HYBRID WEBINAR

# STEAM in the Digital Age: Innovations in STEAM Education and Technology Integration

## Summary Report

**A Joint Collaboration between**
**SEAMEO STEM-ED and Johannes Kepler Universität (JKU)**

At Johannes Kepler Universität (JKU), Linz, Austria

19 March 2025

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**Hybrid Webinar on STEAM in the Digital Age: Innovations in STEAM Education and Technology Integration**

## Preface

In a time when education systems around the world are evolving to meet the challenges and opportunities of the digital age, the hybrid webinar titled “STEAM in the Digital Age: Innovations in STEAM Education and Technology Integration” was convened on 19 March 2025, from 13:30 to 15:30 hrs (GMT+1, Linz Time) / 19:30 to 21:30 hrs (GMT+7, Bangkok Time). This timely event was jointly organised by the SEAMEO Regional Centre for STEM Education (SEAMEO STEM-ED) and Johannes Kepler University (JKU), Linz, Austria, and hosted in a hybrid format—both in person at JKU, Linz and virtually via online platforms.

The event focused on global trends in STEAM (Science, Technology, Engineering, Arts, and Mathematics) education, with a special emphasis on the growing collaboration between Europe and Southeast Asia. This informative session brought together leading experts to explore the evolving role of technology in education and how strategic partnerships can drive innovation in STEAM teaching and learning.

A total of 2,218 participants registered for the hybrid webinar from various countries. Among them were leaders, educators, teachers, researchers, lecturers, faculty members, students, and professionals in the education and STEM fields, representing 46 countries and regions, including Algeria, Argentina, Austria, Brazil, Brunei Darussalam, Cambodia, Canada, Chile, China, Colombia, Croatia, Czech Republic, Egypt, Ghana, Hong Kong (China), India, Indonesia, Ireland, Italy, Kenya, Lao PDR, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Nigeria, Oman, Pakistan, Papua New Guinea, Peru, Philippines, Romania, Saudi Arabia, Serbia, Singapore, South Africa, Spain, Taiwan, Thailand, Timor-Leste, Turkey, United Arab Emirates (UAE), United Kingdom (UK), Uruguay, Uzbekistan, and Vietnam.

The primary aim of the webinar was to foster dialogue between educators, policymakers, and researchers from Europe and Southeast Asia to identify emerging trends in STEAM education, discuss the integration of technology, and develop strategies for future collaboration. Key themes included:

- Global trends in STEAM education
- The role of technology in enhancing STEAM curricula
- Cross-regional partnerships for knowledge exchange
- Developing innovative educational materials and strategies for a digital-first world

The event also emphasised the importance of bridging knowledge gaps between regions, particularly between Southeast Asia and Europe, to enhance educational outcomes in both regions.

The webinar featured expert speakers from JKU and partner institutions in Austria and other European countries, offering a range of perspectives on STEAM education. The programme included:

## Welcome Remarks and Closing Remarks

**Dr Kritsachai Somsaman**

Centre Director
SEAMEO STEM-ED

## Opening Remarks

**Univ-Prof Dr Zsolt Lavicza**

Professor in STE(A)M Education Research Methods
Johannes Kepler Universität (JKU), Linz, Austria

## Speaker 1: AI in Higher Education

**Dr Branko Andic**

Center for University Didactics and AI-Competent Teaching in Higher Education
Johannes Kepler Universität (JKU), Linz, Austria

## Speaker 2: MatheArena: Innovative Learning Application

**Eva-Maria Infanger**

Founder and Managing Director of MatheArena

## Speaker 3: EdTech Talents

**Dr Filiz Mumcu**

Expert in Computer Science Education

### Speaker 4: The Experience Workshop and STEPAM

**Dr Kristof Fenyvesi**

Senior Researcher in STEAM Finnish Institution for Educational Research, University of Jyvaskyla, Finland

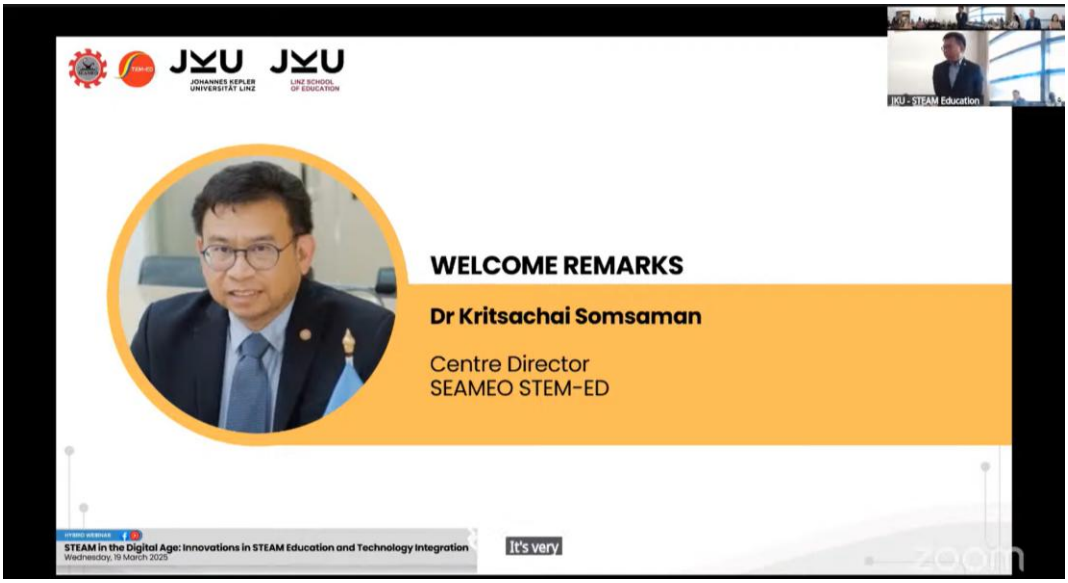
### Master of Ceremony and Moderator

**Dr Orawan Sriboonruang**

Knowledge Management Manager
SEAMEO STEM-ED

This report presents a summary of the webinar, highlighting the key discussions, expert insights, and collaborative aspirations that emerged in support of advancing STEAM education in the digital age.

**Welcome Remarks by Dr Kritsachai Somsaman,** SEAMEO STEM-ED Centre Director

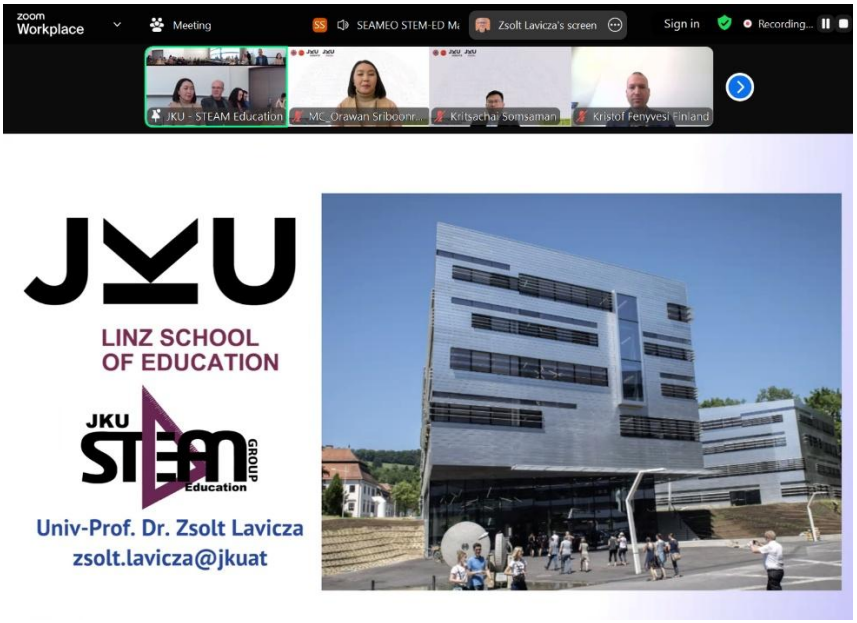



Dr Kritsachai Somsaman, SEAMEO STEM-ED Centre Director, welcomed participants to the webinar, acknowledging the presence of over 2,000 participants from 44 countries. He highlighted that this webinar, hosted in collaboration with Johannes Kepler University (JKU) in Linz, Austria, is part of SEAMEO STEM-ED's ongoing efforts to strengthen its partnership with the university.

Dr Somsaman emphasised the significance of the event, noting that it was part of a broader visit to JKU, which had provided an opportunity to deepen the collaboration and enhance global STEM education efforts. He expressed enthusiasm for the long-term partnership between SEAMEO STEM-ED and JKU, particularly appreciating the university's innovative approach to STEM education, research, and its new interdisciplinary educational model.

Concluding his remarks, Dr Somsaman thanked **Prof Dr Zsolt Lavicza** and the team at JKU for their warm hospitality and for facilitating such an enriching experience. He looked forward to continued collaboration and acknowledged the distinguished speakers who would share their expertise throughout the webinar.

**Opening Remarks by Univ-Prof Dr Zsolt Lavicza**, Professor in STE(A)M Education Research Methods, Johannes Kepler Universität (JKU), Linz, Austria




Prof Dr Zsolt Lavicza expressed his enthusiasm for the ongoing collaboration with SEAMEO, a partnership he has long nurtured through various projects, including the GeoGebra conferences held in

The opening remarks were delivered by Prof Dr Lavicza, who expressed enthusiasm for the collaboration between Johannes Kepler University (JKU) and SEAMEO. The long-standing partnership with SEAMEO was emphasised, along with the opportunities provided by this webinar to further strengthen the relationship between the two institutions. It was noted that the collaboration with SEAMEO STEM-ED was being expanded, with plans to involve more Southeast Asian students and researchers at JKU.

An overview of the efforts at JKU to advance STEM education and research was shared, highlighting the university's interdisciplinary approach. It was explained that the integration of multiple academic fields, including mathematics, physics, and computer science, was a central aspect of the innovative educational model at Johannes Kepler University (JKU).

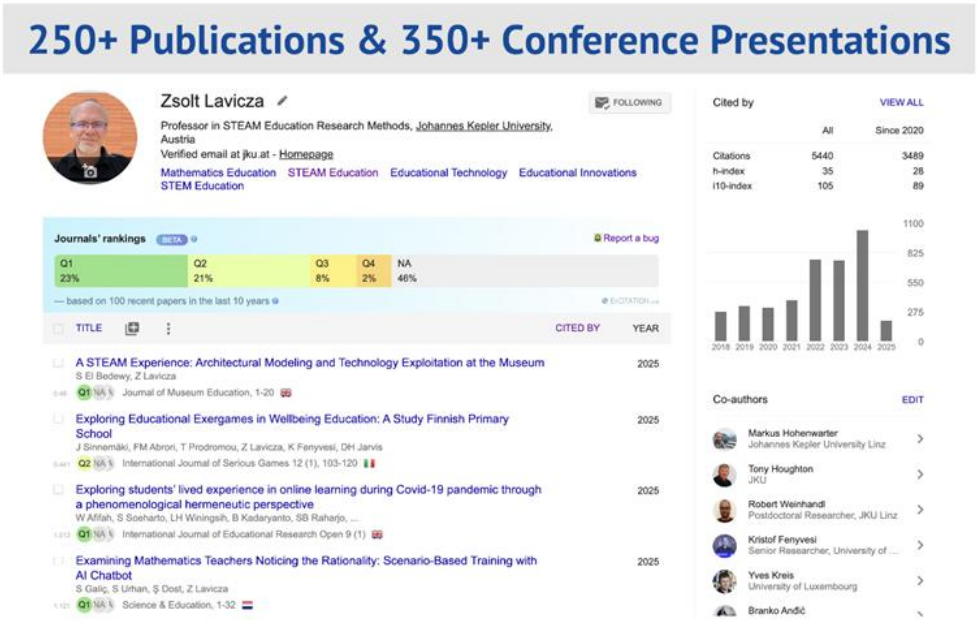
Key initiatives were introduced, including the doctoral program, which currently hosts over 40 PhD students, and the close partnership with GeoGebra, the educational software developed by Prof Markus Hohenwarter, Head of the Department of Mathematics and GeoGebra at JKU. The expansion of GeoGebra training programs for Southeast Asian educators and students was noted, reflecting the global impact of the platform in education.

Various international partnerships were highlighted, such as the collaboration with the Ars Electronica Center, a key innovation hub in Linz, and the university’s efforts to advance transformative education. A recent visit to a new university in Linz, focused on interdisciplinary and transformative learning, was also mentioned, underscoring JKU's role in the regional education landscape.

Opportunities for PhD students and postdoctoral researchers, particularly in Southeast Asia, were introduced. Participants were encouraged to explore available scholarship options. JKU’s diverse projects and research facilities, including the integration of new technologies

such as 3D printing, augmented reality, and robotics into STEAM education, were also outlined.

In conclusion, a commitment to long-term collaboration with SEAMEO STEM-ED was reaffirmed, and the potential for future opportunities for joint research, training, and knowledge exchange between Southeast Asia and Europe was expressed. The session concluded with a focus on the continued importance of international partnerships in advancing STEAM education.

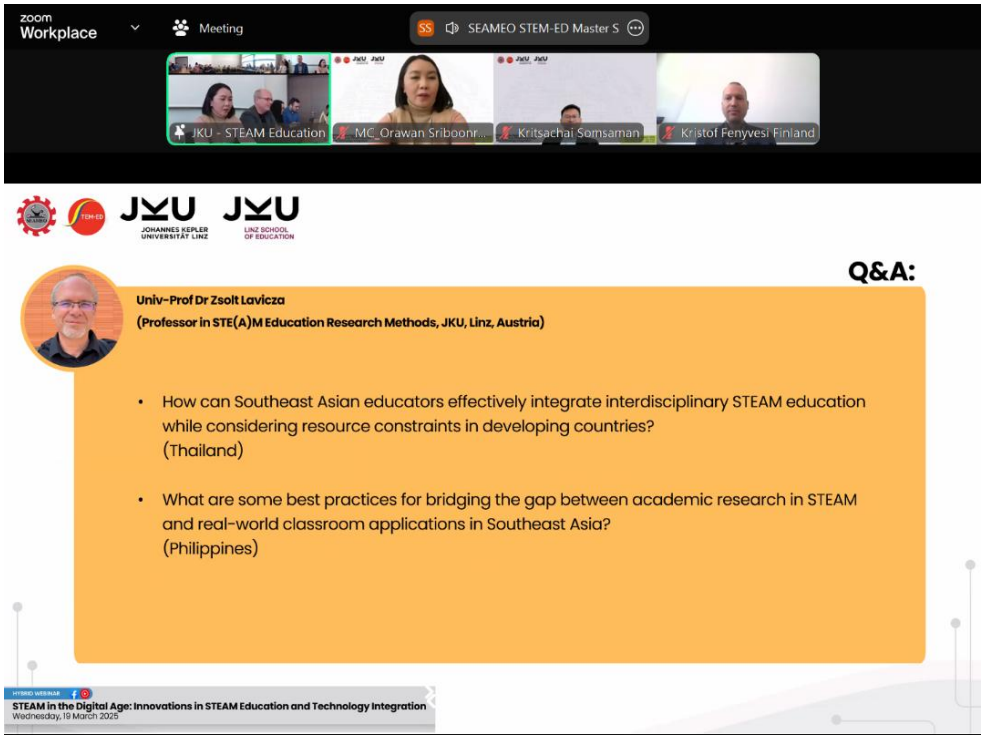

Following Prof Dr Lavicza 's remarks, he answered the following questions which were addressed by the audience:

**Q. Integrating Interdisciplinary STEAM Education in Resource-Constrained Settings: Question from Thailand**

A participant inquired about effective strategies for integrating interdisciplinary STEAM education in Southeast Asia, particularly in settings with limited resources. Prof Dr Lavicza answered by suggesting that small, incremental collaborations between subjects could be the starting point. He emphasized that initiating manageable projects could lead to success, and as these collaborations grow, the integration of STEAM principles across educational systems could expand.

**Q. Bridging the Gap Between Academic Research and Classroom Application in Southeast Asia: Question from Philippines**

Another participant asked about best practices for bridging academic research in STEAM with practical classroom applications. Prof Dr Lavicza answered by stressing the importance of demonstrating to educators how technology and the arts can be integrated into education. He noted that conducting research in classrooms and gradually incorporating these practices into policy would help STEAM education gain wider acceptance and become more applicable in the classroom.

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| **Speaker 1:** | **Dr Branko Andic**<br>Center for University Didactics and AI-Competent Teaching in Higher Education, Johannes Kepler Universität (JKU), Linz, Austria |
| **Topic:** | **AI in Higher Education** |

Dr Branko Andic from the Center for University Didactics and AI-Competent Teaching at Johannes Kepler University (JKU), Linz, Austria, delivered insights into the integration of artificial intelligence (AI) in higher education. His presentation focused on both the possibilities and challenges AI presents in the educational sector, with particular attention to its implementation at JKU.

The potential of AI to enhance personalised learning and improve accessibility was highlighted, with Dr Andic emphasising that AI facilitates individualised education and can make learning more inclusive. He explained how AI tools are being used to provide student feedback, assess knowledge, and support learning in mathematics and other fields. AI's capacity to provide personalised and adaptive learning experiences was emphasised as a key advantage.

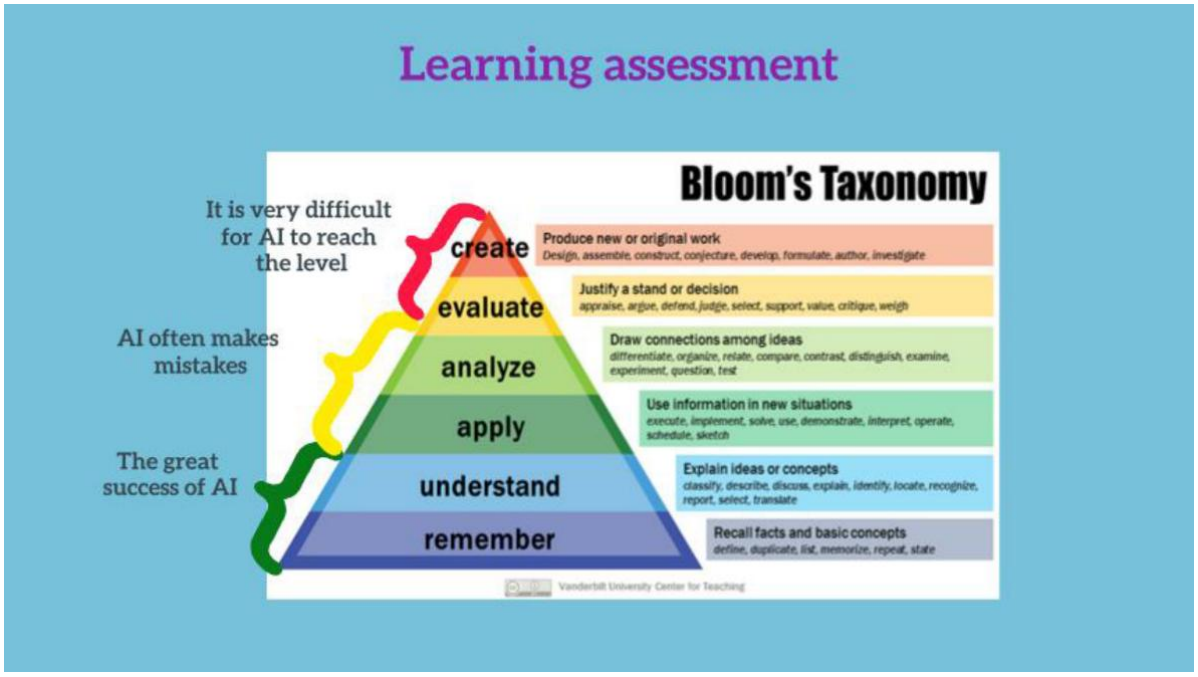
Dr Andic also addressed the challenges associated with AI in education, noting the biases inherent in AI models and the importance of creating tools that are adapted to specific learning

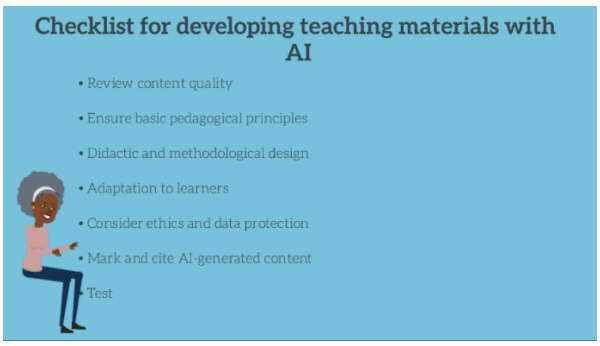
contexts. He demonstrated the development of AI chatbots at JKU, which are tailored to assist with learning by responding to students' inquiries, while also acknowledging the risks of biases depending on the data used to train these models.

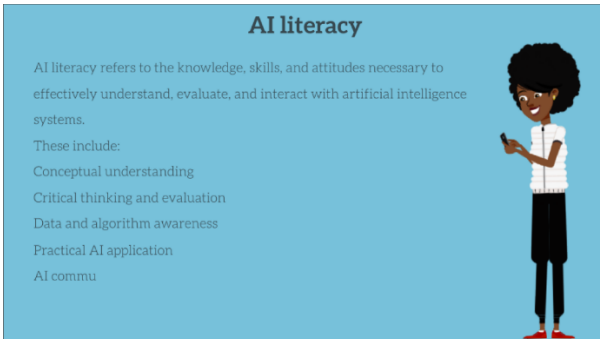
The importance of ethical considerations in AI use was discussed, particularly around ensuring the pedagogical principles are followed and content is accurate. Dr Andic emphasised that AI tools should always be marked appropriately, and their use must be transparent to avoid misinformation and bias in education. He also warned against over-reliance on AI, which could lead to a decline in independent learning among students, a phenomenon referred to as "lazy cognition."

Moreover, Dr Andic introduced AI's potential in providing diverse forms of feedback, such as audio and video, which can improve student engagement and motivation. He explained how feedback in video form, particularly when personalised with student avatars, has a stronger impact on students' learning outcomes.

In conclusion, Dr Andic's session reinforced the transformative potential of AI in higher education, while also highlighting the critical need for careful implementation, transparent practices, and ongoing awareness of ethical concerns. The session ended with a call for continued exploration of AI tools and their integration into both teaching and learning practices at JKU, while ensuring that students are educated on the responsible and informed use of AI technologies.



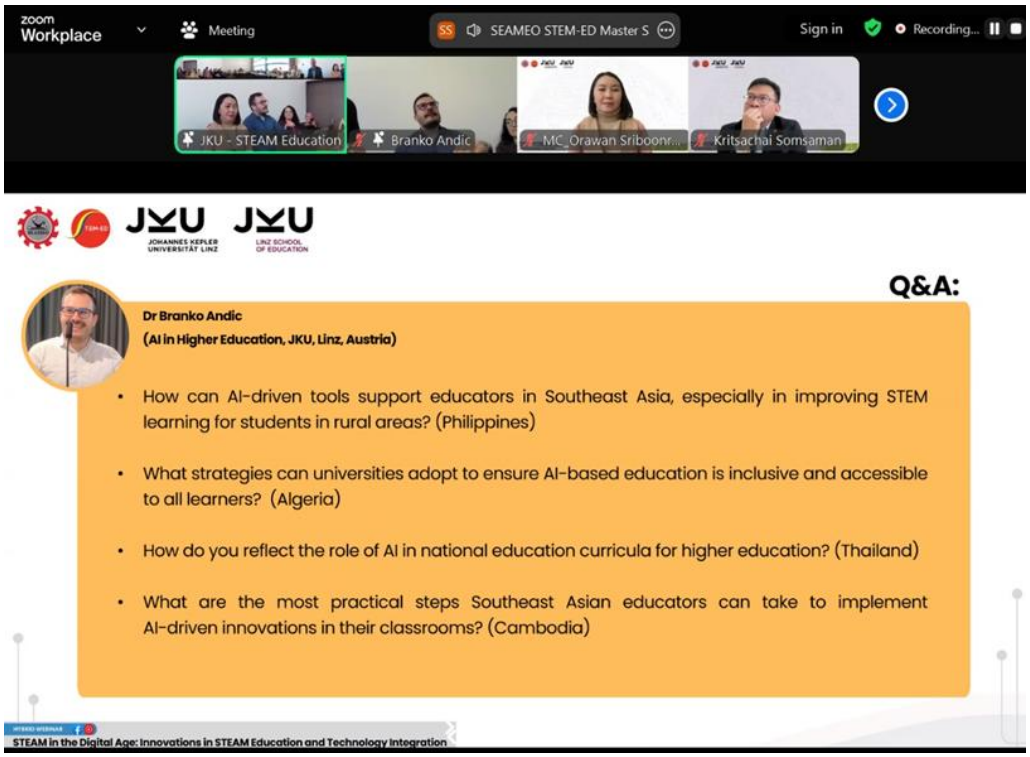
Following the presentation, Dr Andic answered the following questions which were addressed by the audience:

**Q. Strategies for Inclusive and Accessible AI-Based Education: Question from Algeria**

A participant from Algeria asked what strategies universities can adopt to ensure AI-based education is inclusive and accessible to all learners. Dr Andic emphasised the difficulty in developing a universal strategy applicable across all disciplines. He suggested that a key approach is for educators to be open about the use of AI in their teaching and to report when AI is being utilised. He also highlighted the importance of transferring teaching content into multiple media formats to improve accessibility, particularly for students with specific needs. For example, AI tools like ChatGPT could be used to describe images for visually impaired students, contributing to a more inclusive learning environment. Dr Andic further emphasised that while a university-wide strategy may be challenging, individual educators could adapt their use of AI tools to create more inclusive teaching practices.

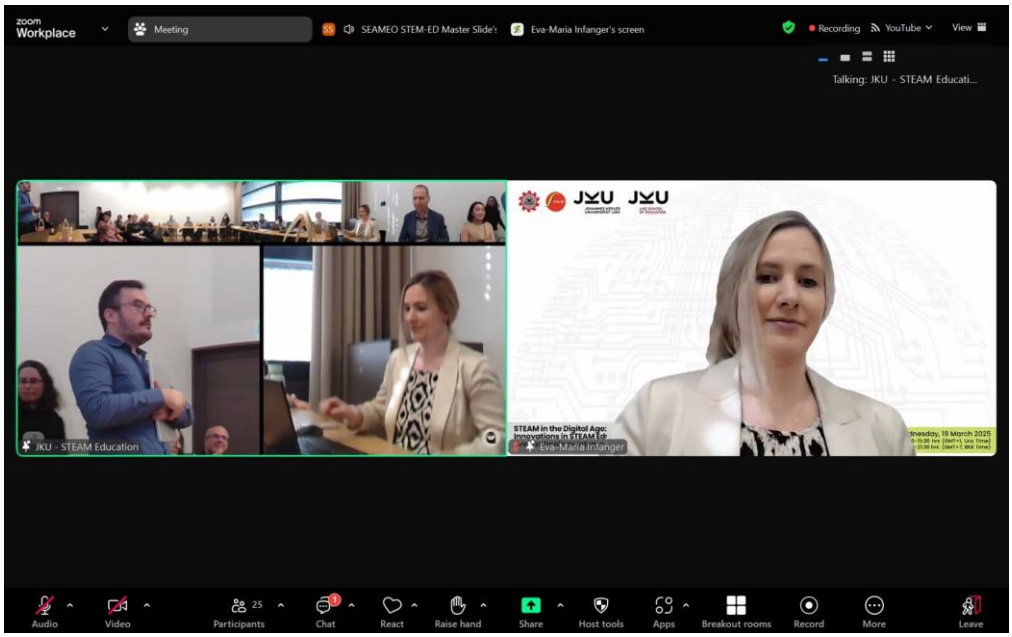
**Q. Practical Steps for South Asian Educators to Implement AI in Classrooms: Question from Cambodia**

A participant from Cambodia inquired about the most practical steps South Asian educators can take to implement AI-driven innovation in their classrooms. Dr Andic recommended that educators first familiarise themselves and their students with different AI tools. He suggested starting small, such as incorporating AI into one class, and then gradually expanding its use. Importantly, he stressed the need for AI literacy among teachers, ensuring they are equipped to critically assess AI-generated content for accuracy. Dr Andic cautioned that while AI tools can provide useful information, they may also produce incorrect data, and therefore, educators should always verify the information and be transparent with students about AI's limitations.



**Speaker 2:** **Eva-Maria Infanger**
Founder and Managing Director of MatheArena

**Topic:** **MatheArena: Innovative Learning Application**




Dr Eva-Maria Infanger introduced the innovative learning application, MatheArena, designed to address several key challenges in mathematics education. MatheArena was initially developed as a small project in 2013 by Dr Infanger and her partner, both educators with an interest in psychology, learning psychology, and technology. The goal was to create an accessible, engaging platform for students to explore conceptual mathematics outside of the traditional classroom setting.

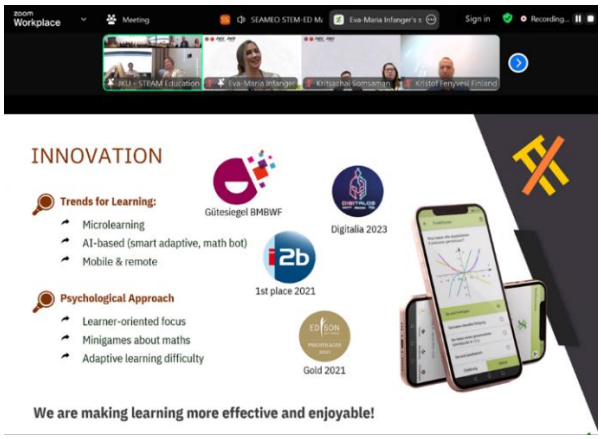
The main issue identified was the lack of mobile solutions for higher-level mathematics, which Dr Infanger noted had been particularly absent in educational games. It was emphasised that while smartphones and tablets were widely used for casual games, they did not provide suitable educational content for mathematics. To overcome this challenge, MatheArena integrated adaptive algorithms, enabling the platform to tailor the learning experience to individual student needs. This approach aimed to provide more personalised, efficient learning, addressing the frustration many students experienced with traditional tutoring options, particularly during the COVID-19 pandemic.

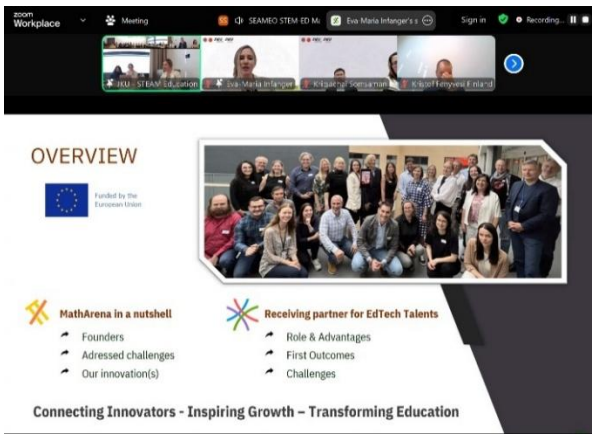
Dr Infanger outlined the global issue of equity in education, highlighting that only wealthier families could afford private tutoring, which led to a gap in access to quality educational support. MatheArena was positioned as a cost-effective solution with easy access, focusing on conceptual learning rather than procedural knowledge, which was presented as essential for understanding complex topics such as probability and AI.

Several innovations in MatheArena were highlighted, including the incorporation of microlearning, adaptive learning paths, and AI-based processes to enhance learning outcomes. It was also mentioned that MatheArena had expanded its reach, offering the platform in multiple languages, including German, English, Turkish, and Indonesian. A key feature of the platform was the ability for students from different countries to engage in peer-to-peer challenges, further emphasising its international and collaborative approach.

The presentation also touched on the challenges faced by teachers in adopting digital tools, with Dr Infanger noting that many teachers were hesitant to implement digital solutions due to their time-consuming nature and the limited perceived value for students. MatheArena sought to address these concerns by offering a more engaging and effective learning experience, designed with the learner's needs at the forefront.

Additionally, the project's ongoing development and future plans were discussed, including its involvement in the EdTech Talent project, which aimed to connect research, education technology, and innovation in the field of digital learning solutions. The presentation concluded with Dr Infanger sharing insights on the company's growth, its evidence-based approach, and its commitment to enhancing the quality of education technology globally.




Following Dr Eva-Maria Infanger's presentation, she addressed questions from the audience:

**Q. Gamification and AI in Improving Engagement and Performance in Southeast Asia: Question from Brunei Darussalam**

A participant from Brunei inquired about how gamification and AI-driven learning platforms like MatheArena could improve engagement and performance among Southeast Asian students, particularly in mathematics. Dr Infanger emphasised that gamification is effective in improving motivation, which is crucial for sustainable learning and the retention of concepts. She highlighted the importance of evidence-based platforms offering diverse learning approaches, as different students require different methods. Furthermore, Dr Infanger stressed that social interaction—between peers and between students and teachers—is vital for motivation. While adaptive learning paths are essential, these must be balanced with opportunities for social interaction to ensure holistic learning experiences.

**Q. Key Success Factors for Implementing EdTech Solutions in Low-Income Schools: Question from Philippines**

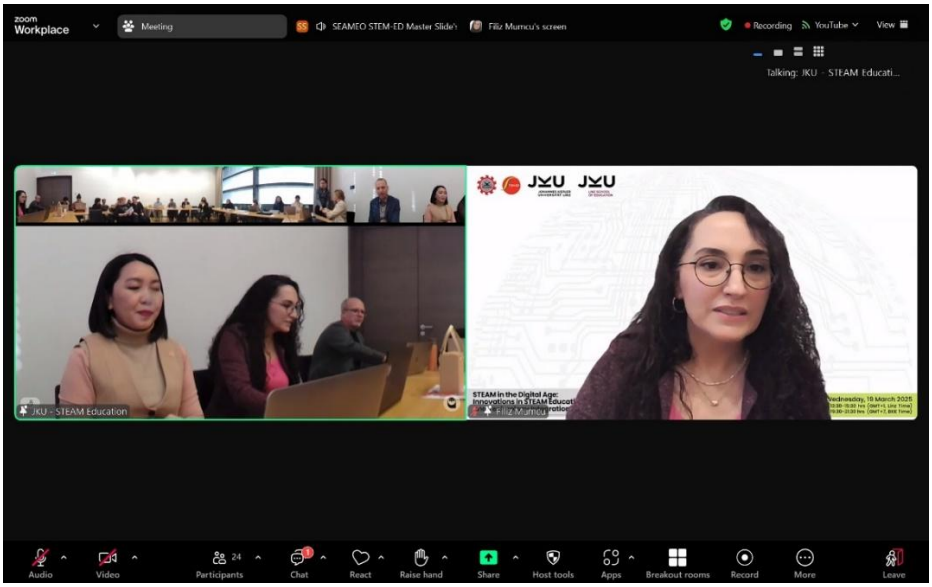
A participant inquired about the key success factors for implementing educational technology solutions like MatheArena in low-income schools. Dr Infanger explained that for low-income schools, it is essential to provide low-cost or even free tools, though developing such tools requires funding. She mentioned that MatheArena uses innovative approaches, including crowdsourcing and partnerships with NGOs, to secure the necessary resources. Dr Infanger also pointed out the importance of teacher workshops and collaborations to ensure the effectiveness of educational technology. She highlighted the importance of features like offline functionality, which makes MatheArena particularly useful in areas with unreliable internet access.

**Q. Integrating AI and Emerging Technologies into STEAM Education in Schools with Limited Resources: Question from Indonesia**

A participant from Indonesia asked how schools with limited resources can effectively integrate AI and emerging technologies into STEAM education. Dr Infanger acknowledged that limited resources present significant challenges, including constraints on budget, time, and content. She emphasised that the most effective approach is to first give teachers the time and space to familiarise themselves with AI technologies, enabling them to build trust in these tools before introducing them to students. Dr Infanger also stressed the importance of fostering critical thinking among students, cautioning that students should not be expected to independently navigate AI technologies without proper guidance and support.

**Speaker 3:** **Dr Filiz Mumcu**
Expert in Computer Science Education

**Topic:** **EdTech Talents**




Dr Filiz Mumcu, an expert in computer science education, presented the EdTech Talents project, focusing on bridging the gap between educational technology companies and universities to enhance STEM education through improved collaboration. The project now involves six countries: Estonia, Hungary, and Serbia (widening countries) and Austria, Germany, and Spain (developed countries).

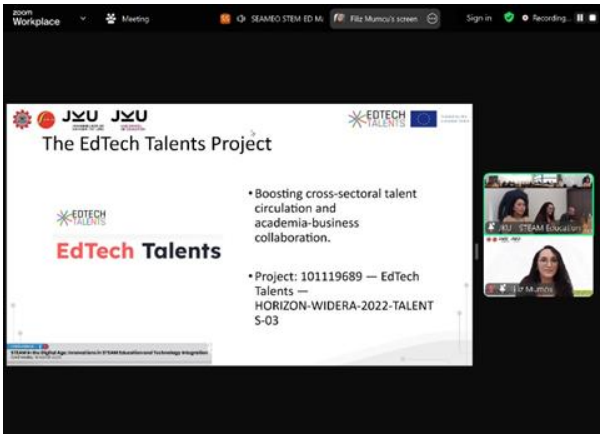
Dr Mumcu emphasised the significance of connecting universities with EdTech companies to create a more effective educational technology ecosystem. She explained that the project aims to facilitate knowledge exchange between these countries, with researchers from developed countries visiting widening countries to assist EdTech companies in refining their products. These companies, in turn, visit the developed countries to learn from advanced educational technologies and incorporate the research-driven expertise of universities to improve their offerings.

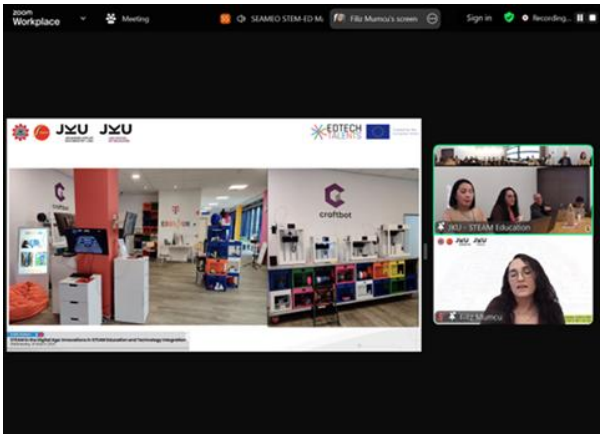
A quadruple helix approach was outlined, bringing together academia, business, policymakers, and civil society to drive innovation in the EdTech sector. Dr Mumcu addressed the ongoing efforts in instructional design and its integration with educational technologies. She pointed out that many EdTech companies focus on technological advancements but often

miss out on aligning their products with effective teaching strategies. Dr Mumcu's consulting work with companies in each country aimed at improving their products by emphasising the importance of instructional design and its impact on the teaching and learning process.

To support these companies in improving their products, a usability test platform was developed, allowing EdTech companies to assess their products' functionality and effectiveness. The platform focuses on key aspects like content reliability, navigation, communication features, and user satisfaction. Dr Mumcu offered these usability services free of charge as part of the project, aiming to ensure that EdTech products align with the needs of both students and educators.

In conclusion, Dr Mumcu highlighted the importance of collaboration between academia and the EdTech industry in driving meaningful innovation in education. She emphasised the role of international cooperation and knowledge transfer to improve educational tools and create lasting partnerships that benefit students and educators globally. The session ended with an invitation to join the Project Academy, an initiative to help educators and organisations collaborate internationally and explore funding opportunities for EdTech projects.



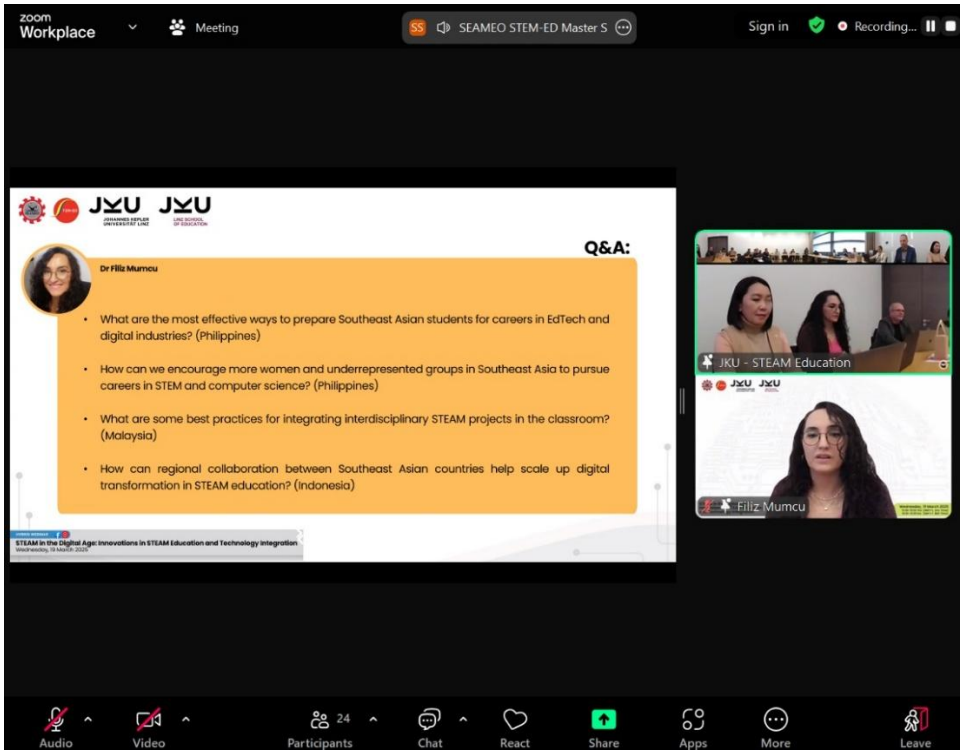
Following the presentation, Dr Filiz Mumcu answered the following questions which were addressed by the audience:

**Q. Effective Preparation for Careers in EdTech and the digital industry: Question from Philippines**

A question from Philippines asking what is the most effective ways to prepare solid Asian students for careers in EdTech and the digital industry? Dr Mumcu emphasised the importance of fostering creativity in students as they prepare for careers in EdTech, suggesting that personalised teaching and learning environments are key to engaging students and motivating them to contribute to the industry.

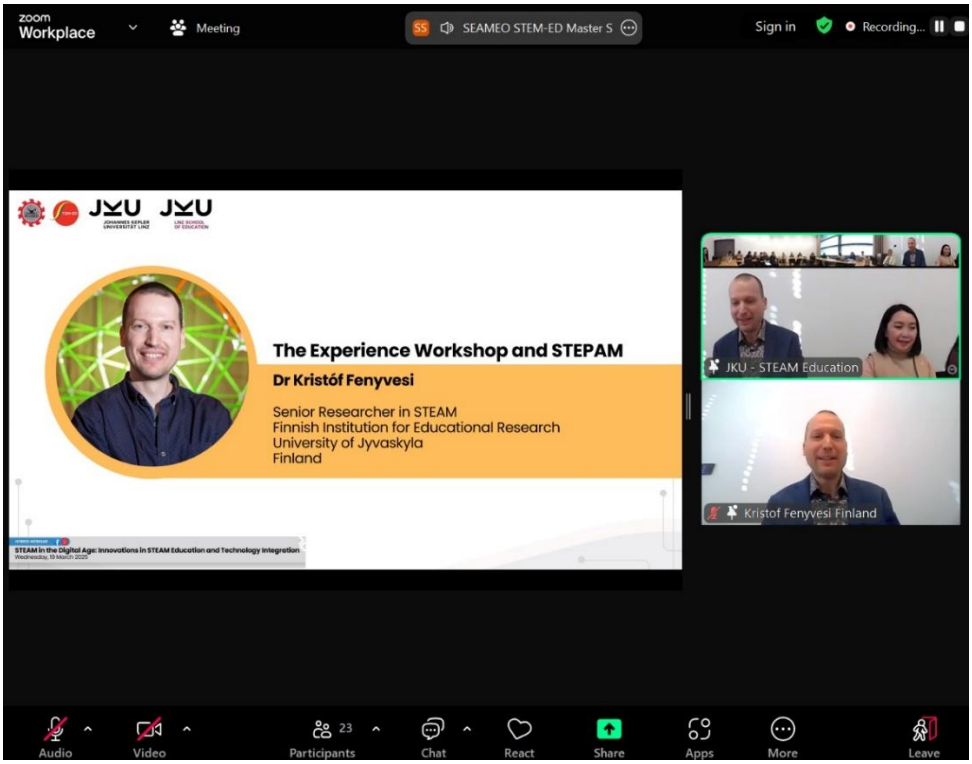
**Q. Encouraging Women and Underrepresented Groups in STEM: Question from Philippines**

Another question from Philippines asking how can we encourage more women and underrepresented groups in Southeast Asia to pursue careers in STEM and computer science? Dr Mumcu highlighted the need for creating a strong sense of community and inclusivity to encourage more women and underrepresented groups to pursue careers in STEM and computer science, stressing the importance of building confidence through supportive networks.




**Speaker 4:** **Dr Kristof Fenyvesi**
Senior Researcher in STEAM Finnish Institution for Educational Research, University of Jyvaskyla, Finland

**Topic:** **The Experience Workshop and STEPAM**



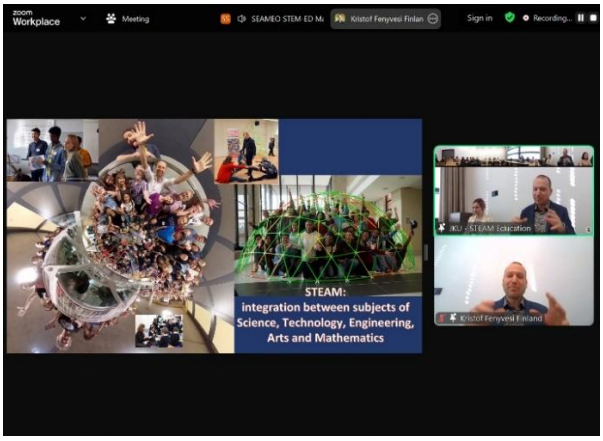
Dr Kristof Fenyvesi introduced the Experience Workshop and STEPAM project, focusing on integrating physical activity with STEM and STEAM education to foster a more active and engaging learning experience. Dr Fenyvesi, a senior researcher at the Finnish Institute for Educational Research, began by reflecting on his long-standing involvement with the SEAMEO network, which has allowed him to connect with educational institutions across Southeast Asia and contribute to the training of thousands of teachers during the pandemic.

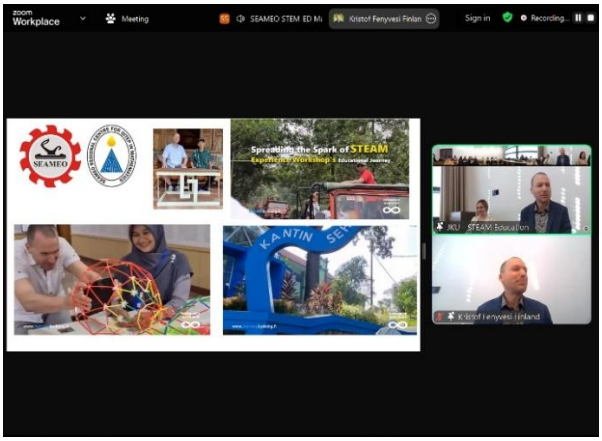
The central theme of his presentation was the integration of physical activity with STEM and STEAM education, a concept that emerged from recognising the importance of activity-based learning, especially post-pandemic. Dr Fenyvesi emphasised the STEPAM project, which combines physical education and STEM learning in innovative ways. This project explores the concept of “embodied mathematics,” where students engage in active learning through physical activities to better understand mathematical concepts. The project was described as a response to the challenges of traditional desk-bound learning, which often disengages students, particularly in subjects like mathematics.

Dr Fenyvesi also addressed the evolving role of teachers in this new educational landscape, where educators are not only facilitators of knowledge but also active researchers in education. This perspective aligns with Finland’s approach to teacher training, where educators are trained as masters of arts in education research, equipping them to innovate and adopt new educational strategies. Additionally, Dr Fenyvesi discussed the importance of well-being in education, highlighting that the ultimate goal of education should be not just academic achievement, but also the emotional, social, and physical well-being of students.

Dr Fenyvesi concluded by outlining the Experience Workshop, a Finnish educational initiative that connects hands-on learning with global trends in education. He explained that the Finnish education system, often referred to as a "miracle", is the result of focused, multi-layered efforts rather than an innate advantage. He highlighted the importance of STEAM integration as a policy rather than just a set of methods, encouraging educators to look beyond subject boundaries and focus on collaboration and problem-solving.

Various projects were also outlined, aimed at expanding the reach of educational tools and methodologies. Among them was the **STEPAM** project, which offers active learning resources and digital platforms for teachers, supporting the training of educators across multiple countries, with the goal of reaching 10,000 teachers globally.



Following Dr Christoph Fenyvesi's presentation, he responded to several questions from the audience:

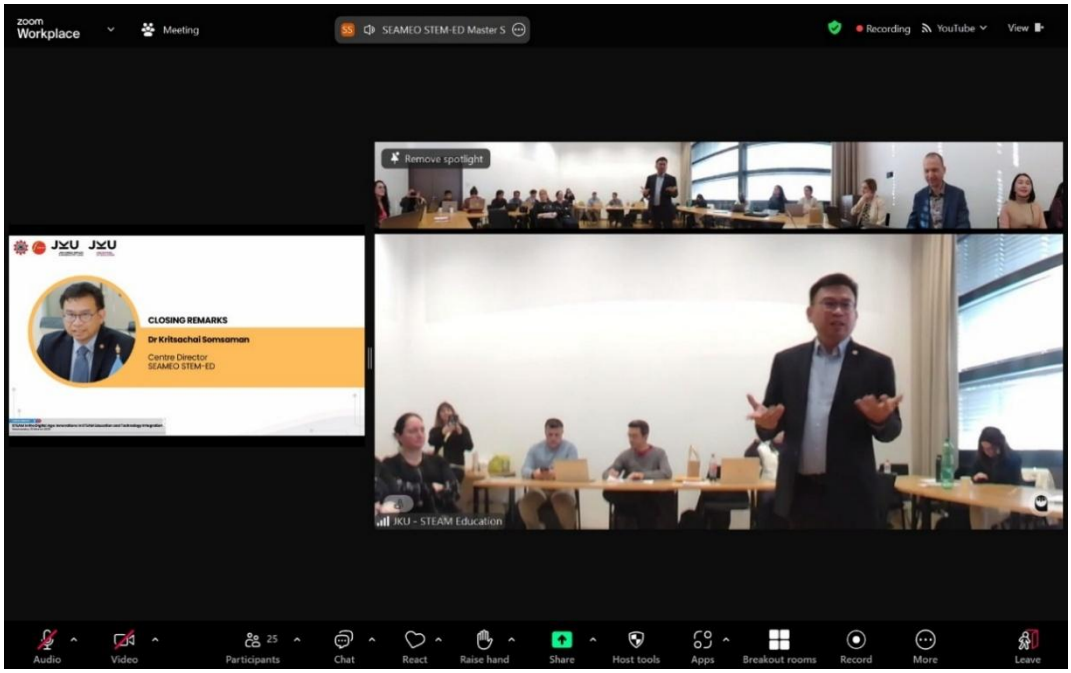
**Q. Adapting the Hands-On Interdisciplinary Approach to Southeast Asia**: **Question from Philippines**

A participant from Philippines inquired about how the Experience Workshop and STEPAM projects could be adapted to the South Asian educational system. Dr Fenyvesi highlighted that there is no one-size-fits-all solution, and local context is essential. He emphasised the importance of engaging in thorough local work to tailor methods to the specific needs and resources of each region. While offering consultation and guidance, Dr Fenyvesi stressed the value of exploring local solutions, including leveraging available materials. He cited the example of a project called "Scrappies," where educational tools were made from recycled materials in remote Himalayan schools. Despite limited resources, these schools developed exceptional maker spaces by utilising local materials, showing that innovative solutions can thrive even in challenging environments.

**Q. Balancing Hands-On STEAM Activities with Digital Learning: Question from Cambodia**

A participant asked how educators can balance hands-on STEAM activities with digital learning to maximise student engagement. Dr Fenyvesi explained that immersive and embodied technologies are increasingly important in education. However, he also emphasised that real-world experiences—such as engaging with nature and physical reality—remain foundational. The integration of technology should not overshadow the importance of hands-on experiences and outdoor learning, which are crucial for students' understanding and connection to the world. Dr Fenyvesi underscored the need to teach students to care for the environment, ensuring that technology complements, rather than replaces, real-world engagement.

**Next Step and Closing Remarks by Dr Kritsachai Somsaman,** SEAMEO STEM-ED Centre Director

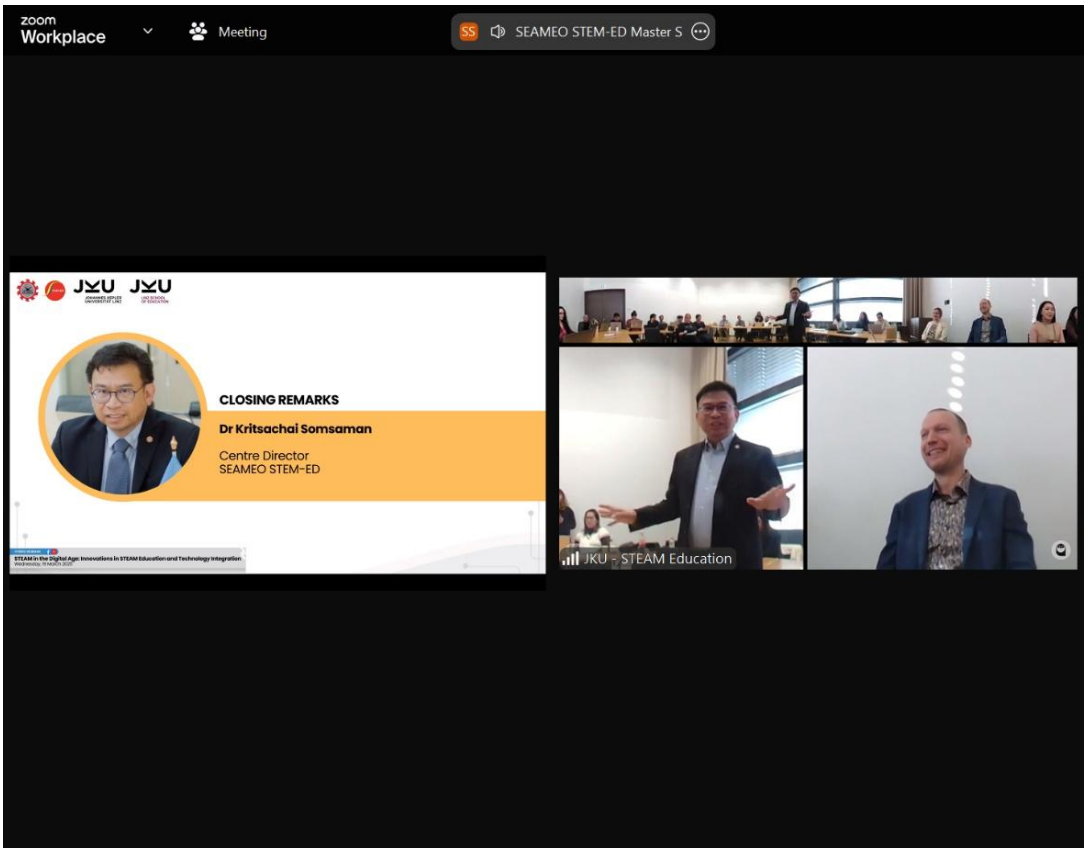


Dr Krisachai Somsaman expressed gratitude to the speakers and participants, acknowledging the valuable insights shared during the webinar. He highlighted the importance of diverse perspectives from around the world, which enriched the discussion. Dr Somsaman particularly appreciated the contributions from Dr Branco Andic on the role of artificial intelligence in education, noting the need for awareness of potential biases. He also thanked Dr Eva-Maria Infanger for her presentation on MatheArena, reflecting on the concept of "flow" in learning and the balance of challenge and enjoyment in the learning process.

Dr Somsaman further appreciated Dr Filiz Mumcu's insights on the startup ecosystem, drawing comparisons with the development of South Korea's digital textbook system, which effectively integrates AI and fosters the growth of EdTech companies. He recognised the importance of building strong ecosystems that support innovation and the sharing of knowledge.

The well-being aspect of education, as discussed by Dr Kristof Fenyvesi, was also acknowledged. Dr Krisachai emphasised the evolving landscape of education, particularly the role of AI, and the need to reconsider traditional metrics of success. The integration of AI into education calls for a transformation in how student performance is measured, as learning methods and support systems change.

He concluded by thanking Prof Dr Zsolt Lavicza from Johannes Kepler University for facilitating the event and providing an opportunity for global collaboration. Dr Somsaman encouraged participants to explore further opportunities, including the PhD program at the university, and to continue connecting with educational communities worldwide. The webinar was deemed a valuable experience, and Dr Somsaman extended his appreciation to all attendees, both present and remote, for their participation.



## Conclusion

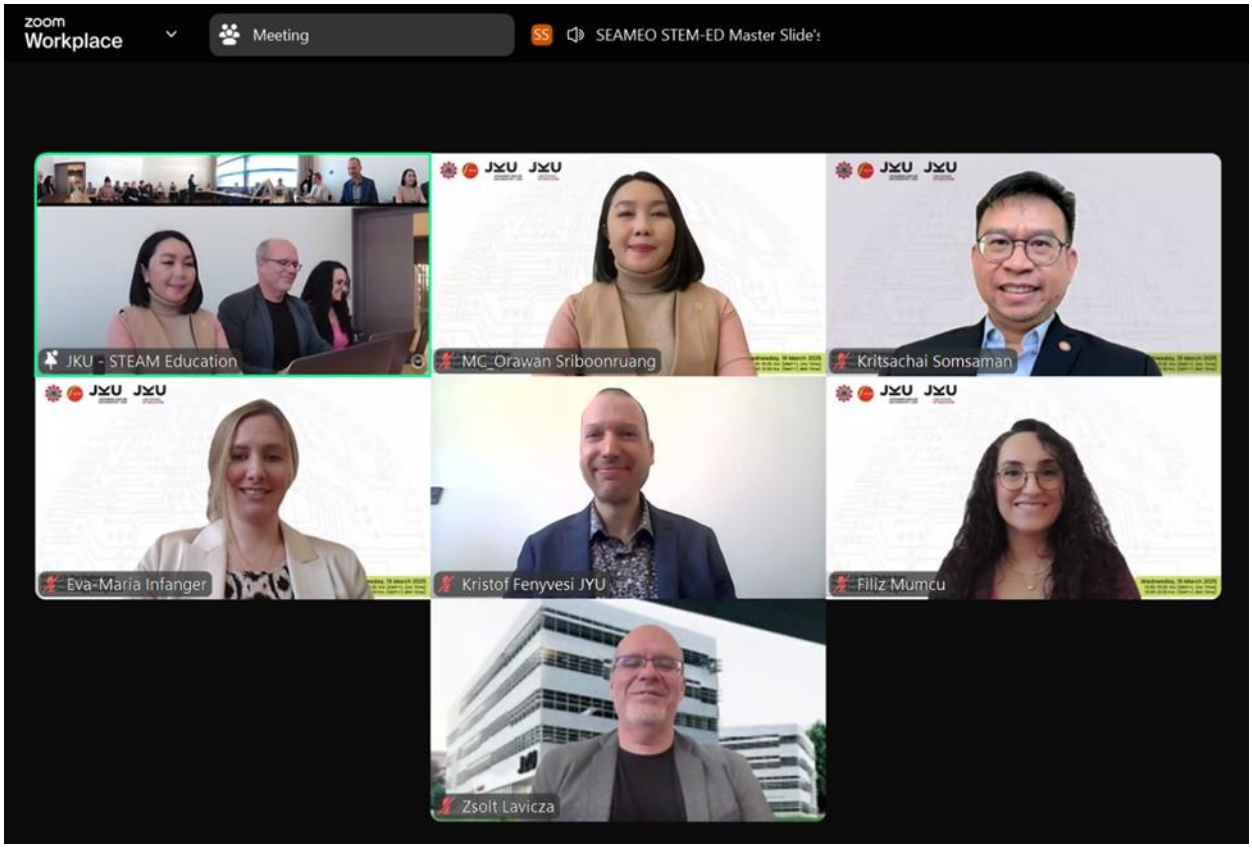
The hybrid webinar provided valuable insights into the future of STEAM education, with a focus on technology integration and regional collaboration. Experts from both Europe and Southeast Asia shared their knowledge and experiences, offering practical strategies for educators and policymakers to implement in their own contexts.

As the digital landscape continues to evolve, events like this are critical in fostering international dialogue and advancing the shared goal of preparing students for a rapidly changing world. The successful collaboration between SEAMEO STEM-ED and Johannes Kepler University marks a significant step towards enhancing the quality and accessibility of STEAM education on a global scale.


## Acknowledgments

The organisers would like to express their gratitude to the speakers, panelists, and participants for their invaluable contributions. Special thanks go to SEAMEO STEM-ED and Johannes Kepler University for making this event a success.

This report has been prepared with the assistance of AI technology, which helped to compile and refine the content. Special thanks to Otter.ai and ChatGPT for contributing to the drafting process and ensuring clarity and coherence throughout the report.

## Evaluation and Feedback

Out of 2,218 registrants, a total of 1,628 e-certificates were generated for participants who completed the post-event satisfaction survey. The majority of respondents rated their satisfaction between 9 and 10, while 117 participants (approximately 7.2%) rated it below 8.

Overall, the feedback was largely positive, with many participants highlighting the engaging content and smooth organisation. These feedbacks reflect positive outcomes experienced by participants: several commented on the quality of the presentations, the relevance of the topics, and the effectiveness of the speakers. Some constructive suggestions were also received, including concerns about sound quality and a preference for Zoom over YouTube livestreaming, as Zoom not only offered better audio but also enabled more interactive participation. A few attendees recommended that speakers use individual cameras instead of shared ones to enhance the viewing experience. Additionally, several participants expressed a wish for longer Q&A sessions and extended presentation time for each speaker.

"Thank you for this webinar, it gives a lot of insights for me as a future educator."

"Keep up the excellent work!"

"You have a very good execution of your webinar."

"The webinar is very helpful for educators like me to enhance the teaching strategies and employ appropriate ones for the diversity of learners and achieve the desired learning outcomes. The webinar is excellent, indeed."

"This webinar was really wonderful. I got lots of new knowledge such as physical activities in STEM which was new for me. This hybrid seminar helped to understand more about integrating technology in the context of our own locality. I also learned that we can implement STEAM education in our own context by using low cost or no cost materials."

"Thank you for this insightful session."

"Looking forward for more webinars like this in the future."

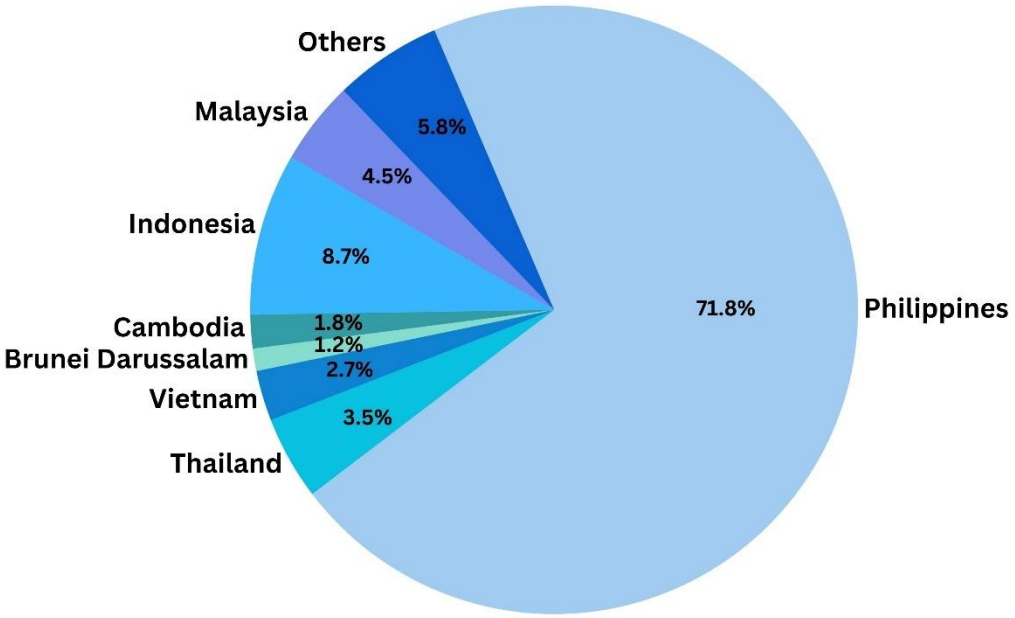
"Excellent and informative session."

### Participants, YouTube Broadcasting, and Social Media

(Data as of 28 March 2025)

A total of 2,218 participants registered for the hybrid webinar from various countries. Among them were leaders, educators, teachers, researchers, lecturers, faculty members, students, and professionals in the education and STEM fields, representing 46 countries and regions, including Algeria, Argentina, Austria, Brazil, Brunei Darussalam, Cambodia, Canada, Chile, China, Colombia, Croatia, Czech Republic, Egypt, Ghana, Hong Kong (China), India, Indonesia, Ireland, Italy, Kenya, Lao PDR, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Nigeria, Oman, Pakistan, Papua New Guinea, Peru, Philippines, Romania, Saudi Arabia, Serbia, Singapore, South Africa, Spain, Taiwan, Thailand, Timor-Leste, Turkey, United Arab Emirates (UAE), United Kingdom (UK), Uruguay, Uzbekistan, and Vietnam.

**Distribution of Participants by Country/Region**




| Item | No. |
|---|---|
| Registered Participants | 2,218<br><br>64.8% Female, 34.5% Male, 0.7% Prefer not to say<br>47 countries |
| YouTube Views | 1,978 views<br>147 likes<br>262 chat messages during live<br>3,133 reactions during live |
| YouTube Audience | Female 70.9%, Male 29.1%<br>18-24 years 57.7%, 25-34 years 30.9%,<br>35-44 years 8.2%, 45-54 years 3.2% |
| YouTube Traffic | 72.8% from Facebook |
| Facebook Content on 19 March 2025<br>(Sharing webinar YouTube link) | 3,549 views<br>1,770 reach<br>86 interactions<br>245 link clicks |
| E-Certificate Generated | 1,628 |

# Appendix

**Hybrid Webinar**
**STEAM in the Digital Age: Innovations in STEAM Education and Technology Integration**

**Joint Collaboration between**
**SEAMEO STEM-ED and Johannes Kepler Universität (JKU)**

**At Johannes Kepler Universität (JKU), Linz, Austria**
**Wednesday, 19 March 2025**
**[13:00 – 15:30 hrs: GMT+1, Linz, Austria]**

# Provisional Programme

***[As of 28 February 2025]***

**Wednesday, 19 March 2025**

| | |
|---|---|
| **13:00 hrs** | **Registration On Site Participants** |
| **13:15 hrs** | **Group Photo Session** |
| **13:30 hrs** | **SEAMEO Colour [Live Session]** |
| **13:30 – 13:45 hrs** | **Welcome Remarks**<br>**Dr Kritsachai Somsaman, Centre Director, SEAMEO STEM-ED** |
| **13:45 – 14:00 hrs** | **Opening Remarks**<br>**Univ-Prof Dr Zsolt Lavicza, Professor in STE(A)M Education Research Methods, Johannes Kepler Universität (JKU), Linz, Austria** |
| **14:00 – 14:20 hrs** | **AI in Higher Education**<br>**Dr Branko Andic, Center for University Didactics and AI-Competent Teaching in Higher Education, Johannes Kepler Universität (JKU), Linz, Austria** |
| **14:20 – 14:45 hrs** | **MatheArena: Innovative Learning Application**<br>**Eva-Maria Infanger, Founder and Managing Director of MatheArena,** |
| **14:45 – 15:00 hrs** | **EdTech Talents**<br>**Dr Filiz Mumcu, Expert in Computer Science Education** |
| **15:00 – 15:20 hrs** | **The Experience Workshop and STEPAM**<br>**Dr Kristof Fenyvesi, Senior Researcher in STEAM Finnish Institution for Educational Research, University of Jyvaskyla, Finland** |
| **15:20 – 15:30 hrs** | **Closing Remarks**<br>**Dr Kritsachai Somsaman, Centre Director, SEAMEO STEM-ED** |
| **15:30 hrs** | **SEAMEO Song** |

**Moderated By Dr Orawan Sriboonruang, Knowledge Management Manager, SEAMEO STEM-ED**

## Poster


## Information Note

**To rewatch the webinar via YouTube Livestream:**

https://youtube.com/live/iA_tCjXnQMo

**Agenda & Information available here:** https://bit.ly/41mVim3

## Speaker Information:

| | |
|---|---|
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| Presentation | https://prezi.com/view/6wRAbBqkDYo7w6R8ONLu/ |
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| **Dr Filiz Mumcu**<br>Expert in Computer Science Education | |
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| **Dr Kristof Fenyvesi**<br>Senior Researcher in STEAM Finnish Institution for Educational Research, University of Jyvaskyla, Finland | |
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