



Workshop on

Personalised Learning Incorporating Educational Neuroscience with AI

 28 & 29 July 2025

 SEAMEO RECSAM, Penang, Malaysia

Target Participants:

Educators, Undergraduates & Postgraduates from Public and Private Institutions, Universities and Schools in Southeast Asian Countries and Beyond Recognised by the Ministry of Education

Training Facilitator:

- **Dr. Bala Murali Tanimale**
Science Specialist
SEAMEO RECSAM, Penang

Organised by:
SEAMEO RECSAM

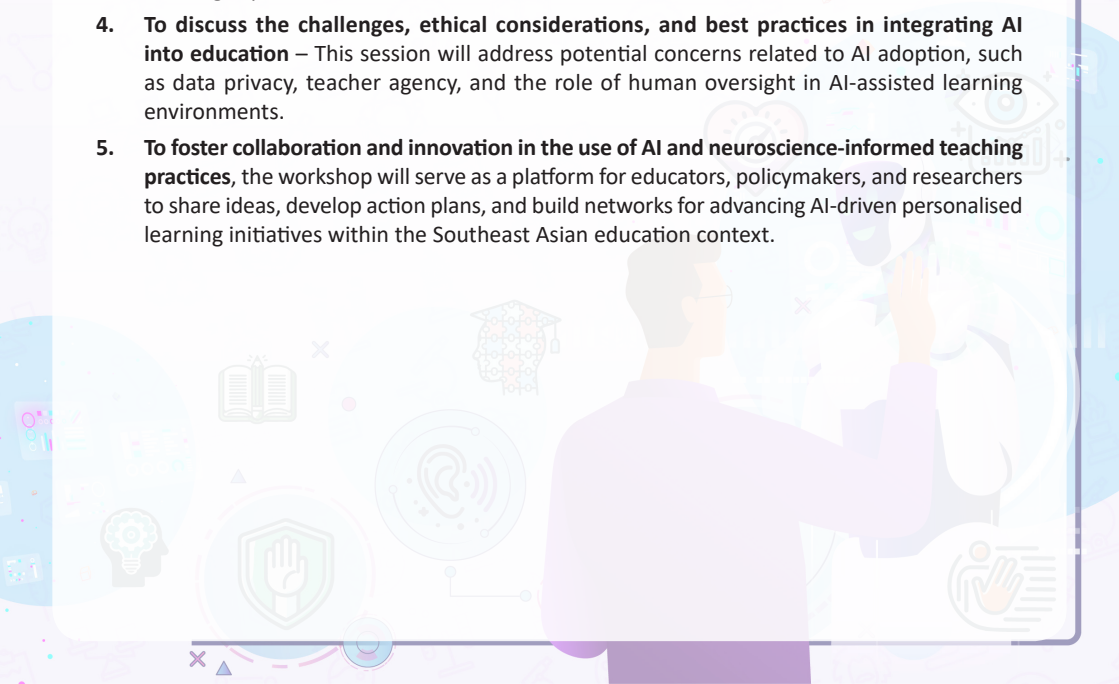


INTRODUCTION

Integrating AI with Educational Neuroscience revolutionises personalised learning by customising instruction to individual preferences, learning styles, and developmental needs. By focusing on Metacognition (thinking about one's thinking), Behavioural Regulation (managing impulses and focus), and Emotional Regulation (handling emotions), educators can create adaptive, engaging, and supportive environments. AI-driven tools track progress, offer real-time feedback, and provide tailored strategies that empower learners to set goals, monitor their growth, and adjust learning methods. Emotionally aware systems identify frustration or disengagement and deliver timely interventions to maintain a positive learning atmosphere. Such data-driven, student-centred approaches enhance engagement, motivation, and academic outcomes. Recognising this potential, this workshop will explore practical AI applications, equipping educators with the knowledge and tools to foster more profound, more effective learning experiences through hands-on activities and discussions.

OBJECTIVES

- 1. To enhance educators' understanding of Personalized Learning through the integration of Educational Neuroscience and AI**, this workshop aims to deepen participants' knowledge of how personalised learning can be designed and implemented using insights from cognitive science and AI-driven adaptive learning technologies.
- 2. To explore the role of metacognition, behavioural regulation, and emotional regulation in optimising student learning** – Participants will examine how these three key domains of Educational Neuroscience influence learning outcomes and how AI-powered tools can support their development in students.
- 3. To equip educators with practical AI-based strategies for improving student engagement and learning outcomes**, the workshop will provide hands-on experiences with AI-driven educational tools that enhance self-regulation, provide real-time feedback, and personalise learning experiences for diverse student needs.
- 4. To discuss the challenges, ethical considerations, and best practices in integrating AI into education** – This session will address potential concerns related to AI adoption, such as data privacy, teacher agency, and the role of human oversight in AI-assisted learning environments.
- 5. To foster collaboration and innovation in the use of AI and neuroscience-informed teaching practices**, the workshop will serve as a platform for educators, policymakers, and researchers to share ideas, develop action plans, and build networks for advancing AI-driven personalised learning initiatives within the Southeast Asian education context.



RATIONALE

The traditional education system has long operated under a standardised model that does not fully accommodate students' diverse learning needs. However, Educational Neuroscience and Artificial Intelligence (AI) advances now offer transformative opportunities to make learning more **personalised, adaptive, and effective**. As the demand for **learner-centered education** grows, educators must understand how **neuroscientific principles** and **AI-driven technologies** can work together to enhance teaching and learning experiences.

Educational Neuroscience provides valuable insights into how the brain learns, processes information, and regulates emotions and behaviour. The **three key domains—metacognition, behavioural regulation, and emotional regulation—are essential for learning success**. Metacognition enables students to develop self-awareness and independent learning strategies. Behavioural regulation helps maintain focus and persistence, while emotional regulation fosters resilience and motivation. Despite the growing body of research in these areas, many educators lack access to the tools and knowledge necessary to integrate these insights into their teaching practices.

At the same time, **AI-powered educational technologies** rapidly reshape how learning is delivered and assessed. **Adaptive learning platforms, AI-driven tutoring systems, emotion recognition technologies, and intelligent feedback mechanisms** enable real-time, personalised support for learners. These innovations help bridge learning gaps, optimise instruction, and support student engagement. However, while AI holds immense potential, it also raises **questions about ethical implementation, teacher agency, and the need for professional development** to ensure effective and responsible use in classrooms.

This workshop is **timely and necessary**, as it aims to equip **educators, policymakers, and researchers** with the skills and knowledge to integrate AI and Educational Neuroscience into personalised learning effectively. Participants will explore **how neuroscience-based strategies can inform AI-driven personalised learning systems**, ensuring that students receive individualised support tailored to their cognitive, behavioural, and emotional needs. The workshop will also facilitate **discussions on the challenges and opportunities** of using AI in education, particularly in Southeast Asia's diverse learning environments.

By providing a **collaborative and hands-on learning experience**, this workshop will empower participants to make informed decisions on **harnessing AI tools and neuroscience insights** to improve student engagement, learning outcomes, and overall well-being. Ultimately, the goal is to support a shift towards a **more responsive, inclusive, and effective education system** that prioritises **both technological innovation and human-centered learning approaches**.

SCHEDULE OF ACTIVITIES

DAY 1 (MONDAY: 28/7/2025)		
TIME	ITEM	REMARKS
0800 – 0830	REGISTRATION	
0830 – 0845	POST-TEST QUESTIONNAIRE	
0845 – 0930	Introduction to Personalised Learning and Educational Neuroscience	
0930 – 1030	What is AI?	
1030 – 1100	MORNING TEA BREAK	
1100 – 1200	Introduction: Metacognition 1	
1200 – 1300	Hands-on Activity: Metacognition 1	
1300 – 1430	LUNCH	
1430 – 1530	Introduction: Metacognition 2	
1530 – 1630	Hands-on Activity: Metacognition 2	
1630	TEA BREAK	
DAY 2 (TUESDAY: 29/7/2025)		
TIME	ITEM	REMARKS
0830 – 0930	Introduction: Metacognition 3	
0930 – 1030	Hands-on Activity: Metacognition 3	
1030 – 1100	MORNING TEA BREAK	
1100 – 1200	Introduction: Behaviour Regulation	
1200 – 1300	Hands-on Activity: Behaviour Regulation	
1300 – 1430	LUNCH	
1430 – 1530	Introduction: Emotional Regulation	
1530 – 1610	Hands-on Activity: Emotional Regulation	
1610 – 1630	POST-TEST QUESTIONNAIRE	
1630 – 1700	Closing Ceremony & Certificate Presentation	
1700	TEA BREAK	



Dr. Bala Murali Tanimale is currently the Science Specialist at the Southeast Asian Ministers of Education Organization Regional Centre for Education in Science and Mathematics (SEAMEO RECSAM). With 19 years of teaching experience in physics and science, Dr. Bala is an accomplished educator with a PhD in Science Education, specialising in Educational Neuroscience and Physics Education. His career includes extensive experience as a physics and science teacher, during which designed and implemented innovative curriculum materials and mentored students in both academic and extracurricular activities. Currently, Dr. Bala conducts cutting-edge research on AI-driven personalised learning and develops advanced educational methodologies to enhance science education. Dr. Bala's work is characterised by a strong foundation in educational neuroscience, a commitment to integrating AI in education, and a collaborative approach to advancing the field.

REGISTRATION FEE

Items	Without Accommodation
Registration Fee	RM 230.00 USD 55.00

ACCOMMODATION AT RECSAM INTERNATIONAL HOUSE

For booking accommodation at SEAMEO RECSAM International House, you may click the following link for further information:

http://www.recsam.edu.my/sub_InternationalHouse/

FOOD

Morning tea, afternoon tea & lunch will be provided by SEAMEO RECSAM during the workshop.

REGISTRATION, PAYMENT & CLOSING DATE

To enroll, please register online by **14 July 2025** via <https://forms.gle/FYaUuyDd8TxrHiHy5> or scan the following QR code. Upload your payment slip for confirmation of registration.

PAYMENT (INTERNET BANKING)

Pay to: SEAMEO RECSAM
Bank: MAYBANK GELUGOR BRANCH, PENANG
Account Number: 5571 5700 0647



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