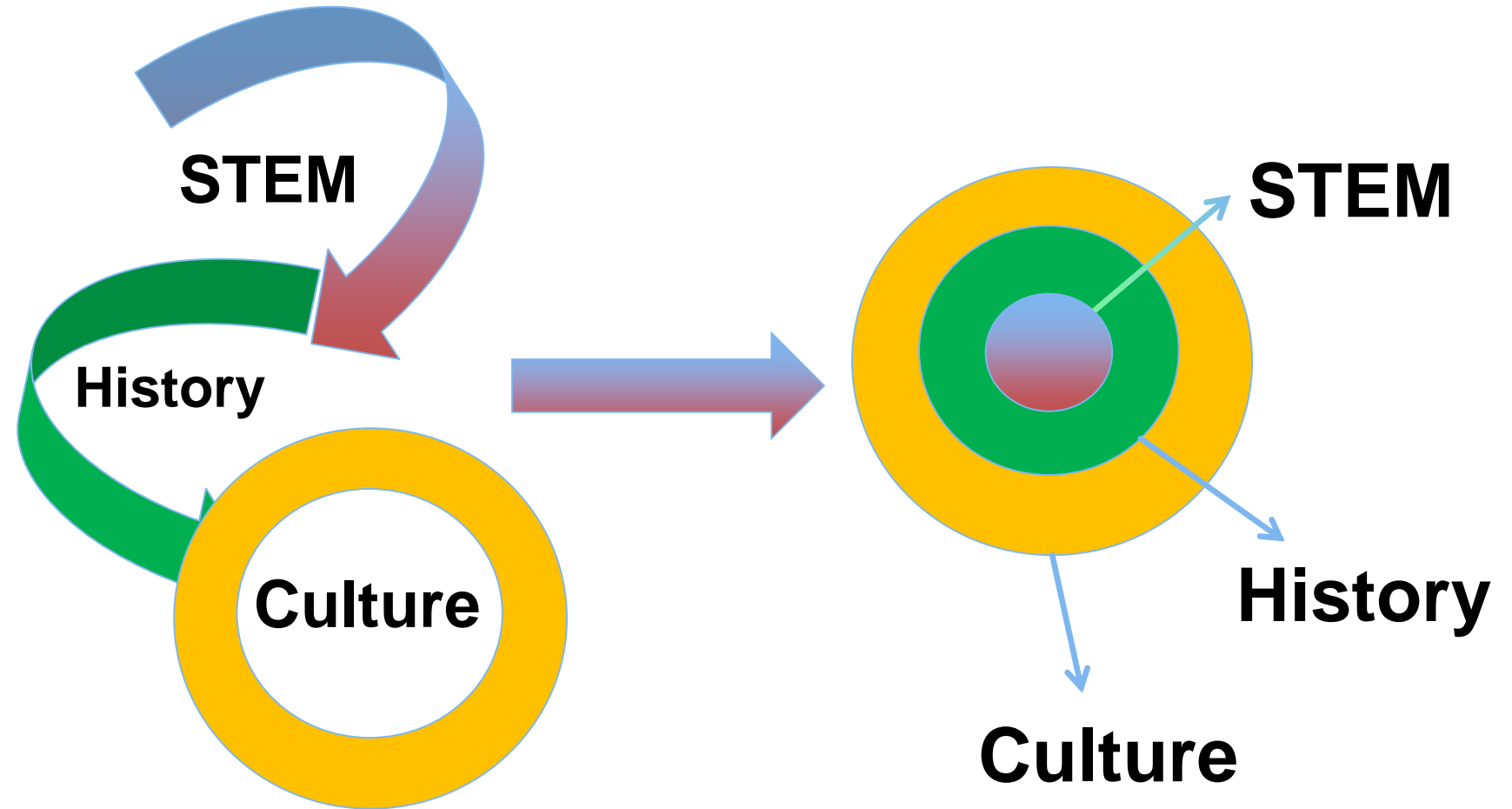
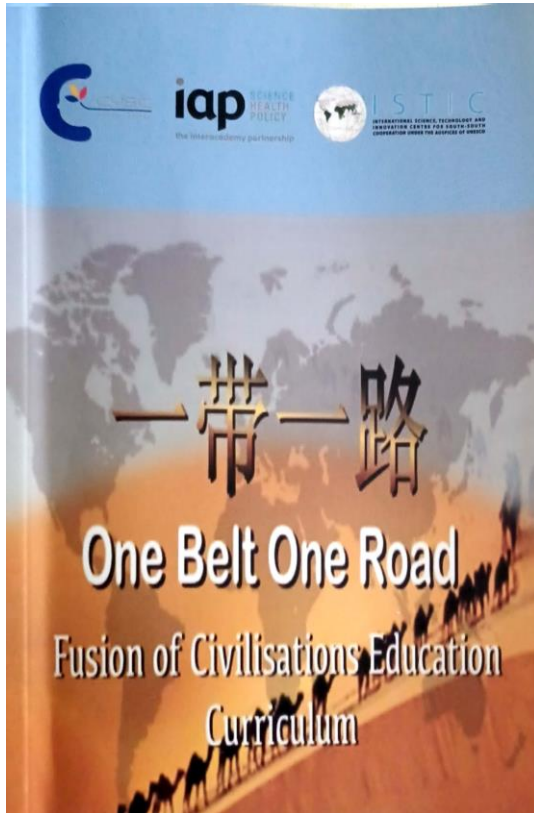
Module : ONE BELT ONE ROAD

Fusion of Civilisations Education Curriculum

- Curriculum highlights the discoveries and contributions of culture, trade, science and technology from various civilisations and their impacts on other civilisations through the land and oceanic silk routes. It will hopefully instil respect amongst the young and promote tolerance, understanding and respect for each other's culture and tradition.
- Promotes the integration of education, science, technology, culture and civilisations along the Land and Maritime Silk Routes
- Help school children gain better understanding of benefits from innovations from various civilisations along the silk routes
- Integration of Science and History
- Inquiry-Based Science Education (IBSE):
 - Investigate
 - Discover
 - Seek solution
 - Develop
 - critical thinking
 - creativity
- Assessment



Fusion and Integration

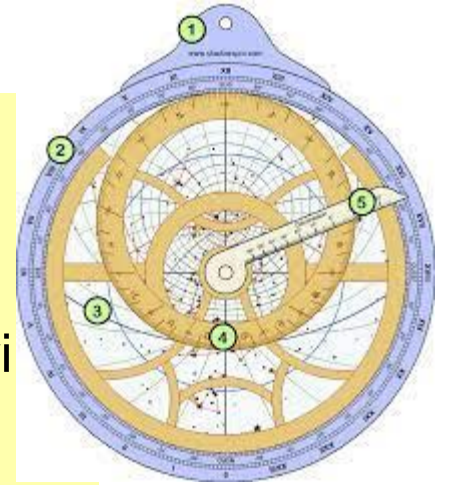


Connectivity

Discovery:

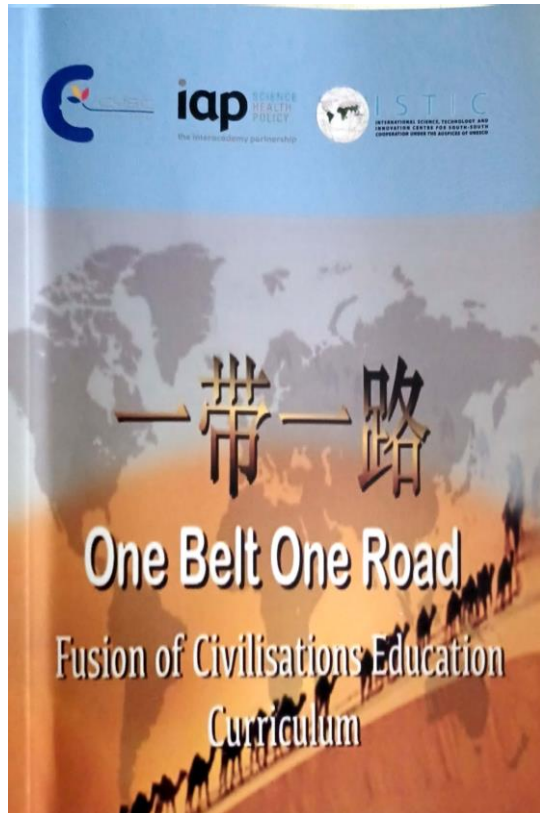
1. Astrolabe;

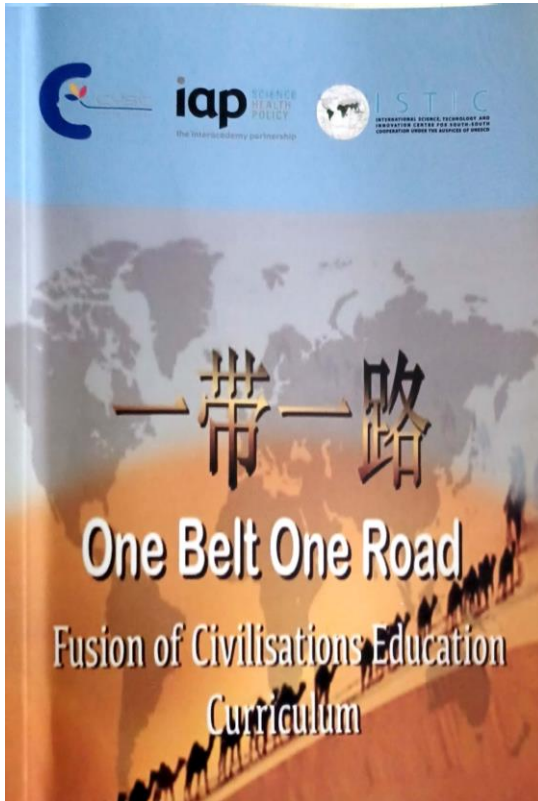
- Inventor: hellenistic civilization (Roman and Greek; 220B.C)
- Improved by Islamic astronomer (Mohammad Al Fazari lived in 8th century to find qiblah for praying



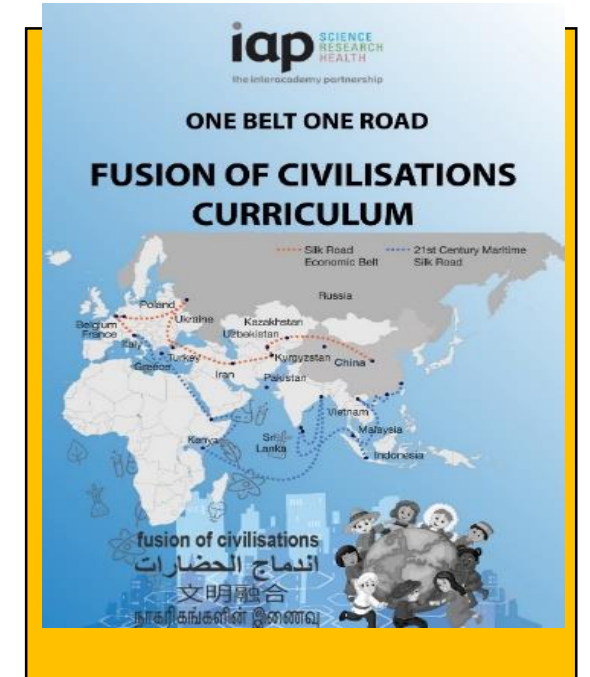
2. Karez/Qanat (underground water ways)

- Inventor: Persians(Iran), originated in Iran 3000 yrs ago
- Spread slowly to westward and eastward
- Practised in many countries until now





DISCOVERIES ALONG THE SILK ROUTES

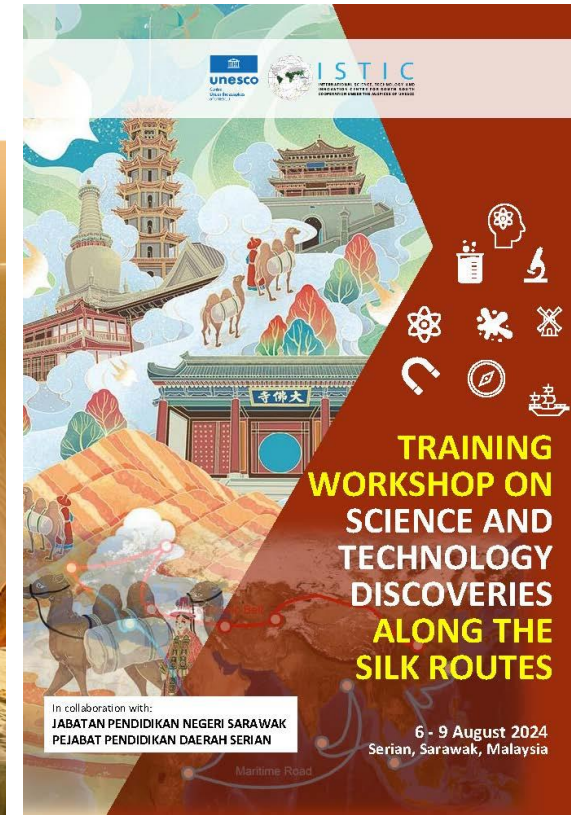
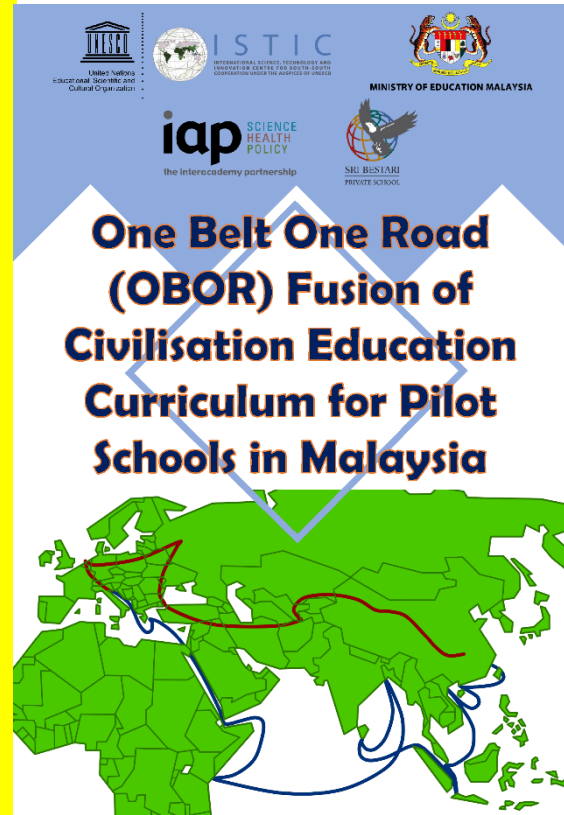


Some activities from the book

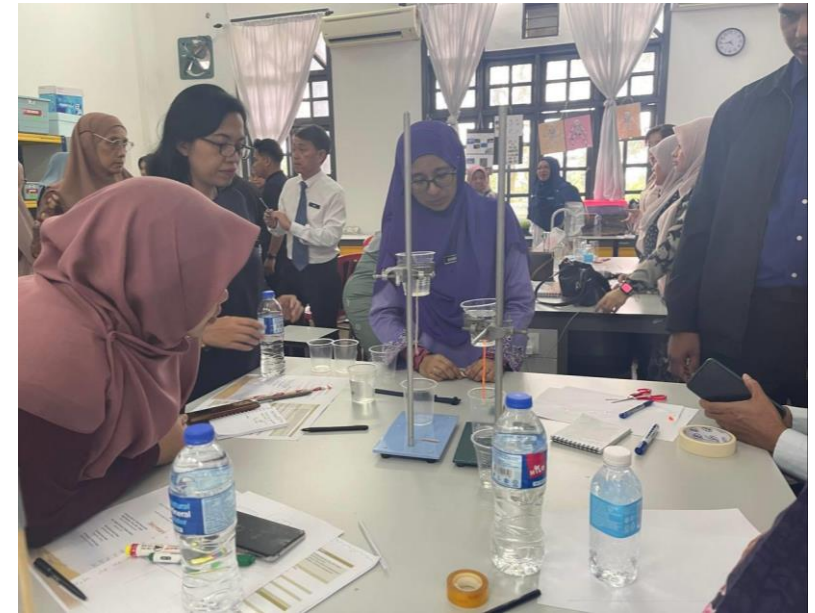


TRAINING WORKSHOPS

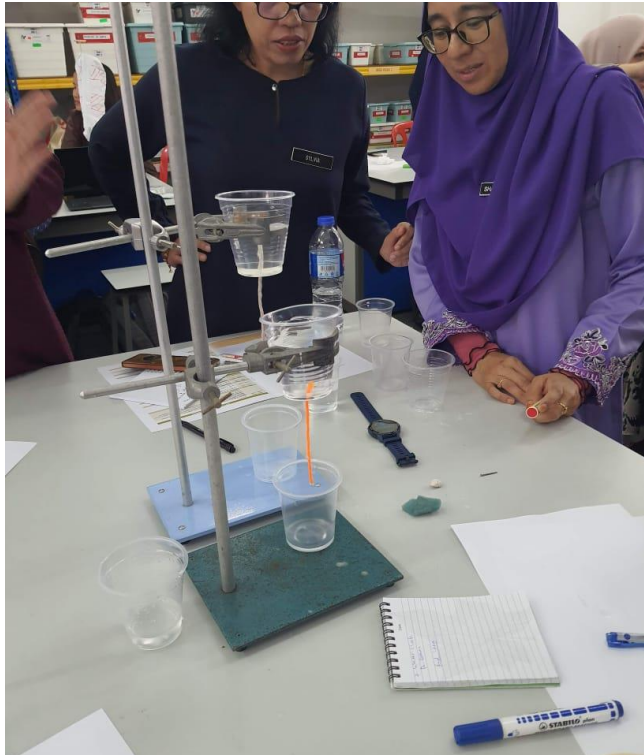
- 2021 (20 Participants)
- 2023 (37 Participants - teachers & teacher trainers)
- 2024 (40 teachers and education officers)
- 2024 - 40 students
- 2025 - 40 students



Teacher Workshop



Teacher Workshop



Student workshop



Kindly indicate the benefits you gained from this workshop.

- Major understanding about the process and structure of IBSE
- Teacher can intergrate few subject in one project & be more creative on creating interactive learning
- Really engaging and beneficial
- New knowledge and new perspective
- This workshop inspired me to use IBSE method in my classroom
- Could be idea for student's club soon ... want to learn more about history and connected with STEM
- Explore new things
- I got more ideas for my science classes based on inquiry activities
- Motivate n refreshing to create more fun learning activities
- Ideas and the experience that can drive motivations and boost teachers confidence learn new knowledge and strategies
- I will conduct some of the hands-on activities during this workshop to my students
- I learnt a lot of scientific skills and knowledge about the history of silk routes.
- It is a thematic lesson, and I gained more knowledge from the expertise.
- science concepts, problem solving and project-based learning.

Curriculum Team

- China
- Indonesia
- Malaysia
- Pakistan
- Thailand
- ISTIC A project under the Inter Academy Partnership for Science Education Programme Global Council

