



**Webinar on**

# “Using Mathematics as a Tool for STEM Learning in Preschool”

 11 March 2025

**Target Participants:**

Teachers/Educators/Lecturers/Parents/Caregivers/  
Policymakers/Curriculum Developers

**Mode:**

Online/Webex

**Webinar Speakers/Facilitators/Moderators:**

- **Prof. Emeritus Dato’ Dr. Aminah Ayub**  
Speaker 1  
Sultan Idris Education University (UPSI), Perak
- **Prof. Roberto Arraya**  
Speaker 2  
University of Chile, Chile
- **Dr. Wan Noor Adzmin Mohd Sabri**  
Moderator & Facilitator 1  
SEAMEO RECSAM, Penang
- **Dr. Warabhorn Preechaporn**  
Moderator & Facilitator 2  
SEAMEO RECSAM, Penang

**Organised by:**

SEAMEO RECSAM



## INTRODUCTION

This webinar aims to highlight the role of mathematics as a fundamental tool in STEM education for preschoolers. Organised by SEAMEO RECSAM in collaboration with international partners, it emphasizes hands-on, unplugged activities to make STEM learning accessible and engaging. The focus is on using mathematics as a problem-solving tool rather than an abstract subject, fostering early interest in STEM fields.

## RATIONALE

The webinar addresses key aspects of early STEM education, including:

- Building foundational STEM skills such as critical thinking and problem-solving.
- Promoting mathematics as an entry point to STEM learning.
- Encouraging developmentally appropriate, play-based learning.
- Equipping educators and caregivers with practical tools for teaching STEM concepts.
- Aligning with global initiatives in foundational numeracy and interdisciplinary learning.

## TARGET AUDIENCE & BENEFITS

**Educators:** Learn strategies for integrating math into STEM activities, enhance teaching techniques, and gain professional development opportunities.

**Parents & Caregivers:** Discover fun, home-based STEM activities to foster a love for learning.

**Policymakers & Curriculum Developers:** Explore ways to strengthen early STEM education and promote equity in learning.

## EXPECTED OUTCOMES

- Increased awareness of math as a STEM learning tool.
- Practical skills and confidence for educators and caregivers.
- Greater engagement in early STEM education.

## BIOGRAPHY OF SPEAKERS/FACILITATORS/MODERATORS



### **Prof. Emeritus Dato' Dr. Aminah Ayub (Speaker 1)**

Aminah is the former Vice-Chancellor of Sultan Idris Education University (UPSI). She holds an MSc.Ed from the University of Iowa, USA, and a PhD from Keele University, UK, specializing in Science Education and Cognitive Development. In 2006, she served as a team leader in the development of Malaysia's ECEC national curriculum known as the PERMATA Curriculum along with the training modules. In 2015, she received a research grant from the government to integrate STEM projects into the PERMATA curriculum. Since then she has actively participated in series of STEM/STEAM/STREAM training programs for various ECCE agencies in Malaysia and SEA countries, including Japan. Aminah has served as a board member of Child Research Network Asia, based in Japan, from 2016 to the present.



### **Prof. Roberto Araya (Speaker 2)**

Prof. Roberto Araya is a distinguished professor at the University of Chile, with expertise in Electrical Engineering. Holding a PhD from the University of California, Los Angeles, his primary focus lies in the field of integrated Science, Technology, Engineering, and Math (STEM) education. Professor Araya's research delves into designing and measuring the impact of teaching and learning strategies in STEM education. He has led numerous education projects funded by prestigious organizations such as Fondef of Conicyt, the Inter-American Development Bank (IDB), and the Canadian International Development Research Center (IDRC), among others. His contributions to education have been recognized internationally, including receiving the Best Paper Award at the 10<sup>th</sup> International Conference on Web-based Learning (ICWL 2011) in Hong Kong and the Best Poster Award at the 12<sup>th</sup> European Conference on Technology Enhanced Learning (ECTEL 2017) in Estonia. Professor Araya continues to drive innovation and excellence in STEM education, aiming to shape the future of learning and teaching methodologies. You can reach him at [roberto.araya.schulz@gmail.com](mailto:roberto.araya.schulz@gmail.com).



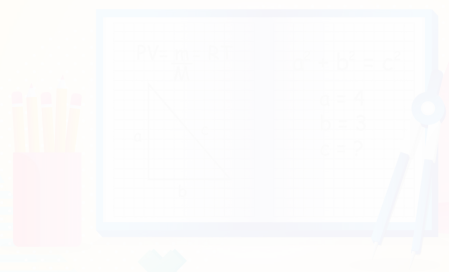
### **Dr. Wan Noor Adzmin Mohd Sabri (Moderator & Facilitator 1)**

With 34 years of experience in the field of education, among her areas of expertise are IBL in mathematics, STEM education, multigrade classroom pedagogy, assessment, computational thinking skills, Instructional Leadership and Instructional Design. As a Mathematics Education Specialist, she is currently employed with SEAMEO RECSAM. Additionally, she has conducted research on STEM community learning spaces, preschool STEM education and computational thinking skills.



### **Dr. Warabhorn Preechaporn (Moderator & Facilitator 2)**

Warabhorn Preechaporn is a Mathematics Education Specialist in SEAMEO RECSAM. She holds a doctorate degree in computational science from Walailak University, Thailand. She has 26 years of teaching experience as a mathematics teacher in secondary school in Southern Thailand and 12 years in SEAMEO RECSAM. She is currently in the Training and Research Division. She has facilitated and supervised the training courses for educators from the SEAMEO member countries, from the African continent. She has chaired and presented papers at international conferences. Her interests are Computational thinking, dynamic mathematics software such as GeoGebra and Scratch which using Scratch to create interactive activities, Problem-Based learning the 4 Core Areas (PBL4C), Mathematical Explorations through Paper Folding, and the 3-D straw models.



## TENTATIVE PROGRAMME

11 March 2025 (Tuesday)	
Time	Event
1400 – 1430	Registration (Webex)
1430 – 1440	Negara KU and RECSAM Forges Ahead
1440 – 1445	SEAMEO Colors
1445 – 1450	Welcoming remark from CD
1450 – 1500	Introduction to Webinar Dr. Wan Noor Adzmin Mohd Sabri
1500 – 1535	Keynote 1 Prof. Emeritus Dato' Aminah Ayub, UPSI Title: Empowering Preschoolers to STEM Learning
1535 – 1605	Keynote 2 Prof. Arraya, University of Chile Title: Coloring Books
1605 – 1615	<b>BREAK</b>
1615 – 1645	Unplugged Activity 1 Facilitator: Dr. Wara
1645 – 1715	Unplugged Activity 2 Facilitator: Dr. Wan
1715	Closing Evaluation form

## REGISTRATION FEE

Items	Amount
Registration Fee	RM 25 Or USD 15

## REGISTRATION, PAYMENT & CLOSING DATE

To enrol, please register online by **26 February 2025** via <https://forms.gle/9xxDza8DWYe5sCUW8> 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



## FOR ENQUIRIES

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