SEAMEO

MINISTRY OF EDUCATION
THAILAND

SEAMEO CONGRESS 2021

# Transforming Southeast Asian Education, Science, and Culture in the Digital Age

## SYNTHESIS REPORT

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TEM-ED

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# Transforming Southeast Asian Education, Science, and Culture in the Digital Age

SEAMEO CONGRESS 2021

## VIRTUAL CONFERENCE

Bangkok, Thailand
28–29 April 2021

# A Message from the Senior Minister of Education of Malaysia

The theme of SEAMEO Congress 2021, "Transforming Southeast Asian Education, Science, and Culture in the Digital Age," is highly relevant and up-to-date. As we move further into the new normal, we are witnessing disruptions to our lifestyles and beliefs, apart from the emergence of many innovations and creative ideas, particularly in the education sector. We have been working hard to uphold education standards and learning continuity. Online education platforms have been created and used as alternative learning means for longer than a decade now. Due to social distancing policies, online education has been implemented worldwide more than ever before. It has become the main modality for teaching and learning, making Internet connectivity the backbone of education. Hence, educators, education stakeholders, and parents face the need to adjust to adhere to teaching modality changes and the new normal.

Digital transformation also brought about challenges related to generation gaps. Students these days either belong to Generation Z or Alpha. They are digital natives. They have been exposed to digital devices at a young age. As they are born ready to use technology and are familiar with consuming tons of information in a short period, they can quickly adapt to new lifestyle, thought, and belief transformations. On the other hand, parents and educators are mostly digital immigrants, which means they learned and picked up digital skills later on in their adult lives. They take more time learning, adapting to, and understanding digital transformations. This gap in understanding was intensified during study-from-home periods when parents needed to take care of the learners' well-being while assisting in their learning. Teachers also differ from students in that they still need to adapt to teaching online and measuring learning progress from behind the screen.

Realising the gap in understanding between generations and the challenges that online learning and transformation poses to education stakeholders, SEAMEO Congress 2021 aims to provide a wisdom platform for all actors, both at the national and international levels, to reflect on how shared regional expertise can help enhance new policymaking, support innovative teaching and learning paradigms that would translate to students' self-understanding, levitate competitiveness, and strengthen regional social values.

The congress also provides an opportunity for education actors to craft new learning paradigms where academic, social, and cultural virtues and values shape not only the personal character but also the moral fibre of a balanced and resilient knowledge-based society that would help citizens cope with global demands and challenges.

A lot of things need to be learned, unlearned, and relearned if we are to transform education, science, and culture as we move into the digital age. Therefore, international policymakers, educators, and education stakeholders must participate in SEAMEO Congress 2021 to hear from experts, learn from each other, and showcase best practices and responses to this transformation. I hope that all the esteemed education stakeholders enjoy the best experience and reap many benefits from the event.

H.E. Dr. Radzi Jidin
Senior Minister of Education of Malaysia
and SEAMEO Council President

# A Message from the Minister of Education of Thailand

The challenges of volatility, uncertainty, complexity, and ambiguity have dramatically affected country development across all dimensions. Evidently, the influence of the Fourth Industrial Revolution or Industry 4.0 brought forth artificial intelligence (AI). AI can bring about uncertainty, as it can possibly replace human workers entirely. In the midst of such a complex society, not only can education make the world a better place but also improve all aspects of science and culture. That leads us to ask a very important question: How can we transform challenges into a concrete plan to ensure the Alpha Generation survives?

To keep pace in an ever-changing world and secure global sustainability, we must be united in action and spirit, and explore new directions and innovations for human resource development (HRD). However, the crisis brought on by the COVID-19 pandemic has made a huge impact on education and created a barrier for all academics, researchers, and educational personnel. Moving forward, we need to consider ways to enhance social development that would help us achieve the Sustainable Development Goals (SDGs).

That said, I believe that through mutual collaboration, we can cope with emerging challenges and mobilise regional development in education, science, and culture amidst digital disruptions. By using digital technology in learning and teaching processes, we can produce a competent workforce that will be equipped and ready to deal with future challenges and respond to the needs of the society.

Significantly, SEAMEO Congress 2021 will be a good starting point for all the participants, as it is an opportunity to share and exchange new ideas and initiatives to transform education, science, and culture to match the requirements of the new normal.

Although my time in office as the Minister of Education of Thailand has just begun, I am fully aware of the continued and substantial contributions made by the SEAMEO member countries towards education and sustainable development. Through close collaboration with the SEAMEO Secretariat, the SEAMEO regional centres, and our partners and stakeholders, I am confident that we will be able to nurture the Alpha Generation to become good and responsible global citizens.

I would like to extend my sincere gratitude to the SEAMEO Secretariat and the Ministry of Education of Malaysia, and our other partners for their endeavor and support in making SEAMEO Congress 2021 a great success.

H.E. Ms. Treenuch Thienthong
Minister of Education of Thailand

# A Message from the SEAMEO Secretariat Director

We are at the crux of change, one brought on by several factors that include Industry 4.0, ushering the world into the digital era. And while the world has been adapting to and moving along with rapid technological advancements, the COVID-19 pandemic hastened the pace, pushing both those who are ready and those who are not to keep up or get left behind.

As an organisation committed to lending Southeast Asian countries a hand to ensure that learning goes on despite school closures and lockdowns, we at SEAMEO did not cease to work towards achieving the SDGs. Case in point, amidst travel restrictions and various other challenges, we have been leading through learning, albeit virtually.

We have hosted several webinars, conferences, and meetings online over the past months in an effort to push on with achieving the goals we outlined in *SEAMEO Strategic Plan 2021–2030.* This year's SEAMEO Congress is no different.

We hope that the presentations, sharing of best practices and strategies, and discussions featured in SEAMEO Congress 2021 will inspire and help our member and associate member countries and affiliate members, education practitioners and stakeholders, our partners, and students improve the quality and equity of education as we move further into the digital age.

May the knowledge and experiences of our guest speakers aid you in your journey towards transforming education, science, and culture as we move journey together into the digital age.

Dr. Ethel Agnes P. Valenzuela
SEAMEO Secretariat Director

# Acknowledgements

SEAMEO Congress 2021 was successfully held on 28–29 April 2021 with the help of the Ministry of Education of Thailand and the Ministry of Education of Malaysia. SEAMEO and the education ministries, however, could not have been able to do so without the help of our co-organisers and partners.

Ministry of Education of Thailand

Ministry of Education of Malaysia

We would, therefore, want to extend our deepest gratitude to our hardworking co-organisers—United Nations Educational, Scientific and Cultural Organization Asia and Pacific Regional Bureau for Education (UNESCO Bangkok), SEAMEO Regional Centre for Science, Technology, Engineering, and Mathematics Education (SEAMEO STEM-ED), and SEAMEO Regional Centre for Sufficiency Economy Philosophy for Sustainability (SEAMEO SEPS).

UNESCO Bangkok

SEAMEO STEM-ED

SEAMEO SEPS

We would have not been able to push forward without the support of our various partners as well. They not only provided us with speakers, moderators, and panelists but also the knowledge and expertise to help the SEAMEO Congress 2021 participants continue their educational, scientific, and cultural journeys into the digital age.

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John Wiley & Sons
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Canada


Center for Integrated STEM Education in the Philippines
(CISTEM)
Philippines



Deutsche Gesellschaft für Internationale Zusammenarbeit
(GIZ)
Vietnam


Duy Tan University
Vietnam


Global Education Monitoring Report
UNESCO
France


Institute for the Promotion of Teaching Science and Technology
(IPST)
Thailand


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(ICHEI)
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Korean Educational Development Institute
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Philippines

Princess Maha Chakri Award Foundation
(PMCA)
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(STOU)
Thailand


Thailand Cyber University
(TCU)
Thailand


United Nations International Children's Fund Regional Office for East Asia and the Pacific
(UNICEF EAPRO)
Thailand

Unilab Foundation, Inc.
Philippines

Universitas Terbuka
Indonesia

University of the Philippines Open University
(UPOU)
Philippines

University of Tsukuba
Japan

Worlddidac Association
Switzerland

Finally, we would also like to extend our thanks to the 26 SEAMEO regional centres and network for their encouragement and support.

SEAMEO Regional Centre for Tropical Biology

SEAMEO Regional Centre for Early Childhood Care Education and Parenting

SEAMEO Regional Centre for Community Education Development

SEAMEO Regional Centre for Lifelong Learning

SEAMEO Regional Centre for History and Tradition

SEAMEO Regional Centre for Educational Innovation and Technology

SEAMEO Regional Centre for the Quality Improvement of Teachers and Education Personnel in Language

SEAMEO Regional Centre for the Quality Improvement of Teachers and Education Personnel in Mathematics

SEAMEO Regional Centre for the Quality Improvement of Teachers and Education Personnel in Science

SEAMEO Regional Center for Food and Nutrition

SEAMEO Regional Centre for Education in Science and Mathematics

SEAMEO Regional Language Centre


SEAMEO Regional Training Centre


SEAMEO Regional Centre for Higher Education and Development


SEAMEO Regional Open Learning Centre


SEAMEO Regional Centre for Graduate Study and Research in Agriculture


SEAMEO Regional Centre for Special Education


SEAMEO Regional Centre for Sufficiency Economy Philosophy for Sustainability


SEAMEO Regional Centre for Archaeology and Fine Arts


SEAMEO Regional Centre for Science, Technology, Engineering, and Mathematics Education


SEAMEO Regional Centre for Technical Education Development


SEAMEO Tropical Medicine and Public Health Network


SEAMEO TROPMED Regional Centre for Microbiology, Parasitology, and Entomology


SEAMEO TROPMED Regional Centre for Public Health, Hospital Administration, Environmental and Occupational Health


SEAMEO TROPMED Regional Centre for Tropical Medicine


SEAMEO Regional Centre for Vocational and Technical Education and Training

# SEAMEO Congress 2021 Steering Committee

SEAMEO Congress 2021 would not have been possible with the effort and support of its steering committee.

## Ministry of Education of Thailand

- Ms. Chadarat Singhadechakul, Inspector-General, Office of the Permanent Secretary
- Mr. Somsong Ngamwong, Director of Bureau of International Cooperation, Office of the Permanent Secretary
- Ms. Duriya Amatavivat, Senior Expert on International Cooperation
- Ms. Wilailuk Padungkittimal, Director, Unit of Regional Cooperation, Bureau of International Cooperation, Office of the Permanent Secretary
- Ms. Patsri Siriprapa, Foreign Relations Officer, Bureau of International Cooperation, Office of the Permanent Secretary
- Ms. Siripakka Dhamabus, Foreign Relations Officer, Bureau of International Cooperation, Office of the Permanent Secretary
- Ms. Benjaporn Munyaton, Foreign Relations Officer, Bureau of International Cooperation, Office of the Permanent Secretary
- Mr. Pongsakorn Rudravanija, Foreign Relations Officer, Bureau of International Cooperation, Office of the Permanent Secretary

## Ministry of Education of Malaysia

- Mrs. Shahira Nur binti Zolkepli Deputy Undersecretary, Strategic Planning and International Relations Division
- Ms. Sharizad Sulaiman, Assistant Secretary, Strategic Planning and International Relations Division

## SEAMEO Regional Centre for Sufficiency Economy Philosophy for Sustainability

- Dr. Sukich Udindu, Centre Director
- Mr. Tanyawarawat Chalermpatanasuk, Administration Manager

## SEAMEO Regional Centre for Science, Technology, Engineering, and Mathematics Education

- Dr. Pornpun Waitayangkoon, Centre Director
- Dr. Kessara Amornvuthivorn, Programme Director
- Dr. John Stiles, Senior Specialist
- Dr. Mark Windale, Senior Adviser

## SEAMEO Secretariat

- Dr. Ethel Agnes P. Valenzuela, Director
- Dr. Kritsachai Somsaman, Deputy Director for Administration and Communication
- Dr. Wahyudi, Deputy Director for Programme and Development
- Dr. Orawan Sriboonruang, Programme Officer for Research and Evaluation
- Ms. Pimratchada Patanasuthikul, Executive Secretary
- Ms. Weerawan Theeraroungchaisri, Programme Assistant

# SEAMEO Congress 2021 Committee Leads

Without the leadership of these hardworking people from the SEAMEO Secretariat, the virtual conference attended by more than 15,000 participants from all over the Southeast Asia and beyond would not have been successful.

- Dr. Ethel Agnes P. Valenzuela, Director, Steering Committee Lead
- Dr. Kritsachai Somsaman, Deputy Director for Administration and Communication, Sponsorship Committee Lead
- Dr. Wahyudi, Deputy Director for Programme and Development, Paper Submission and Review Committee Lead
- Dr. Orawan Sriboonruang, Programme Officer for Research and Evaluation, Programme Committee Lead
- Ms. Anti Rismayanti, Programme Officer for Information and Communication, Media Advocacy Committee Lead
- Dr. Aye Chan Mon, Programme Officer for Planning and Publications, Promotional Materials Committee Lead
- Mrs. Natcha Kampiranond, Administration Manager, Administration Committee Lead
- Mrs. Kornkanok Chareonwuthilarp, Finance Manager, Financial Committee Lead
- Ms. Piyapa Su-angavatin, Knowledge Management Manager, Partnership Committee Lead
- Ms. Pitchayawadi Arreenich, Documentation and Resources Officer, Exhibit and Marketplace Committee Lead

- Mr. Thanit Promsalee, Information Technology (IT) Officer, IT and Documentation Committee Lead

- Ms. Pimratchada Patanasuthikul, Executive Secretary, Registration and Tokens and Certificates Committee Lead

# Contents

# 1

# An Introduction to SEAMEO Congress 2021

# Executive Summary

SEAMEO Congress 2021, which was held on 28–29 April 2021, was a virtual conference attended by more than 15,000 participants from across Southeast Asia and beyond. Policymakers, academic leaders, teachers, researchers, school administrators, government agency staff members, students, and more learned from experts in the fields of education, science, and culture.

Focusing on the theme, "Transforming Southeast Asian Education, Science, and Culture in the Digital Age," the participants listened to discussions and presentations in five plenary sessions, four parallel sessions, two marketplace sessions, several SEAMEO regional centre presentations, and 10 teaching and learning innovation and research sessions.

The congress attendees also witnessed the launch of two of SEAMEO's newest regional centres—SEAMEO STEM-ED and SEAMEO SEPS—during the opening ceremony, along with opening and welcome remarks and a keynote address from the SEAMEO Secretariat Director, Dr. Ethel Agnes P. Valenzuela; the Minister of Education of Thailand, H.E. Ms. Treenuch Thienthong; and the Senior Minister of Education of Malaysia and SEAMEO Council President, H.E. Dr. Radzi Jidin, respectively.

And after two days full of discussions and sharing of experiences and best practices, the congress highlights were synthesised for the participants' benefit during the closing ceremony.

A list of SEAMEO Congress 2021's themes are described briefly in the following sections.

THEME #1

## Reimagining People Transformation towards the Sustainable Development Goals

Educational systems need to be more resilient, inclusive, equitable, and sustainable and should encourage a closer connection between research, policies, and the society, apart from amongst various education stakeholders. But the ensuing pandemic has made inequality in access to learning opportunities an even bigger issue due to a digital divide. We need more resources to identify and reach the most marginalised learners. We can highlight gaps in educational opportunities and outcomes amongst learner groups so no one gets left behind. And since learners' requirements differ, teachers must tailor content to their needs appropriately. They also require training to use new tools and apply new pedagogies.

Digital skills or the proficiency to use new technologies and soft skills, such as creativity, critical thinking, problem solving, communication, and leadership, will be required in the future. Reskilling or upskilling will thus be crucial for employees or working and lifelong learners. Transferring skills from one industry to another requires a combination of broad knowledge and narrow field expertise. Using big data, competencies can be better defined to become domain-specific, which would give employers a more holistic view and identify gaps to fill future roles. The bridge between the demand for and the supply of skills can be strengthened by aligning curricular development with industry needs and integrating practical sustainable development issues and learnings into curricula.

The private sector, including social enterprises and entrepreneurs, highlighted the importance of inclusive participation and partnerships with communities and the society for sustainable development. It is also important to have change agents to spread the impact. Capacity building is also essential in the public and private sectors. For the society to become more sustainable, people need to view its various dimensions as interconnected. Education plays a major role in raising awareness and shaping learners to become responsible global and glocal citizens with the knowledge and values to make informed actions for a resilient, inclusive, equitable, and sustainable world.

THEME #2

## Building Back Better: Actions for Digital Transformation in the Artificial Intelligence Era

The mega education trends we have been seeing since 2020 are bound to exist until 2030. These include the shifting economic power, climate change and resource scarcity, technological breakthroughs, demographic and social changes, and rapid urbanisation. The future requires "smart" people, however, if we all wish to thrive in smart cities.

The world needs to undergo a global renaissance for education. And that requires access to equitable education. We have started on this journey with the shift to online learning but mostly because of the pandemic. If the education sector alone cannot make students AI-ready, it can seek the help of industries.

THEME #3

# Transforming Education for Quality Learning Outcomes

SUBTHEME #1

## TRANSFORMING EDUCATION FOR QUALITY AND EXCELLENCE

Committing to honour the *Education 2020 Framework for Action* call to foster improvements in educational outcomes is good but not enough. Benchmarks need to be set, data needs to be gathered, and mutual accountability achieved if we are to truly improve education.

While teaching students how to use technology is good, teaching them about the humanistic approach to technology use is better. But this requires international, government or public, major IT platform or private, and civil governance to come up with information and communication technology (ICT) in education or digital learning policies; aid in teacher and pedagogical technology use; create resilient technology-enabled school systems; utilise big data and AI tools in learning management; and ensure the openness of content, tools, and practices.

Teachers can significantly contribute to transforming education in the digital age but they do not always have the autonomy to modify curricula, pedagogies, and assessment models; reach vulnerable learners and their families to ensure the inclusion of the marginalised; bridge the information gap between district and national directives and local contexts; provide psychosocial support to students and their families; and build peer networks for the sharing of best practices and provision of socio-emotional support. If we want them to help transform education, they need all our support.

SUBTHEME #2

## EMPOWERING TEACHERS AND LEARNERS TO ADDRESS LEARNING POVERTY

Five speakers from different organisations and countries shared their expertise, insights, and experiences in addressing learning poverty. The *Southeast Asian Teachers' Competency Framework (SEA-TCF)* is a helpful guide in improving teacher performance across the region. The speakers emphasised the role that teachers play in engaging learners, especially amidst the COVID-19 pandemic.

Four factors that contribute to learning poverty are unskilled and unmotivated teachers, unprepared learners, school inputs that do not positively affect teaching and learning, and school management that does not positively impact teachers and learners.

The *Southeast Asian Primary Learning Metrics (SEA-PLM),* meanwhile, emphasises helping low performers and recommends empowering teachers and students to address learning poverty. Ways to do that include establishing an inclusive educational ecosystem that goes beyond the curriculum, placing individual and collective well-being at the core educational efforts, and focusing on socio-emotional lifelong learning.

Reading is also important, as it serves as a gateway to learning. As students progress in school, reading enables and empowers them to make sense not only of what they learned in class but also in life. The *Access, Coach, Evaluate, and Sustain (ACES) Literacy Framework* that is employed in school communities in the Philippines can also do other countries some good.

## SUBTHEME #3
## HEALTH LITERACY AND SCHOOL NUTRITION: ERADICATING BARRIERS TO LEARNING

Health and nutrition literacy must be considered a lifelong learning process but exposure to it in early childhood is essential. Schools are critical change agents in promoting health and nutrition literacy amongst students, teachers, personnel, and communities, and we must take advantage of that. They can integrate health and nutrition education into learning activities to enhance children's cognitive capacities and physical well-being so they can become good global citizens.

Such education would be especially useful in our current condition. Students who are well-versed in health and nutrition have a better chance of avoiding getting sick. Schools, meanwhile, can better monitor them even if they do not physically go to campuses for classes.

To strengthen health and nutrition literacy, however, we need to implement more cross-sectoral collaborations; take advantage of existing partnerships; conduct meaningful consultations with school heads, parents, and community members; offer continuous professional development for teachers; develop more innovative, inclusive, and user-friendly knowledge exchange platforms and materials; and maximise best practices and lessons learned from successful programmes.

THEME #4

## Global Education Agenda

UNESCO's Together for Peace (T4P) Programme recognises that education is a path that links human rights to gender equality, global citizenship, and cultural diversity, the foundations of positive peace. Positive peace, of course, is not just the absence of conflict but also the presence of justice.

UNESCO APCEIU promotes a culture of peace through global citizenship education (GCED) and education for international understanding (EIU) to enable learners to share, think, and act by fostering international dialogues, undertaking research, and providing training and capacity development in Asia-Pacific and beyond.

UNESCO ICHEI, meanwhile, aims to meet the demand for quality higher education resources and support Asian and African countries in improving their systems and building digital education links.

The latest online monitoring tools from the Global Education Monitoring (GEM) Report provides us regional approaches to monitoring educational systems and policies and tools to evaluate our progress in achieving SDG 4.

And recognising how important a primary learning monitoring system for basic education development is, SEAMEO and UNICEF developed *SEA-PLM.*

These efforts all contribute to bringing education into the digital era.

THEME #5

## Empowering Schools, Teachers, and Students

SEAMEO SEPS called for new collaborations and partnerships if we want to empower schools, teachers, and students. The Nisai Group offered an innovative and flexible learning approach, meanwhile, that lets learners study at their own pace unlike in traditional classrooms.

EEF urged us to address educational inequalities with innovative approaches, such as using big data, focusing on individual needs, and providing opportunities for capacity development. The testimonies of the administrators and faculty members of Malayan Colleges Mindanao on using WileyPLUS and E-Text, on the other hand, showed that advanced solutions can make teaching and learning more creative, increase student engagement and preparedness, and improve teaching based on feedback.

Akadasia pointed out that to be real 21st-century educators, teachers need to cultivate a culture of 4Cs—communication, collaboration, critical thinking, and creativity. Today's educators, therefore, must get ready for a complete paradigm shift. And Worlddidac Association can be a potential partner in that it owns a digital hub where education comes together.

THEME #6

## Science and Science, Technology, Engineering, and Mathematics Education

Representatives from Chevron and SEAMEO STEM-ED, CISTEM, Unilab Foundation, and IPST presented various programmes currently being implemented in Thailand and the Philippines to improve their state of STEM education. These programmes had different aims that include enriching STEM learning resources, building STEM awareness, and advocating STEM research and policymaking. To ensure project success, the organisations collaborate with leading institutions and companies.

THEME #7

## Technical and Vocational Education and Training Collaboration and Initiatives

Festo Didactic SE, BCCIE, and GIZ are just three of the organisations that are currently advocating TVET collaboration in Southeast Asia and beyond. By working closely with educational organisations like SEAMEO, they have been making great strides in helping employees build up their competence to keep up with Industry 4.0 developments, facilitating partnerships in education, and matching TVET with the requirements of digitalisation.

THEME #8

## Higher Education Initiatives

Duy Tan University, PNU, UPOU, Universitas Terbuka, and the University of Tsukuba are forerunners in innovating higher education initiatives in their respective countries. As such, their representatives' sharing of experiences and best practices can set others that want to follow their examples towards the right path.

THEME #9

## Transforming Southeast Asian Education, Science, and Culture in the Digital Age

Six of SEAMEO's regional centre directors shared their thoughts and insights on transforming education, science, and culture in the digital age by telling the participants about their most relevant programmes.

The congress attendees got to know SEAMEO Regional Centre for Quality Improvement of Teachers and Education Personnel in Language (SEAMEO QITEP in Language), SEAMEO Regional Language Centre (SEAMEO RELC), SEAMEO Regional Centre for Quality Improvement of Teachers and Education Personnel in Science (SEAMEO QITEP in Science), SEAMEO Regional Open Learning Centre (SEAMEO SEAMOLEC), SEAMEO Regional Centre for Quality Improvement of Teachers and Education Personnel in Mathematics (SEAMEO QITEP in Mathematics), and SEAMEO Regional Centre for Technical Education Development (SEAMEO TED) better for potential collaborations and future support.

THEME #10

## Building a Future for the Alpha Generation

SUBTHEME #1

### ADDRESSING INEQUALITY AND REENGINEERING EDUCATION FOR THE 21ST CENTURY

The extent of education exclusion has been further exacerbated by the COVID-19 pandemic. In Southeast Asia, only around a quarter of countries have inclusive education laws. The pandemic disrupted learning. We need to adopt 21st-century curricula, promote science, technology, engineering, and mathematics (STEM) education, and apply both global and local contexts to transform education.

Education for the Alpha Generation needs to start from early childhood care and development (ECCD) and continue on to higher education. ECCD provides learners a solid foundation for basic education, including health and nutrition and inquiry-based learning.

The education model for the Alpha Generation requires creative teachers. Teachers are the heart of any school, after all. They transfer knowledge, skills, and competencies to students. But they need the children's parents' support and participation. Teachers also initiate innovative learning environments, which require good infrastructures and advanced technologies.

To accelerate the establishment of the right educational system for the Alpha Generation, we must enhance the competence of teachers and lecturers, provide people with Internet connection, use radio and satellite systems to reach those in remote areas, provide good mentors or facilitators in certain areas, and build a good network of collaborators.

It was also agreed that SEAMEO should establish a team to craft an educational system fit for the Alpha Generation. A policy brief with key factors and justifications can be presented to education ministers for their endorsement. Scientific and professional forums and focus group discussions (FGDs) can also be organised.

## SUBTHEME #2
## GLOBAL CITIZENSHIP EDUCATION AND INFORMATION AND COMMUNICATION TECHNOLOGY SKILLS: LIFE POST-COVID-19

GCED helps us better use online communication for solidarity and cooperation. It promotes inclusion and diversity and so will enable students to find solutions to global challenges. But GCED in a post-COVID-19 world requires turning learners into future-ready digital natives with 21st-century competencies. As such, we need them to understand that we are all equal and should have access to high quality education.

We also need to better connect education to future employment needs. But since many may not have the resources for online learning, we can establish community learning centres aided by stakeholders to ensure everyone has equal access to education.

## SUBTHEME #3
## THE FUTURE OF WORK: YOUTH SKILLS IN THE DIGITAL AGE

Technical and vocational education and training (TVET) can be a solution for youth unemployment. Unfortunately, COVID-19 has resulted in decreased enrollment, assessment, and certification. To produce a more competitive workforce, the Technical Education and Skills Development Authority (TESDA) in the Philippines implemented TVET programmes to prepare the youth for the digital age. Today, TVET institutions are adopting alternative modes of training delivery. For greater and easier access, these are made available on e-learning platforms and mobile apps.

Digital skills can ensure learner resilience. Despite challenges, the pandemic is creating a tech-savvier generation. All is not well, however, for those who live in rural areas, as most of them cannot work and learn remotely due to lack of Internet access.

BETT has been helping countries transform education so educators and learners can fulfill their potential. Partnering with industries is critical to setting learners towards their career journeys.

Today's students need specific knowledge and skills to thrive and shape the future world. These are closely related to mastering how to use technology and the Internet. In response, UNESCO has been promoting technology usage while ensuring gender equality and including the marginalised.

Technology is now being used across various education components, including content creation, access, learning, and teaching. But all these should push towards a less capital-intensive ecosystem. That has been Noon Academy's goal—allowing maximum engagement and fun through live sessions, chats, comments, breakout rooms, self-study content, and games.

THEME #11

## Teaching and Learning Innovation and Research

SUBTHEME #1

### TEACHING INNOVATION AND RESEARCH IN MATHEMATICS

Mathematics teachers and students are facing difficulties with online learning. But these can be addressed aided by organisations like SEAMEO and more advanced universities in the region. Organisations can provide more capacity-building programmes for teachers. Educators, meanwhile, can integrate ICT use into their teaching strategies and plans. They can use the Analyse, Design, Develop, Implement, and Evaluate (ADDIE) Model, for instance, to innovate the way mathematics is taught at present.

SUBTHEME #2

### TEACHING INNOVATION AND RESEARCH IN TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING

There are many ways to continue the teaching-learning process even during the pandemic. Online learning is one way to go in TVET. That is how many universities around the globe have been coping. Institutions that are just staring their journey towards digitalisation can take a page from the books of the University of Tsukuba, STOU, the University of the Philippines (UP), and Universitas Pendidikan.

SUBTHEME #3

### RESEARCH ON DIGITAL LEARNING

We are facing the third wave of online learning. It is a tragedy, however, since progress had to be accelerated by the COVID-19 pandemic. But it is good overall in that we are rethinking education to get students ready for the digital age. While digitalisation is the way to go, we must help learners avoid overusing the Internet, as that could lead to undesirable habits and behaviours. As education front liners, we also need to give teachers access to quality professional development if they are to continue delivering quality education and improving student learning outcomes.

SUBTHEME #4

## INNOVATION AND RESEARCH IN LANGUAGE TEACHING

A lot of the traditional ways to teach is becoming obsolete. Students are no longer as engaged. To gain their attention, educators need to harness the full potential of digital technologies in delivering more relevant content. They need to design lessons that are more inclusive, universal, and relatable. As the world continues to evolve, so should education.

SUBTHEME #5

## RESEARCH AT THE CLASSROOM AND SCHOOL LEVELS

Change is possible, even in education. But to make this happen, the academe needs to gear up for using technology and be innovative. One way schools can keep up with the times is by heeding the recommendations of researchers and replicate best practices from various countries.

SUBTHEME #6

## TEACHING INNOVATION AND RESEARCH IN HIGHER AND SPECIAL EDUCATION INSTITUTIONS

Inclusion does not only apply to the abled but should also apply to the disabled and differently abled. That is what education for all (EFA) truly means. This session proposes ways by which we can make education universal even for children with disabilities.

SUBTHEME #7

## INNOVATION AND RESEARCH IN SCIENCE

We can enhance science teachers' processing skills through in-service training. Only then can they improve students' understanding of biodiversity, which would lead towards sustainability. They should also be trained in socio-scientific-based instruction. Students, meanwhile, can better learn if educators use digital game- and project-based learning strategies. Both can benefit from training modules for self-development.

SUBTHEME #8

## RESEARCH ON DIGITAL LEARNING

A teacher's ability to use technology affects student interest in learning. Today's educators need to understand that the learners are digital natives. Traditional approaches to teaching, therefore, would not apply to them. It is time for teachers to change their ways if they are to prepare learners for the digital era.

SUBTHEME #9

## INNOVATION AND RESEARCH IN TEACHING SCIENCE, TECHNOLOGY, ENGINEERING, ARTS, AND MATHEMATICS

STEM skills alone will not be sufficient to create the leaders we need to achieve the SDGs. Most of these transcend borders and require people to collaborate across cultures, after all. They also need to have good communication skills, hence the importance of science, technology, engineering, arts, and mathematics (STEAM) education.

SUBTHEME #10

## RESEARCH AT THE CLASSROOM AND SCHOOL LEVELS

Only by knowing their students well will educators truly become successful at training them to reach their full potential. One way will not work for all. As such, teachers need to be well-trained and -equipped for their respective subject areas.

THEME #12

## Transforming Education in the Post-COVID-19 Era

This session showed how education has changed probably forever when COVID-19 struck. The panelists shared how their organisations adapted to the changes the pandemic brought. Even while the pandemic severely impacted education and taken a heavy toll on learning, it gave us the chance to change and build a flexible and more resilient system. It allowed countries and organisations to work together to find innovative solutions to the widening learning gap due to a digital divide.

ECCD has a critical role to play in transforming education. And it is achievable through comprehensive multisectoral approaches that promote the inclusive and optimal well-being of children. And anyone can obtain basic literacy and mathematical skills from mobile learning apps. These can, in fact, serve as alternative learning tools for the urban poor and indigenous populations.

Amidst the lockdowns, universities had to mix various learning modes together to meet challenges. This change could usher global trust in the academe, offer new academic disciplines, and lead to transborder education in the future. These would, however, require capacity building for teachers and school leaders so they can employ new technologies for teaching and learning.

THEME #13

# Post-COVID-19 Pandemic Reform and Innovation

SUBTHEME #1

## K–12 MODELS AND EDUCATIONAL INNOVATION

Professional development programmes should combine theories with practices. Educators must have practical dialogues with students to assess their needs and behaviours. These programmes must also be sustainable rather than one-off training sessions. And their content must fit their target communities or industries. Bringing like-minded people together to kick-start them can thus help.

The term "innovation" should not only apply to using technology. It should encompass everything that allows us to change what we do. In fact, technological innovation alone can be considered disempowering, as many other innovations do not involve technology use.

SUBTHEME #2

## TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING IN THE FOURTH INDUSTRIAL REVOLUTION

TVET prepares learners for high-tech working environments. That makes it crucial for them to know the industries' skill requirements so they can obtain these in school. TVET institutions, therefore, should equip current and future workers with broad range of competencies, as the jobs of tomorrow have yet to be created.

SUBTHEME #3

## TRANSFORMING HIGHER EDUCATION IN THE DIGITAL ERA

All forms of education need to transform. Digital technology must thus be seen as a tool that facilitates change.

In the future, higher education needs to become more sustainable, equal, inclusive, resilient, and agile. Higher education institutions (HEIs) must study and understand their environments and contexts before coming up with strategic plans. Only by doing so can they truly satisfy learners' needs.

THEME #14

# Science, Technology, Engineering, and Mathematics Education Design to Improve Workforce Quality

SUBTHEME #1

## POLICY DESIGN FOR SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS WORKFORCES

STEM workforce policies must be evidence-based. That is what works for many industries, including agriculture and healthcare. Unfortunately, the education sector's use of evidence remains limited, thus stagnating outcomes. But if policies undergo systematic review, policymakers can identify the most effective ones more accurately, leading to the desired results.

SUBTHEME #2

## SCHOOL IMPROVEMENT TO STRENGTHEN SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS EDUCATION

School performance can improve through interventions, such as training all students to read. But without adequate support systems and structures, that may not be possible. Some tools like the Technological Pedagogical Content Knowledge (TPACK) Model can also help teachers derive knowledge from practice teaching aided by technology. That way, they can develop 21st-century skills that will help them improve their instructional strategies and strengthen STEM education.

SUBTHEME #3

## INTERACTIVE SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS TEACHING STRATEGIES

This session summed up what STEM education is and why it is effective. In it, the participants were shown illustrative examples to teach using integrated STEM approaches.

SUBTHEME #4

## INTEGRATING SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS INTO THE SCIENCE CURRICULUM THROUGH AUTHENTIC PROBLEM-BASED LEARNING EXPERIENCES

This session described how countries can integrate STEM education into the science curriculum through two case studies—Inspiring Science in Thailand and HEBAT Sains in Malaysia.

THEME #15

## The Sufficiency Economy Philosophy and the Society in the New Normal: Balancing Reforms to Achieve the Sustainable Development Goals

The Sufficiency Economy Philosophy connects sufficiency with sustainability. It is based on the concepts of moderation, reasonableness, and prudence. If we employ sufficiency in life, progress ensues and, later on, sustainability, which affects the economy, the society, the environment, and culture.

Our wants and desires are not the measure of moderation, our capabilities are. To become sustainable, nations should not follow trends blindly but instead manage risks guided by knowledge and moral principles.

Lifelong learning and informal education are critical to attaining sufficiency and, consequently, sustainability. Culture lies at the heart of development policies. And if we truly want a sustainable world, we need to overcome overpopulation, overconsumption, and environmental degradation, which are causing insufficiency.

THEME #16

## Southeast Asian Education Future Agendas

The presentations in this plenary session touched on some common themes concerning the future education agendas of countries in Southeast Asia. The education ministers also expressed their commitment and support for the programmes and projects enumerated in *SEAMEO Strategic Plan 2021–2030.*

The various youth leaders and education ministers also enumerated the responses they have been making to the pandemic. They have been making strides most especially in reinforcing digital education through the use of e-platforms and communication applications.

While the shift to remote education in Southeast Asian countries has not always been smooth and without challenges, they have been striving to invest in the necessary infrastructures to make network connection either faster or available.

# SEAMEO Congress 2021

SEAMEO conducted the first SEAMEO Education Congress on 26–29 March 2001 with the theme, "Challenges in the New Millennium." Back then, the congress had around 400 participants, including teachers or educators and school administrators across all education levels, along with representatives of the education ministries of the SEAMEO member and associate member countries.

The second congress, meanwhile, was held on 27–29 May 2004 in partnership with UNESCO. Both the congress and the expo focused on the theme, "Adapting to Changing Times and Needs." It brought together 997 participants from 40 countries, including education decision-makers from all levels, academic researchers, educational practitioners, development agency staff members, nongovernmental organisation (NGO) specialists, and students.

In 2014, SEAMEO, in collaboration with the British Council and IPST, relaunched the SEAMEO Congress with the theme, "Southeast Asia in Transition: Rethinking Education, Science, and Culture for Regional Integration." The third congress was held on 21–22 October in Bangkok, Thailand, with 472 attendees.

Time passed, and in the beginning of 2020, major educational disruptions forced more than 1.5 billion learners worldwide and over 60.2 million teachers out of their classrooms due to the COVID-19 pandemic. In Southeast Asia alone, around 247 million learners shifted to online or flexible learning options to continue their studies from the comfort of their homes to comply with strict social distancing protocols and government-imposed lockdowns. The unprecedented case severely affected the education sector in the region and if anything is certain, it is that a new normal will result from the experience. The old way of learning has become untenable.

It is, however, undeniable that while the pandemic disrupted education, the school closures did usher in the era of distance and flexible learning amongst SEAMEO member countries. Given that, exchanging perspectives regarding current global issues that are likely to affect the region requires a platform so stakeholders can learn from one another and reach a consensus on how education, science, and culture transformation can effectively contribute towards promoting human development at the community, country, and regional levels.

Despite the increasing number of people who actively use technology daily, the importance of ICT was magnified due to community-wide lockdowns. It is, therefore, safe to assume that companies will consider ICT literacy an essential skill requirement for all employees, both existing and incoming. As such, today's students need to acquire ICT know-how and skills if they are to thrive and not just survive in the 21st century. To turn that aspiration into reality, education in Southeast Asia should consider making ICT training part of the so-called "new normal." Educators and academic administrators should give students the knowledge, skills, and attitudes they need for the 21st century.

The Alpha Generation needs to learn wherever and whenever by using and enjoying the countless ICT benefits to become resilient in the face of any threat. But the drawbacks and challenges in using ICT, apart from the health and mental hazards brought on by quarantines, need to be addressed. Issues, such as data breaches; information theft; and social challenges like digital inequality, online propaganda, and radicalisation, are just a few of these.

It is, therefore, fortunate that we are in the midst of Industry 4.0. We are ushering in a new era that further extends digitisation aided by disruptive technologies. Innovations, such as AI and robots, virtual reality (VR), the Internet of Things (IoT), autonomous vehicles, three-dimensional (3D) printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing are changing our lives, even the way we learn.

That is why during the Fourth Strategic Dialogue for Education Ministers (SDEM) held in 2019 in Kuala Lumpur, Malaysia, SEAMEO noted the technological advances brought on by Industry 4.0 to address the ensuing digital divide. The education ministers in attendance called for the transformation and acceleration of innovation. They believed that can be addressed by collaboration amongst the organisation's members and partners. To ensure that no learner gets left behind even as COVID-19 continues to hold the world hostage, they pushed for policies and programmes that can level the playing field in accordance with the SDGs.

The international community adopted the SDGs in 2015. SEAMEO is one with many other educational organisations in realising SDG 4, also known as "Education 2030," which calls for more equitable, inclusive, and better quality lifelong learning for all. In line with that, we launched the *SEAMEO Education Agenda for 2015–2035,* comprising seven priority areas each for education, science, and culture. These new agendas are aligned with the SDGs. But they will not be achievable without the cooperation of our member and associate member countries, affiliate members, and partners.

The ensuing pandemic pushed us to collaborate with the Ministry of Education of Thailand to convene SEAMEO Congress 2021, albeit virtually. It will serve as a platform for policymakers, teachers, researchers, and other stakeholders to share effective policies, fruitful teaching experiences, and new learning paradigms and practices that will prove useful in the digital age. Together, we hope the congress will again result in a regional commitment to ensure educational equity and provide opportunities for all in light of rapid and disruptive technological developments, hence the chosen theme, "Transforming Southeast Asian Education, Science, and Culture in the Digital Age."

SEAMEO Congress 2021 aims to serve as a wisdom platform for educational stakeholders, both at the national and international levels, to reflect on how shared expertise can help enhance policymaking and support innovative teaching and learning paradigms to help students remain competitive while strengthening their values. It will also give the participants an opportunity to craft new learning paradigms where academic, social, and cultural virtues and values shape not only their characters but also strengthen their moral fibres. That way, they can successfully become part of a knowledge-based society and cope with emerging global demands and challenges.

SEAMEO Congress 2021 has three primary goals, namely:

- To serve as a platform for conversations regarding innovations, breakthroughs, and best practices in education, science, and culture to achieve the SDGs by 2030

- To examine the sustainable development, networking, and strategic collaboration platforms educational stakeholders in Southeast Asia and beyond use to enhance the quality and relevance of learning and ensure wider access to education in the region

- To reach a consensus to concretise transformative educational programmes and action plans to develop a dynamic synergy of strengths, strategies, and standards so more inclusive and innovative learning paradigms and education policies can be implemented to meet global standards

At the end of SEAMEO Congress 2021, we hope to come up with a regional plan of action that identifies transformative education pillars through extensive conversations and discussions amongst our partners, co-organisers, resource persons, experts, and participants.

SEAMEO Congress 2021 should help member countries cope with their rapidly changing environments by crafting common pathways so the Alpha Generation can get quality education that addresses global requirements. It should also strive to ensure that no one gets left behind in accordance with the mandates of the SDGs.

We also hope the regional plan of action that results from the congress contributes to achieving inclusive and equitable education for all. By 2030, SEAMEO envisions a region full of highly skilled workers and lifelong learners who harness the power of technology.

As expected, more than 15,000 participants from various Southeast Asian countries and beyond took part in SEAMEO Congress 2021. The attendees include policymakers, academic leaders, teachers, researchers, school administrators, government agency staff members, and more who listened and learned from our moderators, panelists, and speakers from in and outside Southeast Asia.

# 2

# SEAMEO Congress 2021 Opening Ceremony

# Opening Ceremony

Before all the sessions, the participants witnessed the opening ceremony where the SEAMEO Secretariat Director, Dr. Ethel Agnes P. Valenzuela, gave the opening remarks. This was followed by a welcome message from the Minister of Education of Thailand, H.E. Ms. Treenuch Thienthong, and a keynote address from the Senior Minister of Education of Malaysia and SEAMEO Council President, H.E. Dr. Radzi Jidin.

The attendees also witnessed the official launch of the two new additions to SEAMEO's roster of regional centres and network—SEAMEO STEM-ED and SEAMEO SEPS. The launch was presided by Ms. Thienthong who thanked the SEAMEO Secretariat and the organisation's regional centres and network for their support in opening the two centres in Thailand. She stressed that the Ministry of Education of Thailand is set to fully back these two centres as they embark on fulfilling their unique goals.

Ms. Thienthong stated the objectives and visions of both centres. While SEAMEO SEPS will serve as a centre of excellence (CoE) for rationalising and applying the principles and values in the Sufficiency Economy Philosophy to provide a professional learning and knowledge resource centre, SEAMEO STEM-ED will serve as a regional research and capacity-building CoE for STEM education.

Ms. Thienthong believes these centres will carry out many projects that will complement the efforts of their fellow SEAMEO regional centres. She hopes teachers, education leaders, and stakeholders will greatly benefit from the training sessions, workshops, forums, exchanges, and joint research the centres will provide in the near future. SEAMEO SEPS and SEAMEO STEM-ED will undoubtedly promote experience sharing and generate a wealth of ideas that could enhance and strengthen cooperation in education.

**Opening Remarks**

Dr. Ethel Agnes P. Valenzuela

**Welcome Message**

H.E. Ms. Treenuch Thienthong

**Keynote Address**

H.E. Dr. Radzi Jidin

# 3

# SEAMEO Congress 2021 Plenary Sessions

# Plenary Sessions

Five plenary sessions were conducted during SEAMEO Congress 2021. Highlights for each are presented in the next sections.

Plenary Session #1 Reimagining People Transformation towards the Sustainable Development Goals

Plenary Session #2 Building Back Better: Actions for Digital Transformation in the Artificial Intelligence Era

Plenary Session #3 Transforming Education in the Post-COVID-19 Era

Plenary Session #4 The Sufficiency Economy Philosophy and the Society in the New Normal: Balancing Reforms to Achieve the Sustainable Development Goals

Plenary Session #5 Southeast Asian Education Future Agendas

PLENARY SESSION #1

# Reimagining People Transformation towards the Sustainable Development Goals

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Akha Ama Coffee
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**Mr. Mark Reid**
Global Teacher Prize Ambassador
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**Mr. Chor Meng Tan**
Senior Director
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**Atty. Maria Helen Dabu**
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**Dr. Shima Barakat**
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In his presentation, Mr. Lee Ayu Chuepa shared how important wisdom and respect are to his company. He also enumerated the values that Akha Ama Coffee espouses that he believes is also the key to transformation towards the achievement of the SDGs. The Alpha Generation, he said, should learn to respect their elders since they can serve as their guide in life. He also iterated the importance of sustainable agriculture to ensure quality yields and equitable income generation. And like his company, inclusive participation from everyone is critical to success. These things, he shared, are what led his company to be hailed as one of the top 20 high-impact enterprises in Thailand in 2020 by the United Nations Development Programme (UNDP).

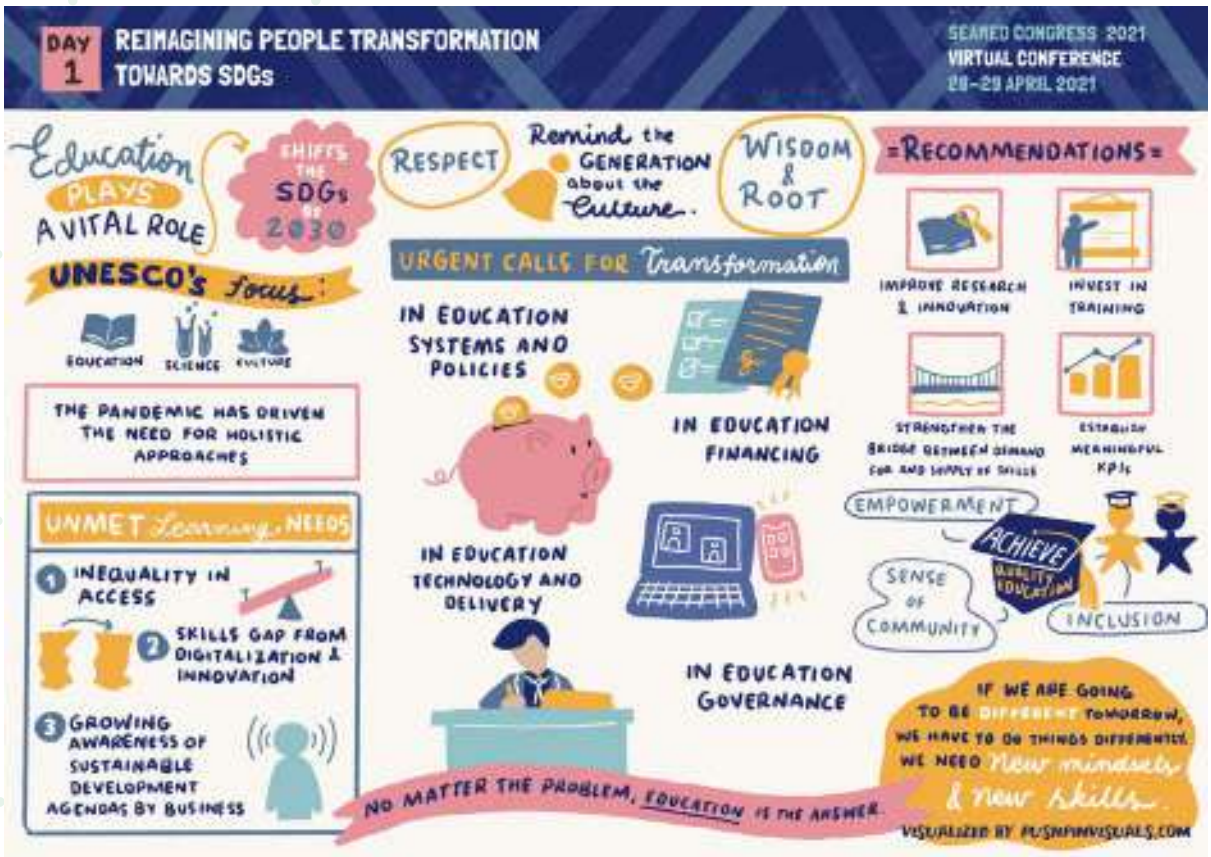
Mr. Mark Reid's presentation, meanwhile, espoused the value of the three Ts in furthering education. He shared that while people may be wary of shifting to the K–12 curriculum, his own experience with multidisciplinary teaching, specifically Arts Education, allowed him to work with colleagues using the ADDIE Model to support the development of the Career Education Curriculum. With these, students could transition to careers in skilled trades, technology, and healthcare as their pathway to graduation. The change allowed learners to accelerate their post-secondary vocational training while satisfying high school graduation requirements and the expectations of skilled trades regulatory bodies. It also made many differences, such as improved education quality, gender equality, decent work and economic growth, reduced inequalities, sustainable cities and communities, and partnerships to reach a common goal. The change can help students set their own trajectories. As a result, we will be closer to achieving the SDGs.

Mr. Chor Meng Tan believes education is not only a human right but a responsibility. John Wiley & Sons, he said, is attempting to address unmet learning needs. It has been helping organisations enhance their employees' skills for many years now. Wiley has been addressing needs that include unequal access to learning opportunities, a widening skills gap, and difficulties with integrating the SDGs into business strategies. To transform people, research and innovation must complement the SDGs and the skills supply must meet the demand. Organisations must train and educate their employees about the SDGs, establish related key performance indicators (KPIs) to track their progress, and make their hiring processes equitable and transparent.

In her presentation, Atty. Maria Helen Dabu discussed how the COVID-19 pandemic could set back gains made towards achieving the SDGs by as much as 10 years. We are also facing challenges, including climate change, natural disasters, conflicts, worsening rates of poverty and unemployment, the contraction of national economies, and the rise in countries' foreign borrowings. All these could put a damper on the SDGs, leaving no learner behind. As such, we need to heed the urgent call for transformation. That change should include transforming education. That means changing systems and policies, financing, technologies and delivery methods, and governance. Without making the necessary modifications, we cannot hope to achieve the SDGs.

Finally, Dr. Shima Barakat promoted the value of entrepreneurship education for sustainability. We need to embrace value creation instead of unfettered growth, which requires a new mindset that captures the essence of entrepreneurial thinking, curiosity, and creative problem solving unconstrained by disciplinary boundaries. We also need new skills, business models, and partnerships and move beyond pandering to consumerism and the latest fashion. We should develop a genuine interest in societal problems and get involved in multistakeholder dialogues and collaborations. Lastly, we need to avoid favouring and elevating only one type of innovation, business model, or entrepreneur. If we are to achieve the SDGs, we must build a system of awesome agents of change that will make a better world and ensure that all their ventures create value beyond profit.

The highlights of this plenary session are showcased in the following infographic.

PLENARY SESSION #2

# Building Back Better: Actions for Digital Transformation in the Artificial Intelligence Era

Dr. Non Arkarapprasertkul opened his presentation with a description of the mega trends we have been witnessing since 2020 that will continue on until 2030. Topping the list of trends are the shifting economic power, climate change and resource scarcity, technological breakthroughs, demographic and social changes, and rapid urbanisation. He cited that most of the world's population want to live in cities. But not all cities are good, we need "smart" cities. Building a smart city, however, requires "smart" people. That means employing pay-as-you-learn and mix-and-match models for education, allowing people to learn wherever and whenever, using AI in self-paced learning, and offering nontraditional career paths. In Thailand, all that translates to a three-pronged approach to making people smart, one that can be summed up into reinforcement, transformation, and building an efficient ecosystem. This approach requires promoting digital innovation, transforming businesses and creating new growth engines, and building an enabling digital engine. The country hopes to do just that in its vision of a digital Thailand.

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MODERATOR

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**Dr. Wang Libing**
Chief
Section for Educational Innovation and Skills
Development and Head of the Executive Office
UNESCO Bangkok
Thailand

In his presentation, Mr. Chalermpon Punnotok opened by saying that many robotics and engineering graduates, even exemplary ones, often find it difficult to land jobs. That is the primary reason why he established CT Asia Robotics, the first robot manufacturer in Thailand. Their Dinsow robots provide home care for senior citizens who are left home alone or do not have the resources to pay for nurses. And they not only produce robots for the country but also export to Japan. Their robots not only help with medical requirements but also provide entertainment to their elderly users and enable them to communicate over the Internet with loved ones. Some of their robots also provide medical assistance to doctors in hospitals and clinics. Others can help screen for cancer. At present, the company works with several universities to encourage more students to take up robotics.

Dr. Vijay Kumar, meanwhile, stressed the need for a global renaissance for education. To achieve that, learners need access to equitable education. The education sector needs to adopt technology to improve and should it truly move towards online delivery even after the pandemic, then parents and guardians need to adapt to changes as well since they are set to play a bigger role in educating their children. Not much can also be achieved without collaboration and cooperation amongst industries. We are now seeing drivers of disruptive educational transformation, which include digital learning innovation, the integrated science of learning, the Open Movement, and a new ecosystem for learning. If we are to build back better, we need to adapt to these changes. We must embrace the new landscape of learning opportunities where it is possible to learn aided by augmented reality (AR) and VR, obtain a digital diploma even from the world's top universities, STEAM education is taught, virtual internships are possible, and innovative assessment is applied.

Finally, Dr. Wang Libing shared how Thailand has been mainstreaming blended education as part of its effort to stem the adverse effects of the pandemic on education. He said that while many still find online learning suspect because it is not of the same quality as traditional learning obtained in school, it is proving effective amidst our current condition. Instead of focusing on the negative, therefore, we can focus on what online or blended learning can do for students not only during the pandemic but also in the future.

The highlights of this plenary session are summed up in the following infographic.


PLENARY SESSION #3

# Transforming Education in the Post-COVID-19 Era

Mr. Andreas Schleicher said that there is no time for complacence. If there is one thing the pandemic has taught us, it is that the future will always surprise us. So we need to prepare not just for the most likely future but more especially for the unexpected. Today's education should be about helping children have a reliable compass to navigate an increasingly complex, volatile, and uncertain world. Success is defined by identity, agency, and purpose. We need to open students' minds and hearts so they can take action even against the biggest threats to come. In the post-COVID-19 age, students need to think and act like first-class humans and not second-class robots.

In his presentation, Dr. Sheldon Shaeffer stressed that it is impossible to achieve the SDGs or fundamentally transform education without focusing first on ECCD. He discussed how ARNEC is guided by four principles to transform education—advocacy, knowledge based on ECCD, capacity building, and strategic partnerships. The organisation has been working towards providing universal ECCD by raising awareness on issues, such as responsive care giving; early learning opportunity provision; equity; clean, safe and secure environment provision; and crisis-related preparedness. To transform education post-COVID-19, we need to prioritise achieving SDG 4.2, that is, develop comprehensive multisectoral ECCD programmes fully backed by ministries beyond education, and ensure that "all" means "all."

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**Ms. Sooinn Lee**
CEO and Co-Founder
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**Dr. Kyosuke Nagata**
President
University of Tsukuba
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**Prof. Stephen Y.L. Cheung**
President
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**Dr. Brajesh Panth**
Chief of the Education Sector Group
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**Dr. Gabriel Cavalli**
Director of the International Centre for Teaching and Learning
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Ms. Sooinn Lee, meanwhile, described how a mobile app that her company created can help learners obtain basic literacy and mathematical skills and English language proficiency even while at home. The app, she said, has helped children in plantation schools learn better. Given the successful pilot tests, more schools are set to use the app throughout Indonesia as well.

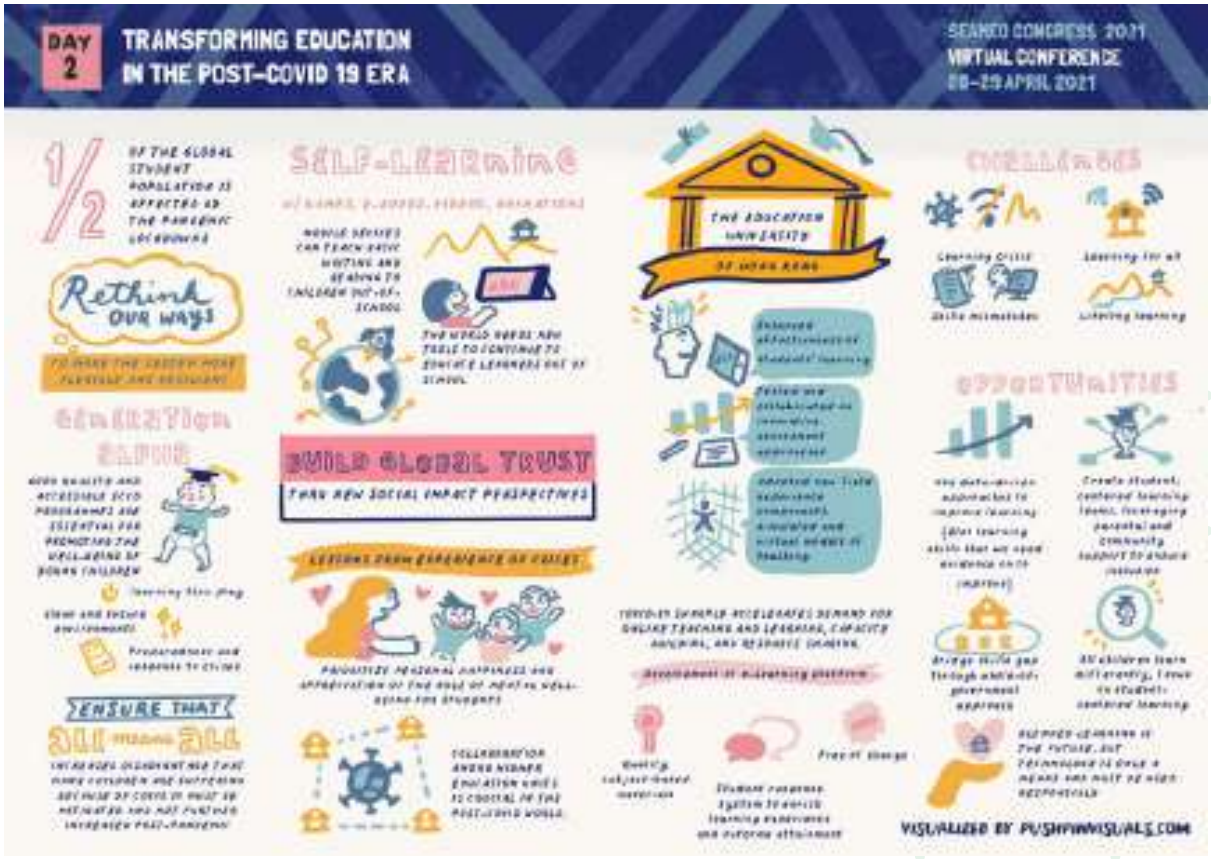
Dr. Kyosuke Nagata's presentation focused on how the University of Tsukuba made it possible for students to continue learning amidst the pandemic. Given the lockdowns, the institution has been implementing a mixed approach to learning, employing both face-to-face and virtual classes. Its researchers have also been involved in identifying preventive measures for the disease. And while extracurricular activities have not been banned, it currently limits these to be held inside the campus. The university has been devising ways to make HRD borderless by shifting to transdisciplinary education. This move should produce human resources with design-thinking capabilities who can solve complex problems beyond their chosen disciplines. Also due to travel restrictions, the institution began exchanging students virtually instead. It believes that while COVID-19 disrupted education, it did provide opportunities to build trust and shift to new learning paradigms that will carry on into the future.

In his presentation, Prof. Stephen Y.L. Cheung shared that even before the pandemic's onset, the Education University of Hong Kong has already been implementing the blended learning approach. This fact allowed it to rapidly adjust to school closures imposed at the start of 2020. Within weeks, the institution shifted to online classes; produced workshops, guidebooks, and tutorials for both teachers and students; and created future STEM classrooms and creativity hubs. Apart from ensuring that teachers can fully support online learning, the institution also collaborated with another university to devise innovative assessment approaches. In sum, he believed the pandemic accelerated the need for digital learning but also brought to light challenges like a disparity in learning ability and resources. In light of these, the university made it easier for students to learn by employing animated learning materials. And post-COVID-19, it plans to proactively reach out to international students, diversify its faculty members, improve stakeholder communication, and regularly review its management and operational strategies to keep pace with technological advancements.

Dr. Brajesh Panth began by telling the attendees about the unexpected effects of the ensuing pandemic on countries. He realised that while COVID-19 amplified learning gaps and inequities, it also showed the potential of educational technology (EdTech) solutions for scaling learning and equity. Amidst this situation, the Asian Development Bank (ADB) is striving to turn the crisis into an opportunity. The organisation put forth six action plans that can help institutions, teachers, and students cope. We need to reinforce professional teacher development with a range of pedagogical support strategies so we can engage female and marginalised students. We must also design professional development programmes for the education workforce in large-scale for greater impact on learning quality while localising them for inclusion. We should create student-centered learning teams, leveraging parental and community support, to ensure the inclusion of female and marginalised students and accelerate their learning. We also need to use data-driven approaches to improve the number of female leaders and encourage the leadership of females, especially in STEM. We must support school and district leaders to provide instructional leadership and enhance the capacity of teachers for a post-COVID-19 environment. Finally, we should enhance the long-term sustainability of the education workforce with cross-sector partnerships.

Finally, Dr. Gabriel Cavalli espoused that COVID-19 forced the world to rethink education. It pushed educators to focus on the digital or virtual. That means not just teaching students but also the staff members and teachers so they can all be on the same page. But unlike most experts, he stressed that we should build up professional identity more than content. As such, synchronous and asynchronous sessions need to be employed.

The following infographic features the highlights of this plenary session.


DAY 2
TRANSFORMING EDUCATION IN THE POST-COVID 19 ERA
SEAMEO CONGRESS 2021
VIRTUAL CONFERENCE
28-29 APRIL 2021
1/2
OF THE GLOBAL STUDENT POPULATION IS AFFECTED BY THE PANDEMIC LOCKDOWNS
Rethink OUR WAYS
TO MAKE THE SYSTEM MORE FLEXIBLE AND RESILIENT
Education Equity
ENSURE THAT
ALL means ALL
SELF-LEARNING
BUILD GLOBAL TRUST
THRU NEW SOCIAL IMPACT PERSPECTIVES
LESSONS FROM EPIDEMICS OF FEAR
THE EDUCATION UNIVERSITY OF YOUR AGE
CHALLENGES
Learning Crisis
Learning for all
Skills mismatches
Lifelong learning
OPPORTUNITIES
Bridge skills gap through upskill-or-reskill programmes
All children learn differently, I move to student-centered learning
VISUALIZED BY PUSHPINVISUALS.COM

PLENARY SESSION #4

# The Sufficiency Economy Philosophy and the Society in the New Normal: Balancing Reforms to Achieve the Sustainable Development Goals

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Centre Director
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Thailand

**Dr. Benno Böer**
Programme Specialist
Natural Sciences Unit
UNESCO Bangkok
Thailand

**Asst. Prof. Dr. Prapaporn Tivayanond Mongkhonvani**
Dean
School of Global Studies
Thammasat University
Thailand

**Mr. Colm Jordan**
Head of Sustainability Communications and Advocacy
Indorama Ventures PCL
Thailand

Dr. Priyanut Dharmapiya, in his keynote address, talked about the Sufficiency Economy Philosophy and the society at length. He stressed the importance of sufficiency for sustainability. People make decisions according to their virtues and knowledge. And both decisions and actions are typically based on three principles—moderation, reasonableness, and prudence. If we employ sufficiency in life, therefore, progress ensues and, later on, sustainability. This sustainability affects four dimensions—the economy, the society, the environment, and culture. Thailand is applying the philosophy to achieve the SDGs, which is especially useful in trying times, such as during the COVID-19 pandemic.

Dr. Suleeporn Bunbongkarn's presentation, meanwhile, began with a discussion of the philosophy's development paradigm. She then proceeded with a definition of sustainable development. These two concepts have been the backbone of Thailand's national development. Our wants and desires, she said, are not the measure of moderation, our capabilities are. To become sustainable, we should not follow trends blindly. We should manage risks guided by our knowledge and moral principles. And even post-COVID-19, we should make sustainability part of the new normal.

Dr. Supakorn Buasai began by introducing EEF, which was founded to reduce the inequality in education in Thailand. Today, the foundation maintains an information system that provides educational researchers data they can use to analyse the state of education and monitor progress made towards making learning available to all. He espoused focusing on five game changers to make EFA a reality—food, family, school, travel, and community security. If we want to help everyone have access to quality education, we must ensure these exist.

In her presentation, Mrs. Somlak Charoenpot discussed the importance of lifelong learning and informal education to attaining sufficiency and, consequently, sustainability. She said that culture lies at the heart of development policies. She then shared the seven cultural priorities of SEAMEO for the next 10 years. It is important for economies that want to achieve sustainability to go local instead of global. Guided by our morals and knowledge, we should become self-reliant, reasonable, and self-immune. Only then can we have quality life. We need to inspire creativity, professionalism, and excellence. We must promote ethical integrity, mutual respect, and inclusivity. We should seek to balance heritage preservation with embracing change. And so we need to pledge our commitment to educational practitioners, professionals, and communities.

Dr. Benno Böer's presentation focused on relating the Sufficiency Economy Philosophy with the pandemic and UNESCO's efforts to achieve the SDGs. He also spoke about challenges, including overpopulation, overconsumption, and environmental degradation, which are causing insufficiency. These challenges need to be addressed if we are to survive. The new normal should be a period where all of humanity comes to its senses and focus on what is important. We need a new set of ethics, one where we respect and form a coalition with nature and conserve the ecosystems we have and restore what we have lost. We must address climate change by making schools adhere to the *UNESCO Green Academy Guidelines.* We should convert educational institutions into environmentally friendly places, discuss and prioritise real existing socio-ecological issues, develop plans that actively contribute to achieving the SDGs, and conduct field excursions to UNESCO-designated sites to reconnect students with nature.

In her presentation, Asst. Prof. Dr. Prapaporn Tivayanond Mongkhonvanit stressed the importance of resilience in education. But that is not possible if we cannot consolidate relevant data and improve communications within universities and with the public. Universities should thus consider the SDGs as an interconnected organising principle. They should give lecturers, faculties, and universities more opportunities to work together in a transdisciplinary way. They must serve as the same language that amplifies what institutions are already doing. In a sense, they should substantiate universities' visions and missions. That is why Thammasat University maps SDG-relevant content in its teaching, research, and outreach efforts.

Finally, Mr. Colm Jordan talked about Indorama Ventures's efforts to achieve the SDGs. He specifically spoke about its knowledge-sharing activities that aim to help schools achieve sustainability. Infrastructures, regulations, and knowledge trends, he stated, are driving the circular economy. We need to recycle goods if we are to achieve sustainability.

The following infographic sums up the most important points discussed in this plenary session.


PLENARY SESSION #5

# Southeast Asian Education Future Agendas

The Youth Leaders shared some common concerns on the future education agendas of Southeast Asian countries. They talked about a sense of responsibility, attention to climate change and innovation.

The education ministers also expressed their commitment and support for the programmes and projects enumerated in *SEAMEO Strategic Plan 2021–2030.* The education ministers also enumerated the responses they have been making to the pandemic. They have been making strides, most especially in reinforcing digital education through the use of e-platforms and communication applications.

While the shift to remote education in Southeast Asian countries has not always been smooth and without challenges, they have been striving to invest in the necessary infrastructures to make network connection either faster or available.

In fact, the pandemic, according to the speakers, accelerated much-needed educational system reforms. The shift to digital education is long overdue. But while some countries are ready for online learning, most are not. Most of them do not even have robust Internet infrastructures to provide access to their entire population. It also does not help that not all students have digital devices to use for digital learning. A digital divide is certainly evident and that needs to be addressed before all nations can fully transition to education in the new normal, typically a mix of face-to-face and virtual approaches.

MODERATOR

**Dr. Pornpun Waitayangkoon**
Centre Director
SEAMEO STEM-ED
Thailand

YOUTH LEADERS

**Mr. Phiyachon Phumwiphat**
Grade 9 Student
Gainesville International School
Thailand

**Ms. Alamanda Shantika Santoso**
Founder
Binar Academy
Indonesia

**Mr. Prim Paypon**
Executive Director
Asian Institute of Management—Dado Banatao Incubator
Philippines

SOUTHEAST ASIAN MINISTERS OF EDUCATION

**H.E. Dr. Radzi Jidin**
Senior Minister of Education and SEAMEO Council President
Malaysia

**H.E. Mr. Lawrence Wong**
Minister for Education and SEAMEO Council Vice President
Singapore

**H.E. Dato Seri Setia Awang Hj Hamzah bin Hj Sulaiman**
Minister of Education
Brunei Darussalam

**H.E. Dr. Hang Chuon Naron**
Minister of Education, Youth and Sports
Cambodia

**H.E. Mr. Nadiem Anwar Makarim**
Minister of Education and Culture
Indonesia

**H.E. Assoc. Prof. Dr. Phout Simmalavong**
Minister of Education and Sports
Lao People's Democratic Republic

**H.E. Dr. Leonor Magtolis-Briones**
Secretary of Education
Philippines

**H.E. Ms. Treenuch Thienthong**
Minister of Education
Thailand

**H.E. Dr. Armindo Maia**
Minister of Education, Youth and Sports
Timor-Leste

**H.E. Assoc. Prof. Dr. Nguyen Van Phuc**
Deputy Minister of Education and Training
Vietnam

A lot of the students and teachers also need training on using the Internet, digital devices, and applications. Without assistance, digital education resources, no matter how well-crafted, may not be effective. In this regard, policies would also be useless if they cannot be implemented due to lack of infrastructure. For now, however, the digital education centres that have been put up in areas that sorely lack resources are helping. That, of course, is only a stopgap solution. More needs to be done if we are to ensure that learning continues no matter what crisis, such as the ensuing pandemic, may come in the future.

See the following infographic for a summary of this plenary session's highlights.



DAY 2
SOUTHEAST ASIAN EDUCATION FUTURE AGENDAS
SEAMEO CONGRESS 2021
VIRTUAL CONFERENCE
28-29 APRIL 2021
"The pandemic has proven to be an IMPETUS TO THINK OUTSIDE THE BOX IN EDUCATING OUR FUTURE GENERATIONS."
DIGITAL LEARNING has now become the NEW NORMAL, something indispensable and seen as one way to MINIMIZE LEARNING LOSS.
We have to ensure that no LEARNER is LEFT BEHIND.
Equip underprivileged children with laptops, hope to BRIDGE THE DIGITAL DIVIDE
EQUIP both students and teachers with DIGITAL SKILLS
Technology as a tool for the future of the most vulnerable children.
DIGITAL EDUCATION POLICY designed to create a digitally fluent generation
We have to move forward from one-way learning and utilize technology
Make learning...
Fun
Accessible
Inclusive
Increase the learning experience
The human component should be the forefront of learning experiences
Students should be given the freedom to learn and fail
{Recommendations}
Education ministry commitment support to SEAMEO strategic plan and SEAMEO COVID-19 Assistance for Responsive Educational Support Programme (SAGES)
Response to pandemic by reinforcing digital education using e-platform
Transition to remote education
Invest in infrastructure and network connections
Ministers highlighted action steps to meet the most pressing issues of the pandemic
The pandemic has been cited as accelerated digital reformed education system
Common concerns: access to internet, serving learners in rural areas, low-income students, digitally challenged
VISUALIZED BY PUSHPINVISUALS.COM

# 4

# SEAMEO Congress 2021 Parallel Sessions

# Parallel Sessions

SEAMEO Congress 2021 featured four parallel sessions that participants could choose from. Details on each are presented in the succeeding sections.

Parallel Session #1 Transforming Education for Quality Learning Outcomes

Parallel Session #2 Building a Future for the Alpha Generation

Parallel Session #3 Post-COVID-19 Pandemic Reform and Innovation

Parallel Session #4 Science, Technology, Engineering, and Mathematics Education Design to Improve Workforce Quality

PARALLEL SESSION #1

# Transforming Education for Quality Learning Outcomes

## THEME #1
## TRANSFORMING EDUCATION FOR QUALITY AND EXCELLENCE

MODERATOR

**Dr. Wesley Teter**
Senior Consultant for Educational Innovation and Skills Development
UNESCO Bangkok
Thailand

PANELISTS

**Dr. Manos Antoninis**
UNESCO Global Education Monitoring Report
France

**Dr. Silvia Montoya**
Director
UNESCO Institute of Statistics
Canada

**Dr. Fengchun Miao**
Chief of the Unit for ICT in Education
UNESCO Headquarters
France

**Dr. Carlos Vargas-Tamez**
Head of the Secretariat
UNESCO International Teacher Task Force
France

Dr. Manos Antoninis said the *Global Education Monitoring (GEM) Report* primarily links data to action in the field of education. Gender gap statistics and country profiles are only some of the data the report publishes, which can help readers formulate policies that would help them attain better education quality.

In her presentation, Dr. Silvia Montoya stated that the world is committed to honouring the *Education 2020 Framework for Action's* call to foster improvements in educational outcomes. And that benchmarks will support political objectives and improve outcomes through strengthening measurements for priority areas, prioritising and coordinating data-related efforts, establishing systematic reviews to support political objectives, and implementing mutual accountability. These benchmarks will allow us to focus on a small number of priority policy areas linked to the achievement of SDG 4. Benchmark targets will be set at the national level voluntarily and supported by regional bodies for each priority policy area. Regular monitoring against these will drive commitment and focus on where investments are needed. Dashboards and regular monitoring reports will be used to visualise progress at the country and regional levels. And regional bodies are critical to ensure we are on track to endorse the benchmark approach by November 2021.

Dr. Fengchun Miao, meanwhile, talked about the humanistic approach to technology use. This approach requires international, government or public, major IT platform or private, and civil governance to come up with ICT in education or digital learning policies; aid in teacher and pedagogical technology use; create resilient technology-enabled school systems; utilise big data and AI tools in learning management; and ensure the openness of content, tools, and practices. All these efforts should lead to a humanistic approach that ensures ethical, inclusive, and human-centered use of AI in education. That translates to promoting the use of open educational resources (OERs) and open education practices.

Finally, Dr. Carlos Vargas-Tamez discussed how teachers can contribute to transforming education in the digital age. Teachers know how important student-centered pedagogies are, that fun and enjoyable learning can maintain social connections and stimulate interest for learning continuity, and should be lifelong learners. They also know how important it is to create a space for socio-emotional support, that the interplay between socio-emotional support and peer learning is critical, and that more support and training are needed in this area. They know how essential collaboration, feedback, and time and resources are. As such, they must be given the autonomy to modify curricula, pedagogies, and assessment models; reach vulnerable learners and their families to ensure the inclusion of the marginalised; bridge the information gap between district and national directives and local contexts; provide psychosocial support to students and their families; and build peer networks for the sharing of best practices and provision of socio-emotional support.

The following infographic sums up the insights shared by the panelists in this session.


DAY 1
TRANSFORMING EDUCATION FOR QUALITY AND EXCELLENCE
SEAMEO CONGRESS 2021
VIRTUAL CONFERENCE
28-29 APRIL 2021
TRANSFORMING EDUCATION INVOLVES A Theory of Change TO LINK
GLOBAL & NATIONAL
INCLUSION & FINANCING FOR EQUITY
SDG 4 BENCHMARKS
IMPORTANT TO TALK ABOUT EXPERIENCE IN THE MIDDLE OF THE PANDEMIC AND HOW TO SUPPORT AND COMPLY WITH SDG4.
FIND THE GAPS
LOOK AT THE DATA
PRIORITY POLICY AREAS
BASIC EDUCATION
PRE-PRIMARY
TEACHERS
EXPENDITURE
EQUITY
ALIGN ADVOCATE SUPPORT
WE NEED TO PREPARE OURSELVES. Education IS NOT ONLY ABOUT TEACHING STUDENTS WE NEED TO GIVE THEM compass to navigate
Success IN EDUCATION NOWADAYS IS ABOUT...
IDENTITY
COMPASSION
COURAGE
UNESCO ICT IN EDUCATION
THE HARD WORK OF TEACHERS IN ADAPTING TO THE CHALLENGE OF THE PANDEMIC IS SOMETHING WE CAN LEARN FROM
TEACHER'S AGENCY & AUTONOMY RESULTS TO:
MENTORING AS A PEER PAIR
REACHING OUT TO THE COMMUNITY
TEACHERS ARE NOT JUST CURRICULUM MAKERS, BUT ALSO POLICY-MAKERS
UNESCO'S GOAL FOR A.I. IN EDUCATION
• AI-READY POLICY-MAKER
• ETHICS ON AI EDUCATION
• LEVERAGE DATA TO MONITOR LEARNING
• ALGORITHM AND AI TOOLS FOR PUBLIC GOOD
• AI COMPETENCY DEVELOPMENT
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THEME #2

# EMPOWERING TEACHERS AND LEARNERS TO ADDRESS LEARNING POVERTY

MODERATOR

**Dr. Ho Thanh My Phuong**
Centre Director
SEAMEO RETRAC
Vietnam

PANELISTS

**Dr. Krissanapong Kirtikara**
Chairman
Princess Maha Chakri Award Foundation
Thailand

**Mr. Francisco Benavides**
Regional Education Adviser
UNICEF East Asia and Pacific Regional Office
Thailand

**Ms. Jarusri Jiravisitkul**
Senior Manager—Education
Kenan Foundation Asia
Thailand

**Dr. Darla K. Deardorff**
Executive Director
Association of International Education Administrators
U.S.

**Mr. Francis Jim Tuscano**
Global Teacher Prize Awardee
Philippines

Dr. Krissanapong Kirtikara began by saying that teachers are critical to learning. They serve as the foundation of education. He iterated the importance of *SEA-TCF* in guiding our educators. Teachers need to understand the students' situations and problems and should have the pedagogical knowledge to help them learn. To teach with passion, however, they need the support of school principals and their peers. They must engage with the community. The learners in Thailand need equal access to education but many cannot even understand the language teachers use. And those who are financially challenged may not have the right skills to learn. Many are always in danger of dropping out and most need to relate what they learn to getting a job. Teachers need to rethink or repurpose learning. Students, on the other hand, need to learn things they can apply both to the local and global contexts. But many cannot learn because their teachers are unmotivated or they themselves are not prepared to learn. In effect, learning poverty leads to a no-growth mindset, which we need to address.

In his presentation, Mr. Francisco Benavides discussed the benefits of *SEA-PLM,* especially if we are to determine how to help the low performers. He noted the recommendations stated in the guide. These need to be implemented if we are to empower teachers and students in addressing learning poverty. We must prioritise ECCD for the disadvantaged, ensure that curricula cover digital and blended learning options for those who need to work, provide teachers a conducive teaching environment, and all these must make life amidst COVID-19 more livable.

Ms. Jarusri Jiravisitkul's sharing focused on the ensuing digital transformation of education, which many consider more of a disruption, although it should not be treated as such. If we are to truly transform education, we should give the students next-generation skills. Learners must be equipped with scientific and mathematical literacy. But that requires building the capacity of teachers and school leaders. Both teachers and students need to be empowered. Educators require evaluation and assessment training. Students, meanwhile, need hands-on training to learn better. These concepts form the backbone of the whole-of-school approach, which could work in every institution.

In her presentation, Dr. Darla K. Deardorff said internationalising the curriculum is the way forward in transforming education for the 21st century in line with the SDGs. Addressing SDG 1 is one of the primary goals of the Association of International Education Administrators (AIEA). In terms of curricular internationalisation, educators need to look at whose voices are missing as well as the content and how it is delivered. She gave three recommendations to the academe. First, we need to consider establishing an inclusive educational ecosystem that goes beyond the curriculum by reviewing and changing policies and practices that favour a dominant group and oppress others. Second, we must place both individual and the collective well-being at the core of our educational efforts. And third, we should focus on socio-emotional learning for lifelong learners, especially in terms of cultural competence.

Finally, Mr. Francis Jim Tuscano began with a comparison of the Philippines's Programme for International Student Assessment (PISA) performance with other countries. Research showed the country did not do so well. That was one of the reasons why DepEd implemented the Sulong EduKalidad Programme, which pushes for updating the K–12 curriculum, improving learning environments, up- and reskilling teachers, and engaging stakeholders. He emphasised the importance of reading. Reading, he said, is a gateway to learning across disciplines and grade levels. It sparks a lifetime of learning and is an equaliser as well as a door that opens opportunities. That is the idea behind the *ACES Literacy Framework.* We need to give students access to basic education. Teachers must coach them in reading. Reading can elevate them to a higher form of learning. But parents and communities need to sustain teachers' efforts in teaching the children to read. And since we are about to usher in the 21st century, the students must become 21st-century readers.

The following infographic showcases the highlights of this session.


THEME #3

# HEALTH LITERACY AND SCHOOL NUTRITION: ERADICATING BARRIERS TO LEARNING

MODERATOR

**Dr. Jesus C. Fernandez**
Deputy Director for Programmes
SEAMEO RECFON
Indonesia

PANELISTS

**Ms. Nicole Siegmund**
Regional Fit for School Programme
Deutsche Gesellschaft für Internationale Zusammenarbeit
Philippines

**Mr. Jim Ackers**
Regional Education Advisor
UNICEF Regional Office for South Asia
Nepal

**Dr. Muchtaruddin Mansyur**
Centre Director
SEAMEO RECFON
Indonesia

**Prof. Dr. Ma. Sandra B. Tempongko**
Deputy Coordinator
SEAMEO TROPMED Network
Thailand

**Ms. Kyungah Kristy Bang**
Programme Officer
UNESCO Bangkok
Thailand

Ms. Nicole Siegmund shared her experience with GIZ's WASH in Schools Project that is critical, especially amidst the pandemic. She gave an overview of the Regional Fit for School Programme that is currently being implemented in Cambodia, Indonesia, Lao People's Democratic Republic (PDR), and the Philippines as well. GIZ is helping children stay healthy. While many schools were closed to curb the spread of COVID-19, those that are part of the programme will be more ready for the new normal. To continue teaching students to stay clean and healthy, GIZ released a massive open online course (MOOC). It also monitored schools' progress with its specially crafted management information system (MIS) called "WinS." WinS was also updated to help schools better implement COVID-19-related safety measures.

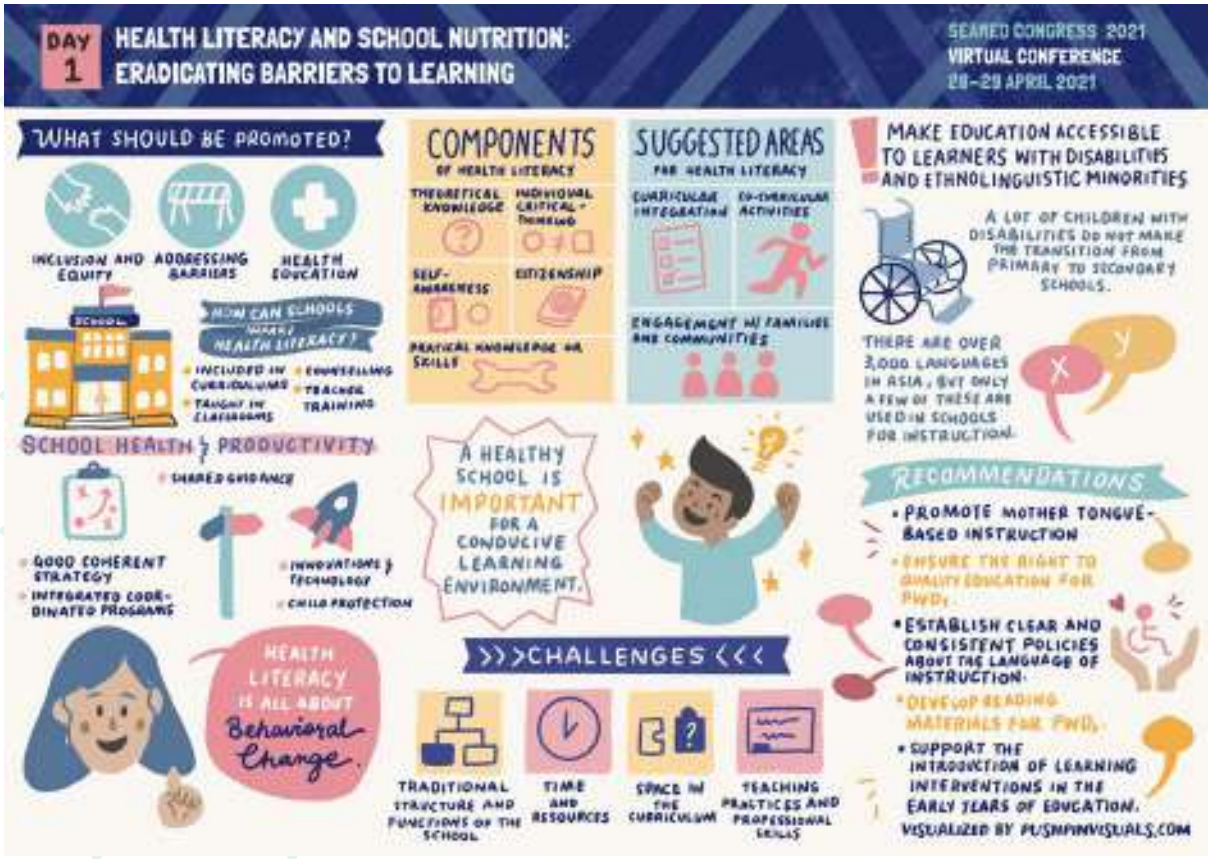
In his presentation, Mr. Jim Ackers defined health literacy. He then described Health Promotion in Schools (HPS), which tells schools how to address challenges that have to do with promoting health, nutrition, and well-being amongst learners. Challenges that include lack of educational inclusion and equity, barriers to learning, and keeping girls in school need to be addressed. Programmes to do so should include feeding projects since children cannot learn if they are hungry. They will not be able to retain knowledge. Schools also need to impart the importance of health literacy. He then compared the healthcare situation before and during the pandemic. Children who only got to eat right in school missed around 3.9 billion meals. Feeding programmes, such as those being implemented in Bangladesh and Indonesia, are good examples that other nations can mimic when things go back to normal or during the new normal. That is why the newly established Asia-Pacific Alliance will help children and adolescents achieve their full potential so their countries can attain socioeconomic growth.

Dr. Muchtaruddin Mansyur, meanwhile, briefly described SEAMEO Regional Centre for Food and Nutrition (RECFON) then defined health and nutrition literacy. He said that children below five years old and those of school age are most vulnerable to malnutrition. Malnutrition is a global and multisectoral problem, and it is prevalent in Southeast Asia. That is why SEAMEO RECFON has a *Malnutrition Framework* that includes the approaches it plans to take to improve nutrition literacy and, hopefully, curb malnutrition in the region. The centre has been implementing its Nutrition Goes to School (NGTS) Flagship Programme since 2017. If it can expand the programme's coverage to other countries, then it can help more children.

In her presentation, Prof. Dr. Ma. Sandra B. Tempongko stated that the relationship between health literacy and status is well-recognised. She defined health literacy and said that it is grounded on the principles of empowerment, human rights, ethics, values, and equity. Health literacy acquisition is a lifelong learning process. Children should acquire it at a young age since childhood is when fundamental cognitive, physical, and emotional development processes take place. Moreover, health-related behaviours and skills that are crucial for healthy development also start to take root at this stage. In the past decade, we learned that schools should develop students' health literacy. She then went on to identify several ways schools can promote health literacy and implementation challenges.

Finally, Ms. Kyungah Kristy Bang talked about including children with disabilities and from ethnic minorities in education. She described how *SEA-PLM* may be of help. She also shared some good projects that countries can replicate to improve their respective states of education. She also recommended some reading materials that can provide relevant guidance.

See the following infographic for a summary of the highlights of this session.


DAY 1
HEALTH LITERACY AND SCHOOL NUTRITION: ERADICATING BARRIERS TO LEARNING
SEAMEO CONGRESS 2021
VIRTUAL CONFERENCE
28-29 APRIL 2021
WHAT SHOULD BE PROMOTED?
INCLUSION AND EQUITY
ADDRESSING BARRIERS
HEALTH EDUCATION
HOW CAN SCHOOLS PROMOTE HEALTH LITERACY?
INCLUDED IN CURRICULUMS
TAUGHT IN CLASSROOMS
COUNSELLING
TEACHER TRAINING
SCHOOL HEALTH & PRODUCTIVITY
SHARED GUIDANCE
GOOD COHERENT STRATEGY
INTEGRATED COORDINATED PROGRAMS
INNOVATIONS & TECHNOLOGY
CHILD PROTECTION
HEALTH LITERACY IS ALL ABOUT Behavioral Change.
COMPONENTS OF HEALTH LITERACY
THEORETICAL KNOWLEDGE
INDIVIDUAL CRITICAL THINKING
SELF-AWARENESS
CITIZENSHIP
PRACTICAL KNOWLEDGE OR SKILLS
SUGGESTED AREAS FOR HEALTH LITERACY
CURRICULAR INTEGRATION
CO-CURRICULAR ACTIVITIES
ENGAGEMENT W/ FAMILIES AND COMMUNITIES
A HEALTHY SCHOOL IS IMPORTANT FOR A CONDUCIVE LEARNING ENVIRONMENT.
>>>CHALLENGES<<<
TRADITIONAL STRUCTURE AND FUNCTIONS OF THE SCHOOL
TIME AND RESOURCES
SPACE IN THE CURRICULUM
TEACHING PRACTICES AND PROFESSIONAL SKILLS
MAKE EDUCATION ACCESSIBLE TO LEARNERS WITH DISABILITIES AND ETHNOLINGUISTIC MINORITIES
A LOT OF CHILDREN WITH DISABILITIES DO NOT MAKE THE TRANSITION FROM PRIMARY TO SECONDARY SCHOOLS.
THERE ARE OVER 3,000 LANGUAGES IN ASIA, BUT ONLY A FEW OF THESE ARE USED IN SCHOOLS FOR INSTRUCTION.
X
Y
RECOMMENDATIONS
• PROMOTE MOTHER TONGUE-BASED INSTRUCTION
• ENSURE THE RIGHT TO QUALITY EDUCATION FOR PWDs.
• ESTABLISH CLEAR AND CONSISTENT POLICIES ABOUT THE LANGUAGE OF INSTRUCTION.
• DEVELOP READING MATERIALS FOR PWD.
• SUPPORT THE INTRODUCTION OF LEARNING INTERVENTIONS IN THE EARLY YEARS OF EDUCATION.
VISUALIZED BY PUSMPINVISUALS.COM

PARALLEL SESSION #2

# Building a Future for the Alpha Generation

THEME #1

## ADDRESSING INEQUALITY AND REENGINEERING EDUCATION FOR THE 21ST CENTURY

MODERATOR

**Dr. Zulhamsyah Imran**
Centre Director
SEAMEO BIOTROP
Indonesia

PANELISTS

**Assoc. Prof. Dr. Silinthone Sacklokham**
Director-General
Department of External Relations
Ministry of Education and Sports
Lao PDR

**Dr. Diosdado M. San Antonio**
Undersecretary for Curriculum and Instruction
Department of Education
Philippines

**Prof. Dr. Sukit Limpijumnong**
President
Institute for the Promotion of Teaching Science and Technology
Thailand

**Dr. Lim Cher Ping**
Chair Professor of Learning Technologies and Innovation
Department of Curriculum and Instruction
Education University of Hong Kong
Hong Kong

**Ms. Love Basillote**
Director
Philippine Business for Education
Philippines

Assoc. Prof. Dr. Silinthone Sacklokham described Education Agenda 2030 then proceeded to the adverse effects of COVID-19 on education, including inequality that extended to education. He tackled how Lao PDR is coping with the situation and stated how it is reengineering education for the 21st century. Projects in response to the pandemic were discussed, including how the nation has been addressing current challenges. COVID-19, he said, accelerated opportunities to digitalise education but we need to invest more resources to ensure the continued development of human resources for the 21st century. Close collaboration and knowledge sharing in education, science, and culture will help us achieve the SDGs by 2030.

In his presentation, Dr. Diosdado M. San Antonio defined who the Alpha Generation is. He stressed the need to ensure flexible lifelong learning in the Philippines. That requires improving ECCD, as it provides a solid foundation for lifelong learning. The *Basic Education Learning Continuity Plan,* he said, can accelerate the country's transition to education of the future. The Philippines needs to become part of global assessment like PISA and be guided by the *Trends in International Mathematics and Science Study (TIMSS)* and *SEA-PLM.* The country should take a more holistic look at gender biases and target children who are most at risk. If we are to succeed, we must prepare the children for life.

Prof. Dr. Sukit Limpijumnong, meanwhile, discussed the intricacies of Project 14: Free Digital Learning for All. He described its scope of work and recent activities. As the world changes, so should education. Learning must cope so children can meet the challenges of the 21st century. They need to be armed with the required competencies through STEM education. They need hands-on experience. COVID-19 showed how important digital learning is. It is the future of education and parents, teachers, and students need to adapt now. Project 14 is a step towards that direction.

In his presentation, Dr. Lim Cher Ping enumerated projects that aim to support the education of girls and marginalised students. While COVID-19 affected all learners, it seems to have had a greater adverse effect on these two populations. He suggested six ways to tackle these challenges. Teachers need to encourage girls and marginalised students to continue learning. Professionalising the teaching profession is not enough, it must be also be localised to fit the educators' respective contexts. Learning must be student-centered. Using big data can help encourage more females to take on leadership roles, especially in STEM-related disciplines. But schools and educators need support and resources if we are to make this dream a reality. Finally, we must enhance educational sustainability by making it adapt to the times.

Finally, Ms. Love Basillote shared that the Philippine Business for Education (PBEd) has been raising awareness of the poor quality and inequity of education in the Philippines, resulting in poor student performance and unemployment. We need to stress that education done right is the greatest equaliser. But turning that into reality is easier said than done. We need to do more practical programmes rather than policies since these may take a long time before they can be implemented. These projects must be scalable and sustainable as well, otherwise they will not be able to reach as many stakeholders as possible.

Highlights from this session are summed up in the following infographic.


THEME #2

# GLOBAL CITIZENSHIP EDUCATION AND INFORMATION AND COMMUNICATION TECHNOLOGY SKILLS: LIFE POST-COVID-19

MODERATOR

**Dr. Luh Anik Mayani**
Centre Director
SEAMEO QITEP in Language
Indonesia

PANELISTS

**Dr. Hyun Mook Lim**
Director
UNESCO Asia-Pacific Centre of Education for International Understanding
South Korea

**Mr. Aaron Loh**
Division Director
Educational Technology
Ministry of Education
Singapore

**Mr. Andrew Tein**
Vice President
Global Government Affairs & Bridge Education
Wiley
Singapore

**Ms. Jane Rexworthy**
Executive Director
People 1st International
U.K.

**Mr. David Lester**
Group Learning Services Director
Nisai Group
U.K.

Dr. Hyun Mook Lim spoke about tackling hate speech and disinformation on the Internet and social media through GCED. He said the pandemic has led to a rise in hate speech on the Web, which schools can help address by teaching students to not participate in such. Teachers can encourage learners to think critically and be socially responsible via GCED and human rights education. The *UNESCO Media and Information Literacy (MIL) Curriculum* and *GCED: Topics and Learning Objectives* can help with this.

In his presentation, Mr. Aaron Loh said today's children need to become future-ready digital citizens. The pandemic accelerated the transition to digital learning and students need to keep up. In Singapore, the National Digital Literacy Programme (NDLP) has been helping learners acquire digital skills via the *Find, Think, Apply, and Create Framework.* Part of the programme means giving each student a personal learning device. They are taught to use these to enhance their learning in an immersive environment. He said that blended learning is bound to become mainstream. Students should, therefore, become self-directed and cultivate lifelong learning habits. Today's youth need 21st-century skills to survive and thrive.

Mr. Andrew Tein, meanwhile, said that many industries were severely impacted by COVID-19. The pandemic increased the need for workers that have the necessary digital skills. But these are changing rapidly. Institutions need to connect education with industrial requirements better. In the future, job-aligned skills are a must. To make this happen, schools can partner with companies to bridge the skills gap.

In her presentation, Ms. Jane Rexworthy said looking back at 2020, two changes could be noted. First, education became digital. And second, self-learning became critical. But we must know who the Alpha Generation is if we are to teach them. Today's students are digital natives. They want information with a click or tap. They are more interested in project-based than traditional learning. They will need core life skills that will help them in the world of work. Apart from these, they will also require GCED so they can build better relationships online founded on respect for cultural diversity.

Finally, Mr. David Lester stated that global learners translate to global citizens but this requires global immersion. Schools need to promote inclusion and understand diversity to achieve this. The displaced, disengaged, disabled, and disadvantaged should be prioritised. Every child must be equipped with 21st-century skills. But we should change the way we teach to prepare students for tomorrow. The Nisai Group, he said, has been helping institutions do that worldwide. It espouses the importance of community learning and stakeholder engagement.

Take a look at the following infographic for the highlights of this session.


DAY 1
GCED AND ICT SKILLS: LIFE AT POST COVID-19
SEAMEO CONGRESS 2021
VIRTUAL CONFERENCE
28-29 APRIL 2021
GLOBAL CITIZENSHIP EDUCATION
FUTURE-READY Digital LEARNERS
THE DIGITAL LITERACY PROGRAM AIMS TO HELP STUDENTS ACQUIRE DIGITAL SKILLS IN FOUR COMPONENTS
FIND
THINK
CREATE
APPLY
21ST CENTURY SKILLS
CRITICAL THINKING
COLLABORATION
COMMUNICATION
CREATIVITY
BUILDING THE FUTURE
FOR THE ALPHA GENERATION
WE NEED Empathy & Critical-thinking
HATE SPEECH
COUNTER HATE
SENSITIZE OURSELVES FROM PREJUDICES, STEREOTYPES, & BIASES
HELPS DEVELOP...
SELF-DIRECTED LEARNERS
LIFE-LONG LEARNING HABITS
THERE IS A CRITICAL NEED FOR DIGITAL SKILLS
WE NEED TO CREATE NEW PATHWAYS FOR THE LEARNER TO GAIN THESE DIGITAL SKILLS
WE HAVE TO ADAPT THE WAY WE EDUCATE TODAY'S STUDENTS FOR TOMORROW'S Future THROUGH...
PERSONALISATION
PARTICIPATION
PRODUCTIVITY
VISUALIZED BY PUSHPINVISUALS.COM

THEME #3

# THE FUTURE OF WORK: YOUTH SKILLS IN THE DIGITAL AGE

MODERATOR

**Dr. Hanani binti Harun Rasit**
Centre Director
SEAMEO SEN
Malaysia

PANELISTS

**Ms. Rosanna A. Urdaneta**
Deputy Director-General for Policies and Planning
Technical Education and Skills Development Agency
Philippines

**Ms. Duong Phuong Anh**
Global Partnership for Education Youth Leader
Vietnam

**Ms. Jacqueline Dynowski**
Director
BETT Asia

**Mrs. Sarah Marshall**
Head of Content
BETT Global
U.K.

**Ms. Auken Tungatarova**
Programme Officer
ICT in Education Section for Inclusive Quality Education
UNESCO Bangkok
Thailand

**Mr. Bilal Musharaf**
Vice President of Expansion
Noon Academy
Saudi Arabia

Ms. Rosanna A. Urdaneta began by saying that most of the employed youth have low-paying jobs but this can be addressed by TVET. Unfortunately, very few of them realise that. Things worsened when the pandemic hit. Those who used to take and are interested in taking up TVET could no longer do so because institutions had to close. TESDA addressed the problem by digitalising training. The agency, however, had to prioritise the agriculture, healthcare, ICT, and construction sectors. It does not plan to go back to how things were, though. It is instead pushing for the implementation of TVET 4.0 to meet the demands of Industry 4.0. It plans to equip the youth with much-needed skills for the digital age. It also enhanced its e-learning platform to cater to more learners. It also offers the TESDA app that gives people more information on available training and even tutorials. Finally, its scholarship programmes were improved to provide opportunities to the disadvantaged.

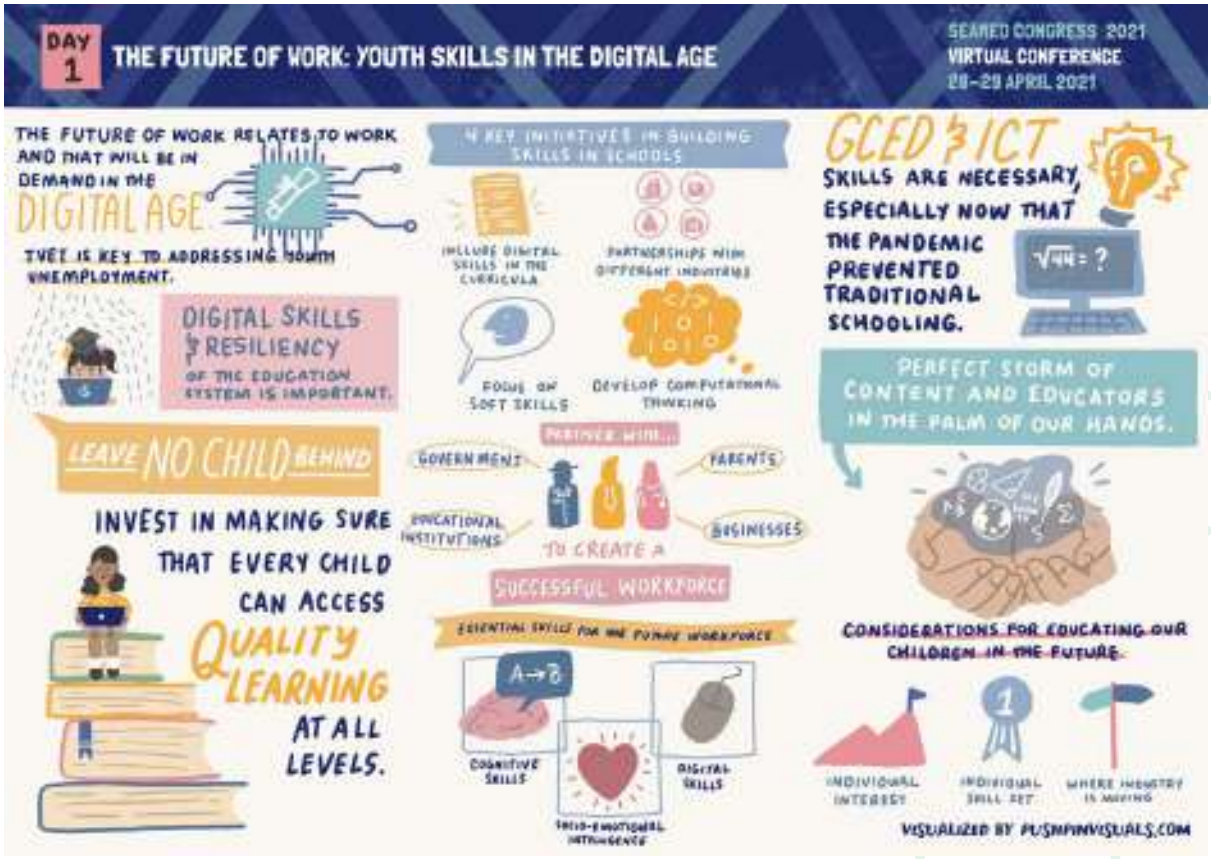
In her presentation, Ms. Duong Phuong Anh stressed the importance of building the youth's digital skills to ensure they get equal opportunities for education and employment. While COVID-19 exposed, deepened, and created significant cracks in the educational system, it did remind us how critical digital skills are. She shared her experiences about digital skills and ICT education as a Vietnamese youth, student-teacher, and advocate. She said that digital skills and education are connected, especially amidst the pandemic. As such, we need to improve students' and teachers' skills and access to devices and the Internet so learning can continue.

Ms. Jacqueline Dynowski and Mrs. Sarah Marshall talked about four key components that should be considered to improve the skills of today's students. First, schools must embed digital skills into every part of their curricula. Second, universities must partner with industries to align education with existing and future work requirements. Third, educators need to focus more on soft skills to improve learners' creativity and emotional intelligence. Finally, students need to develop their computational thinking (CT) capabilities. If all HEIs can do these, today's youth will have a brighter future ahead.

Ms. Auken Tungatarova started by asking the question, "How can we convince kids to come to school, if in the future, there will be no employment for all or even most of them?" The answer may lie in up- or reskilling. Big data and AI, product development, cloud computing, and engineering are the emerging professions driven by technological developments. As such, today's learners need cognitive, socio-emotional, technical, and digital skills. Schools can use the *Digital Kids Asia-Pacific (DKAP) Framework* to assess their current state. Governments need to ensure students have access to digital devices and the Internet. Teachers need training to keep up with technological developments. All these must be done if we are to ensure a bright future for today's youth.

Finally, Mr. Bilal Musharaf discussed the Noon Academy's projects and how these can contribute to GCED and ICT skills development. The company is working hard to become a huge part of the EdTech ecosystem. But not all people are fond of e-learning. They believe the level of student engagement needs to improve. Noon Academy is trying to address that problem with more relevant and interactive content.

The most important points discussed in this session are summed up in the following infographic.


DAY 1
THE FUTURE OF WORK: YOUTH SKILLS IN THE DIGITAL AGE
SEAMEO CONGRESS 2021
VIRTUAL CONFERENCE
28-29 APRIL 2021
THE FUTURE OF WORK RELATES TO WORK AND THAT WILL BE IN DEMAND IN THE DIGITAL AGE
TVET IS KEY TO ADDRESSING YOUTH UNEMPLOYMENT.
DIGITAL SKILLS & RESILIENCY OF THE EDUCATION SYSTEM IS IMPORTANT.
LEAVE NO CHILD BEHIND
INVEST IN MAKING SURE THAT EVERY CHILD CAN ACCESS QUALITY LEARNING AT ALL LEVELS.
4 KEY INITIATIVES IN BUILDING SKILLS IN SCHOOLS
INCLUDE DIGITAL SKILLS IN THE CURRICULA
PARTNERSHIPS WITH DIFFERENT INDUSTRIES
FOCUS ON SOFT SKILLS
DEVELOP COMPUTATIONAL THINKING
PARTNER WITH...
GOVERNMENT
PARENTS
EDUCATIONAL INSTITUTIONS
BUSINESSES
TO CREATE A SUCCESSFUL WORKFORCE
ESSENTIAL SKILLS FOR THE FUTURE WORKFORCE
COGNITIVE SKILLS
DIGITAL SKILLS
SOCIO-EMOTIONAL INTELLIGENCE
GCED & ICT
SKILLS ARE NECESSARY, ESPECIALLY NOW THAT THE PANDEMIC PREVENTED TRADITIONAL SCHOOLING.
PERFECT STORM OF CONTENT AND EDUCATORS IN THE PALM OF OUR HANDS.
CONSIDERATIONS FOR EDUCATING OUR CHILDREN IN THE FUTURE
INDIVIDUAL INTEREST
INDIVIDUAL SKILL SET
WHERE INDUSTRY IS MOVING
VISUALIZED BY PUSHPINVISUALS.COM

PARALLEL SESSION #3

# Post-COVID-19 Pandemic Reform and Innovation

THEME #1

## K–12 Models and Educational Innovation

MODERATOR

**Dr. Shah Jahan bin Assanarkutty**
Centre Director
SEAMEO RECSAM
Malaysia

PANELISTS

**Dr. Sheryl Lyn C. Monterola**
Center for Integrated STEM Education in the Philippines
Philippines

**Dr. Claudia M. Urrea**
Senior Associate Director for pK–12
Abdul Latif Jameel World Education Lab
Massachusetts Institute of Technology
U.S.

**Dr. Ben Schmidt**
Regional Director for Southeast Asia and the Pacific
Cambridge Assessment International Education
Singapore

**Ms. Kelli List Wells**
STEM Leadership Alliance
U.S.

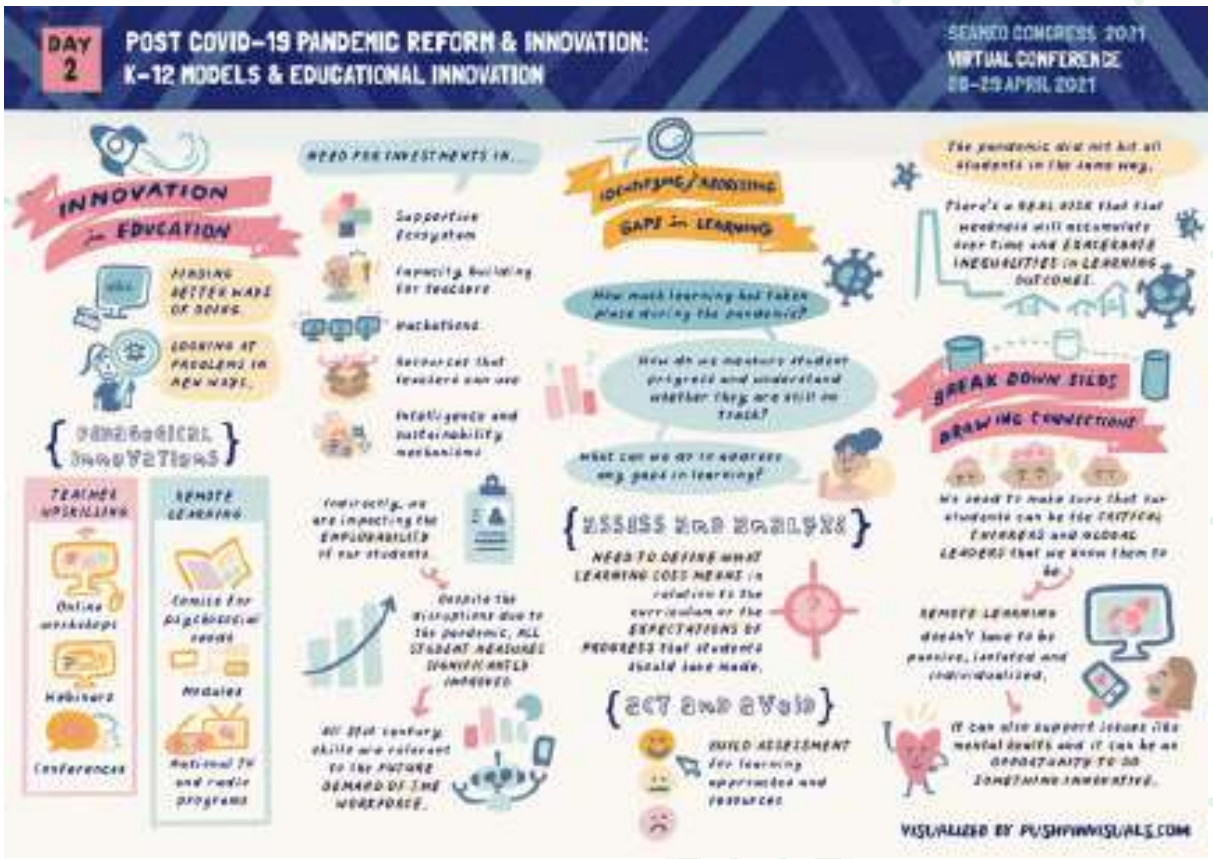
Dr. Sheryl Lyn C. Monterola stated that even amidst the pandemic, CISTEM continues to innovate to promote STEM education beyond classrooms, which is having a positive learning outcome. Amongst its many activities are producing the Lab in a Box resources and national television (TV) and radio programmes, which incorporated STEAM resources. To date, these programmes have reached 12 million students and 320,000 teachers.

Dr. Claudia M. Urrea, meanwhile, discussed what MIT Full STEAM Ahead (FSA) is. It intends to address the need for online information amidst the COVID-19 pandemic. The content is meant for K–12, higher education, and workforce learners and hopes to supply K–12 students and teachers relevant content packages weekly. She shared best practices and lessons learned from the implementation of FSA.

In his presentation, Dr. Ben Schmidt talked about the methods the Cambridge Assessment and the Cambridge University Press developed to determine how much learning has taken place during the lockdowns in hopes of addressing gaps related to curricula and measuring student progress to determine a baseline. While the presentation addressed K–12 curricula, it focused more on tests and strategies that are critical for students to adjust between primary and secondary school.

Finally, Ms. Kelli List Wells stressed that when it came to STEM education, we should talk about connection and integration. We need to consider educational content and the varying knowledge ad skills of teachers. We must learn to become multidisciplinary together to draw the best from students. We should change the teaching practice, making it more about discipline than concept literacy. If we bring together great minds and share best practices, we can move forward better.

The following infographic showcases the highlights from this session.

THEME #2

# TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING IN THE FOURTH INDUSTRIAL REVOLUTION

MODERATOR

**Dr. Songheang Ai**
Centre Director
SEAMEO TED
Cambodia

PANELISTS

**Mr. Jonathan Ledger**
Global TVET Specialist
Department for International Trade
U.K.

**Mr. Alias bin Hj Abu Bakar**
Centre Director
SEAMEO VOCTECH
Brunei Darussalam

**Mr. Ingo Imhoff**
Director
Deutsche Gesellschaft für Internationale Zusammenarbeit Regional Cooperation Programme for the Development of TVET
Vietnam

**Dr. Steven McKee**
President
Labtech International Ltd.
Indonesia

**Dr. Paristiyanti Nurwardani**
Secretary
Directorate of Higher Education
Ministry of Education and Culture
Indonesia

**Mr. Volker Schmid**
Director for Asia-Pacific
Festo Didactic SE
Germany

Mr. Jonathan Ledger started by saying that TVET needs to keep pace with changes, as 75% of today's children will have jobs that have yet to be created. Skill requirements are evolving and so should the way we help learners acquire them. Smart agriculture, cities, transportation, energy, and careers will become the norm in the future. Industry 4.0 will usher in a borderless world, one where people will be globally employed, which requires internationalised skills. At present, however, there exists a huge skills gap. It is time we impart knowledge online. Children need to become digitally competent. The U.K. has already begun its journey, so should other countries.

In his presentation, Mr. Alias bin Hj Abu Bakar said the Industrial Revolution affected our lives and the way we work. With the appropriate response, this revolution will offer great opportunities. But countries may miss these chances due to socioeconomic struggles. We should respond by making the future workforce ready for work requirements. TVET guided by the *Association of Southeast Asian Nations (ASEAN) Qualification Reference Framework* can help with that. We must take a closer look at how TVET can help students adapt to industrial and technological changes. We can start by looking at the potential impact of the Industrial Revolution on the economy, jobs, and education. The SEAMEO Regional Centre for Technical and Vocational Education and Training (VOCTECH) highlighted some issues and challenges that many countries in the region face and how it has been responding. It has been providing professional development training for TVET personnel in Southeast Asia and produced a knowledge platform for the TVET community so it can exchange ideas and best practices regularly. He ended by sharing keys to success for TVET institutions and strategies for advancing TVET in the digital era.

Mr. Ingo Imhoff, meanwhile, stressed that we need to digitalise to make TVET resilient. To do that, TVET needs to continue despite lockdowns. That means providing resources to those who live in remote areas. All challenges, digital or traditional, need to be addressed. One way to turn this goal into reality is through building alliances between institutions and companies. Analysing the labour market demand and competence requirements is critical. Instead of changing TVET's image, we should strive to make it appealing to digital natives.

In his presentation, Dr. Steven McKee said the world is changing. Everything is essentially becoming "smart." And the pandemic only served to accelerate this evolution. Industry 4.0 has certainly brought on many challenges, including in education. Amongst the various education types, TVET probably had the hardest time in adjusting to the current situation. Foremost amongst the reasons is because many TVET skills need to be taught physically, which is not possible amidst lockdowns. Overall, to transform TVET to match future work requirements, we need to do two things. First, we need to train learners to do Industry 4.0 jobs. Second, we need to train workers who have been replaced or displaced to do jobs that are in greater demand so they will not remain unemployed.

Dr. Paristiyanti Nurwardani enumerated Indonesia's priority areas for its national strategy for AI from 2020 to 2024. By 2024, the country hopes to produce AI workers that meet industry requirements and will open new job opportunities for others. It also hopes to create an ecosystem that encourages AI innovation and learning, one that makes Indonesian graduates regionally and globally competitive. She ended with a discussion of the nation's accomplishments to date.

Finally, Mr. Volker Schmid talked about Festo and how it aims to enhance the competence of companies of tomorrow. He stressed how the world has changed and so has the business environment. Festo has been helping reduce the TVET talent shortage. It espouses modernising learning. One way is by enabling remote technical skills assessment and verification.

A summary of this session's highlights is shown in the following infographic.


THEME #3

# TRANSFORMING HIGHER EDUCATION IN THE DIGITAL ERA

MODERATOR

**Asst. Prof. Dr. Romyen Kosaikanont**
Centre Director
SEAMEO RIHED
Thailand

PANELISTS

**Dr. Melinda dela Peña Bandalaria**
Chancellor and Professor
University of the Philippines Open University
Philippines

**Assoc. Prof. Dr. Somporn Puttapithakporn**
Acting Vice President for Education and Learning Support
Sukhothai Thammathirat Open University
Thailand

**Dr. Randall Martin**
Executive Director
British Columbia Council for International Education
Canada

**Ms. Helen Chua Balderama**
Associate Director
International Partnerships and Programs
York University
Canada

**Dr. Dominique Schaeffel-Dunand**
Academic Lead
Globally Networked Learning Initiative
York University
Canada

**Ms. Sylvie Bonichon**
Associate Expert for the European Association of Institutions in Higher Education
Belgium

Dr. Melinda dela Peña Bandalaria said the COVID-19 pandemic disrupted education severely. It magnified the limitations of the current educational system, such as not being flexible or agile. The current situation demands more from HEIs. Education needs to engage the entire society. We must provide inclusive lifelong learning opportunities that respond not only to the youth's needs today but also prepares them for the future world of work and living. Education must also contribute to the achievement of the SDGs. While the digital era provides many opportunities for transformation to materialise, it also presents challenges. Higher education transformation in the digital era should serve as a foundation for sustainability. It should be anchored on agility and flexibility, inclusion, relevance, and quality.

In her presentation, Assoc. Prof. Dr. Somporn Puttapithakporn described how COVID-19 disrupted the operations of colleges and universities all over the globe. She discussed how STOU addressed the situation, particularly digitalising examinations and transitioning to virtual learning. Before the pandemic struck, STOU administered exams in person despite being a distance education institution. That changed radically. It also had to cancel in-person tutorials and seminars and shifted to virtual learning just to continue operating. In sum, STOU underwent educational reforms across all levels to keep up. Other HEIs need to do the same thing.

Dr. Randall Martin, meanwhile, said the COVID-19 pandemic forced educators to confront realities they may have been hesitant to consider just two years ago. It forced the academe to pivot content online and adjust age-old and tried-and-proven methodologies. It forced institutions to further prepare for long-term and perhaps radical changes to age-old business models. Face-to-face has become virtual and academic mobility has become immobility. To "zoom" used to mean to go somewhere quickly but not anymore. These changes are not, however, the first evolution or revolution that the academe has experienced, been confronted with, or has embraced, and innovation will win the day.

Ms. Helen Chua Balderama and Dr. Dominiwue Schaeffel-Dunand's presentation talked about the York University's Globally Networked Learning (GNL) initiative, which was launched in 2020. It is an institutional strategy to pivot and respond to the mobility challenges presented by COVID-19. It is inspired by Collaborative Online International Learning (COIL) which traditionally involved co-developing and -teaching complete courses. Rethinking the COIL model, the university's faculty and partners introduced brief collaborative activities and projects within existing courses that enabled experimentation and innovation. The students contributed to the initiative by creating data sets, knowledge products, educational resources, and network-enabled learning tools for future GNL projects. They shared their experiences from the first year of the initiative's implementation, covering more than 500 students from York University and partner institutions.

Finally, Ms. Sylvie Bonichon introduced the European Association of Institutions in Higher Education (EURASHE) to the participants, along with what it has been doing over the years. Examples of the programmes that Southeast Asian countries can emulate include the European Universities Initiative, which helped educators move learning online more quickly, and the European Student Card Initiative, which enabled students to transfer schools even if they do not have their academic records handy. Higher education should be inclusive, she said. And its future should be characterised by interactivity, sharing, diversity, quality, and sustainability.

The following infographic shows the critical points tackled in this session.


DAY 2
POST COVID-19 PANDEMIC REFORM & INNOVATION:
TRANSFORMING HIGHER EDUCATION IN THE DIGITAL ERA
SEAMEO CONGRESS 2021
VIRTUAL CONFERENCE
20-29 APRIL 2021
Covid-19 pandemic has shown that deeper cooperation across borders, disciplines and cultures is the only way to recover from the crisis and to build a resilient society."
-Commissioner Margos Gabriel
Technology started a new divide between people who have access to it and people who do not.
Return to in-person learning is important but the pandemic has opened new ways to deliver content.
{ VALUES }
INCLUSION, not for division
INTERACTIVITY AND SHARING, not for standing alone
DIVERSITY AND APPROPRIATENESS of pathways, not for limitations
QUALITY ASSURED AND SUSTAINABILITY EDUCATION
ENJOYING teaching, studying, carrying out research and innovating
BEING FLEXIBLE and mobile even virtually
Education
IT A RIGHT for ALL
MASSIFICATION OF HIGHER EDUCATION can be the third revolution in education.
FROM GUTENBERG TO ZUCKERBERG - the most recent transformation of higher education is educational content made more available via technology
{ KEY considerations To SUCCESS }
Learning first
Flexibility
Institutional support
Strong partnerships
{ 5 KEY actions }
addressing individual, institutional, and policy levels
What changed are the delivery methods
INDIVIDUAL MOBILITY FOR STUDENTS AND STAFF
blended intensive programs with online learning and teamwork with short term physical mobility
COOPERATION AND EXCHANGE OF PRACTICES
insights and systemic cooperation between higher education institutions
SUPPORT TO POLICY DEVELOPMENT AND COOPERATION
policy development and cooperation
VISUALIZED BY PUSHPINVISUALS.COM

PARALLEL SESSION #4

# Science, Technology, Engineering, and Mathematics Education Design to Improve Workforce Quality

THEME #1

## POLICY DESIGN FOR SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS WORKFORCES

PANELISTS

**Prof. Thomas Corcoran**
Columbia University
U.S.

**Dr. Kessara Amornvuthivorn**
SEAMEO STEM-ED
Thailand

Prof. Thomas Corcoran and Dr. Kessara Amornvuthivorn said STEM workforce policies must be evidence-based. That is what works for many industries, including agriculture and healthcare. Unfortunately, the education sector's use of evidence remains limited, thus stagnating outcomes.

Evidence-based policies are often unbiased, as they are unaffected by authors' experiences or opinions. They also employ high-quality systematic reviews to deliver a meticulous summary of all available research to respond to a question. Systematic reviews follow scientifically recognised methods and include peer reviews that follow internationally accepted standards.

If policies undergo systematic review, policymakers can identify the most effective ones more accurately, leading to the desired results.

Highlights of this session are featured in the following infographic.


DAY 2
STEM EDUCATION DESIGN TO IMPROVE WORKFORCE QUALITY:
POLICY DESIGN FOR STEM WORKFORCES
SEAMEO CONGRESS 2021
VIRTUAL CONFERENCE
20-29 APRIL 2021
POLICY DESIGN'S most important aspect:
THE USE OF EVIDENCE
LIMITS TO THE POWERS OF EVIDENCE
1) COMPLEXITY OF THE SITUATION
Developed world vs developing countries research
Cultures, class size, teacher training are different
Need research that fits particular situation
2) QUALITY OF EVIDENCE, RELEVANCE
3) ABILITY OF PRACTITIONERS TO FIND, ANALYZE & USE EVIDENCE
USING EVIDENCE DOESN'T GUARANTEE SUCCESS, BUT IT INCREASES THE LIKELIHOOD OF GETTING BETTER RESULTS
IMAGINE IF WE CAN PROVIDE TEACHERS WITH THIS KIND OF INFO!
Evidence-based practice that's up to date, online, that has real-time peer-reviewed guidance!
"IF RESEARCH FINDINGS ARE NOT CONSISTENT WITH COMMON SENSE, TRUST COMMON SENSE"
DAVID COHEN, HARVARD UNIVERSITY
What to do if there's no evidence, or findings not clear?
Compare smart people to design an intervention
Pilot the intervention in a group of typical students
Evaluate the pilot for impact, feasibility, & cost
Collect evidence
{Sources of Evidence}
HIERARCHY OF RESEARCH METHODS
APPROACH TO POLICY DESIGN
Review evidence
Look at existing program
Strengthen existing program
Pilot a new program/ initiative
Conduct impact studies for all
Look at the evidence provided
VISUALIZED BY PUSHPINNVISUALS.COM

THEME #2

## SCHOOL IMPROVEMENT TO STRENGTHEN SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS EDUCATION

PANELISTS

**Mr. William Stroud**
Columbia University
U.S.

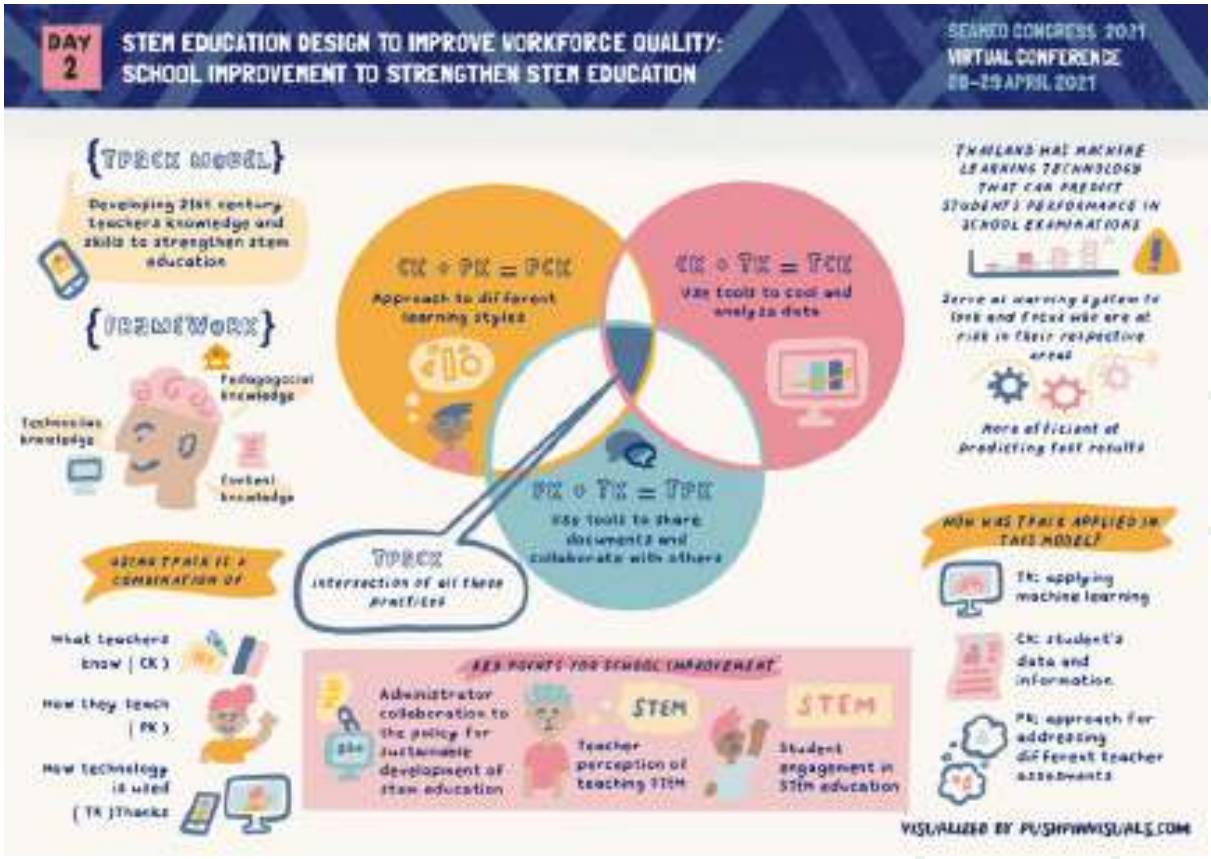
**Assoc. Prof. Dr. Walisa Romsaiyud**
Sukhothai Thammathirat Open University
Thailand

**Asst. Prof. Dr. Pimpaka Prasertsilp**
Sukhothai Thammathirat Open University
Thailand

Mr. William Stroud tackled improving school performance. He suggested interventions to do so and stressed that reading is critical. But without adequate support systems and structures, that may not be possible.

Finally, Asst. Prof. Dr. Walisa Romsaiyud and Asst. Prof. Dr. Pimpaka Prasertslip introduced the TPACK model. It lets teachers derive knowledge from practice teaching aided by technology. That way they can develop 21st-century skills that will help them improve their instructional strategies and strengthen STEM education. They also presented how STOU is using machine learning (ML) to predict student performance in school examinations.

See the highlights of this session in the following infographic.


DAY 2
STEM EDUCATION DESIGN TO IMPROVE WORKFORCE QUALITY: SCHOOL IMPROVEMENT TO STRENGTHEN STEM EDUCATION
SEAMEO CONGRESS 2021
VIRTUAL CONFERENCE
20-29 APRIL 2021
{TPACK model}
Developing 21st century teachers knowledge and skills to strengthen stem education
{framework}
Pedagogocial knowledge
Technology knowledge
Content knowledge
WHAT THIS IS A COMBINATION OF
What teachers know ( CK )
How they teach ( PK )
How technology is used ( TK )Thanks
CK + PK = PCK
Approach to different learning styles
CK + TK = TCK
Use tools to cool and analyze data
PK + TK = TPK
Use tools to share documents and collaborate with others
TPACK
intersection of all these practices
KEY POINTS FOR STMEDC IMPROVEMENT
Administrator collaboration to the policy for sustainable development of stem education
Teacher perception of teaching STEM
Student engagement in STEM education
THAILAND HAS MACHINE LEARNING TECHNOLOGY THAT CAN PREDICT STUDENT'S PERFORMANCE IN SCHOOL EXAMINATIONS
Serve as warning system to look and focus who are at risk in their respective areas
More efficient at predicting test results
HOW HAS THIS APPLIED IN THIS MODEL?
TK: applying machine learning
CK: student's data and information
PK: approach for addressing different teacher assessments
VISUALIZED BY PUSHPINVISUALS.COM

THEME #3

# INTERACTIVE SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS TEACHING STRATEGIES

PANELISTS

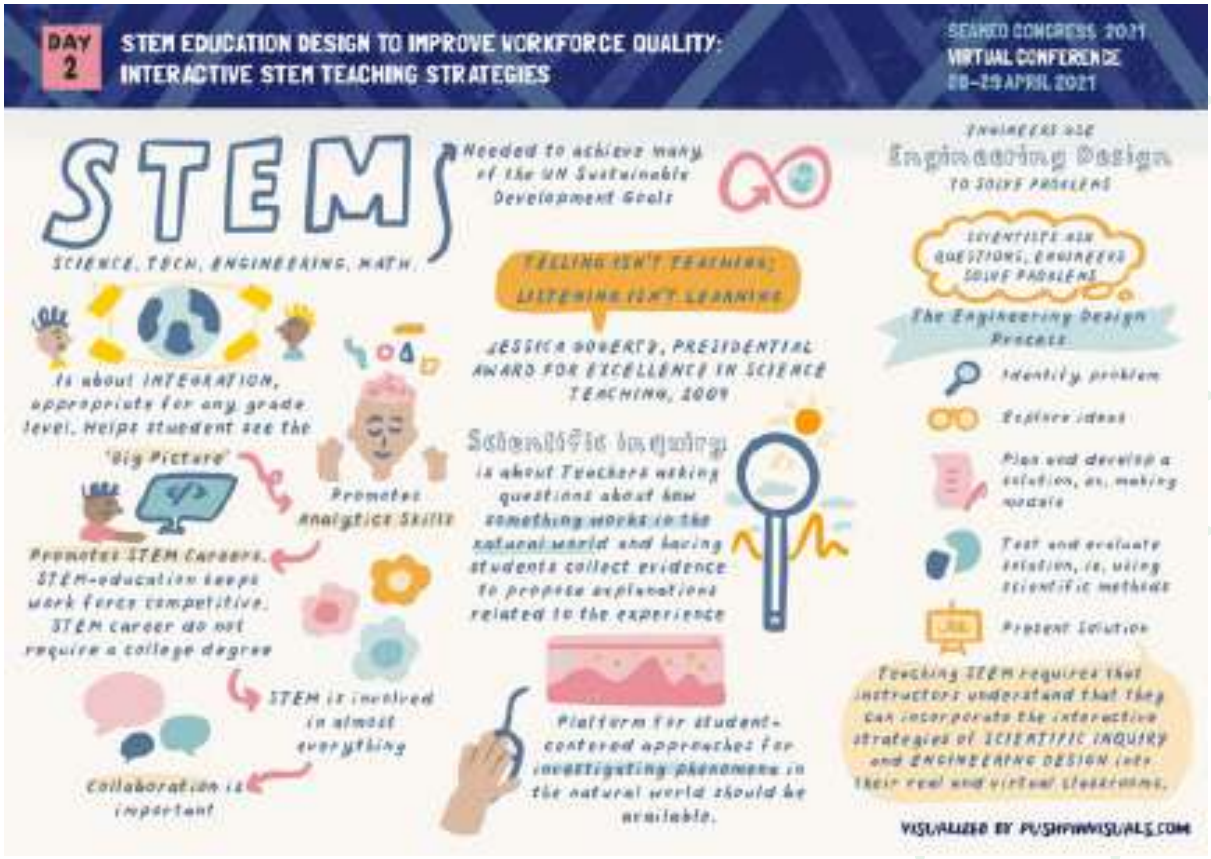
**Dr. John R. Stiles**
Senior Specialist
SEAMEO STEM-ED
Thailand

**Prof. Dr. Edward Reeve**
Utah State University
U.S.

Dr. John R. Stiles summed up what STEM education is, why it is effective, and gave examples. He also spoke about interactive science inquiry strategies for teachers and how these can be used in classrooms effectively through illustrative examples.

In his presentation, meanwhile, Prof. Dr. Edward Reeve discussed engineering design in depth. He tackled how it can be taught using integrated STEM approaches with several relatable examples.

Take a look at this session's highlights summed up in the following infographic.


DAY 2
STEM EDUCATION DESIGN TO IMPROVE WORKFORCE QUALITY: INTERACTIVE STEM TEACHING STRATEGIES
SEAMEO CONGRESS 2021
VIRTUAL CONFERENCE
28-29 APRIL 2021
STEM
SCIENCE, TECH, ENGINEERING, MATH.
Needed to achieve many of the UN Sustainable Development Goals
Engineers use Engineering Design to solve problems
Scientists ask questions, engineers solve problems
The Engineering Design Process
Identify problem
Explore ideas
Plan and develop a solution, ex. making models
Test and evaluate solution, ie. using scientific methods
Present solution
Is about INTEGRATION, appropriate for any grade level. Helps student see the 'Big Picture'
Promotes Analytical Skills
Promotes STEM Careers. STEM-education keeps work force competitive. STEM career do not require a college degree
STEM is involved in almost everything
Collaboration is important
TELLING ISN'T TEACHING; LISTENING ISN'T LEARNING
JESSICA ROBERTS, PRESIDENTIAL AWARD FOR EXCELLENCE IN SCIENCE TEACHING, 2009
Scientific inquiry is about Teachers asking questions about how something works in the natural world and having students collect evidence to propose explanations related to the experience
Platform for student-centered approaches for investigating phenomena in the natural world should be available.
Teaching STEM requires that instructors understand that they can incorporate the interactive strategies of SCIENTIFIC INQUIRY and ENGINEERING DESIGN into their real and virtual classrooms.
VISUALIZED BY PUSHPINVISUALS.COM

THEME #4

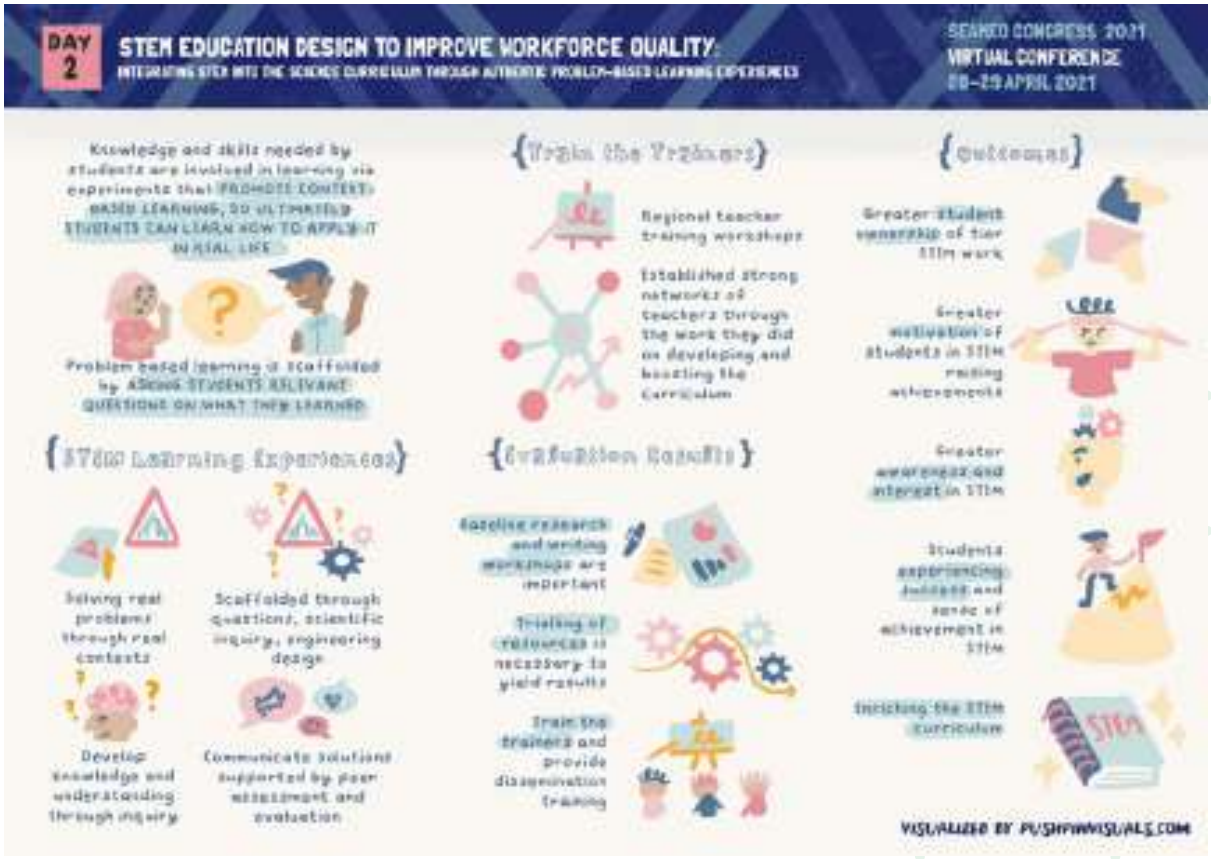
# INTEGRATING SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS INTO THE SCIENCE CURRICULUM THROUGH AUTHENTIC PROBLEM-BASED LEARNING EXPERIENCES

PANELIST
**Dr. Mark Windale**
Senior Specialist
SEAMEO STEM-ED
Thailand

Dr. Mark Windale described how countries can integrate STEM education into the science curriculum through two case studies. He talked about Inspiring Science in Thailand and HEBAT Sains in Malaysia.

Dr. Windale also tackled two project capacity-building models—the inquiry- and problem-based learning models, which were adopted by the projects. He provided details on the outcomes of the two projects as well with regard to teachers' professional development and student motivation and achievement.

The most important points tacked in this session are presented in the following infographic.


DAY 2
STEM EDUCATION DESIGN TO IMPROVE WORKFORCE QUALITY:
INTEGRATING STEM INTO THE SCIENCE CURRICULUM THROUGH AUTHENTIC PROBLEM-BASED LEARNING EXPERIENCES
SEAMEO CONGRESS 2021
VIRTUAL CONFERENCE
26-29 APRIL 2021
Knowledge and skills needed by students are involved in learning via experiments that PROMOTE CONTEXT-BASED LEARNING, SO ULTIMATELY STUDENTS CAN LEARN HOW TO APPLY IT IN REAL LIFE
Problem based learning is scaffolded by ASKING STUDENTS RELEVANT QUESTIONS ON WHAT THEY LEARNED
{STEM Learning Experiences}
Solving real problems through real contexts
Scaffolded through questions, scientific inquiry, engineering design
Develop knowledge and understanding through inquiry
Communicate solutions supported by peer assessment and evaluation
{Train the Trainers}
Regional teacher training workshops
Established strong networks of teachers through the work they did on developing and boosting the curriculum
{Evaluation Results}
Baseline research and writing workshops are important
Training of resources is necessary to yield results
Train the trainers and provide dissemination training
{Outcomes}
Greater student ownership of their STEM work
Greater motivation of students in STEM reading achievements
Greater awareness and interest in STEM
Students experiencing success and sense of achievement in STEM
Enriching the STEM curriculum
STEM
VISUALIZED BY PUSHPINVISUALS.COM

# 5

# SEAMEO Congress 2021 Marketplace Sessions

# Marketplace Sessions

Two marketplace sessions were designed for SEAMEO Congress 2021, which featured presentations the organisation's various partners.

**Moderators**

*Marketplace Session #1*

Dr. Glenn B. Gregorio

*Marketplace Session #2*

Ms. Piyapa Su-angavatin

**Presenters**

*Marketplace Session #1*
*Theme #1*

"T4P Positive Peace on a Fragile Planet"
UNESCO Bangkok
Thailand

"Presenting the Latest Online Monitoring Tools from the Global Education Monitoring Report"
Dr. Manos Antoninis
Director
UNESCO Global Education Monitoring Report
France

"UNESCO-ICHEI: Empowering Teachers and Institutions to Foster Digital Transformation in Higher Education"
Ms. Li Fan
Assistant Director
UNESCO International Centre for Higher Education Innovation
China

"APCEIU 20th Anniversary"
UNESCO Asia-Pacific Centre of EIU
South Korea

"Introduction of the SEA-PLM (SEA-PLM)"
UNICEF Regional Office for East Asia and the Pacific
Thailand

*Marketplace Session #1*
*Theme #2*

"SEPS: A Call for Collaboration"
SEAMEO SEPS
Thailand

"Empowering and Making Education More Inclusive"
Dr. Dhruv Patel
Founder and CEO
Nisai Group
U.K.

"Partner Success Story"
Engr. Dodjie S. Maestrecampo
MCM Executive Vice President and Chief Operating Officer
Malayan Colleges Mindanao
Philippines
and
John Wiley & Sons
Singapore

"Eliminate the Cause of Educational Inequality: Equity Education Fund"
Dr. Pumsaran Tongliemnak
Educational Economics Specialist
Equitable Education Fund
Thailand

"Learning to Be a 21st-Century Educator"
Mr. Neelesh Bhatia
Co-Founder and CEO
Akadasia
Singapore

"Worlddidac Introduction"
Worlddidac
Switzerland

*Marketplace Session #2*
*Theme #1*

"Chevron Enjoy Science: Preparing the Next Generation for a Sustainable Future"
SEAMEO STEM-ED
and
Chevron Enjoy Science
Thailand

"CISTEM: Creating a Culture of Inquiry and Innovation through Integrated STEM Education"
Dr. Sheryl Lyn C. Monterola
Executive Director
Center for Integrated STEM Education in the Philippines
Philippines

"#MySTEMWork: Understanding the Basics of How Science Works"
Dr. Inez Ponce de Leon
Associate Professor
Department of Communication
Ateneo de Manila University
Representing Unilab Foundation
Philippines

"Project 14: IPST's Mission amidst the COVID-19 Pandemic"
Prof. Dr. Sukit Limpijumnong
President
Institute for the Promotion of Teaching and Technology
Thailand

*Marketplace Session #2*
*Theme #2*

"FESTO: TVET Partnership and Collaboration"
Mr. Volker Schmid
Director for Asia-Pacific
Festo Didactic SE
Germany

"Reimagining International Partnership in the Digital Age"
Mr. Colin Doerr
Director of External Relations
British Columbia Council for International Education
Canada

"Fast Forward to Digitalisation – Making the Most of the COVID Challenge"
Deutsche Gesellschaft für Internationale Zusammenarbeit
Regional Cooperation Programme for TVET in ASEAN
Vietnam

*Marketplace Session #2*
*Theme #3*

"E-Learning Transformation in Vietnam's Higher Education Post-COVID-19"
Dr. Bao Nguyen Le
Provost
Duy Tan University
Vietnam

"The PNU Flexible Learning Programme"
Philippine Normal University
Philippines

"UPOU for All"
University of the Philippines Open University
Philippines

"Universitas Terbuka: Making Higher Education for All"
Prof. Dr. Ojat Darojat
Rector
Universitas Terbuka
Indonesia

"Graduate Study at the University of Tsukuba (Top-10 in Japan)"
Dr. Nomura Nakao
Regional Director for Southeast Asia
Bureau of Global Initiatives
University of Tsukuba
Japan

THEME #1

## Global Education Agenda

MODERATOR

**Dr. Glenn B. Gregorio**
Centre Director
SEAMEO SEARCA
Philippines

PRESENTERS

**UNESCO Bangkok**
Thailand

**Dr. Manos Antoninis**
Director
UNESCO Global Education Monitoring Report
France

**Ms. Li Fan**
Assistant Director
UNESCO International Centre for Higher Education Innovation
China

**UNESCO Asia-Pacific Centre of Education for International Understanding**
South Korea

**UNICEF Regional Office for East Asia and the Pacific**
Thailand

UNESCO's T4P Programme recognises that education is a path that links human rights to gender equality, global citizenship, and cultural diversity. These are the foundations of positive peace. They are not just the absence of conflict but also the presence of justice.

The latest online monitoring tools from the *GEM Report,* shared Dr. Manos Antoninis, provide us with existing regional approaches to monitoring educational systems and policies, along with potential tools to evaluate and explain the progress countries have made in achieving SDG 4. One example is *Scoping Progress in Education (SCOPE),* which summarises key educational facts and trends around the world, amongst others.

UNESCO ICHEI, meanwhile, said Ms. Li Fan, aims to meet the local demand for quality higher education resources and support Asian and African countries to improve their higher education quality and build links to digital education.

UNESCO APCEIU promotes a culture of peace through GCED and EIU to enable learners to share, think, and act. To do that, it fosters international dialogues, undertakes research, and provides training and capacity development in Asia-Pacific and beyond.

Finally, recognising the importance of PLMs for basic education development, SEAMEO and UNICEF developed *SEA-PLM,* which assesses students' learning proficiency in the primary level, specifically in mathematics, reading, and writing and monitors the value of teacher-student engagement in GCED.

THEME #2

## Empowering Schools, Teachers, and Students

MODERATOR

**Dr. Glenn B. Gregorio**
Centre Director
SEAMEO SEARCA
Philippines

PRESENTERS

**SEAMEO SEPS**
Thailand

**Dr. Dhruv Patel**
Founder and CEO
Nisai Group
U.K.

**Engr. Dodjie S. Maestrecampo**
MCM Executive Vice President and Chief Operating Officer
Malayan Colleges Mindanao
Philippines
and
John Wiley & Sons
Singapore

**Dr. Pumsaran Tongliemnak**
Educational Economics Specialist
Equitable Education Fund
Thailand

**Mr. Neelesh Bhatia**
Co-Founder and CEO
Akadasia
Singapore

**Worlddidac**
Switzerland

SEAMEO SEPS called for new collaborations and partnerships that can be obtained through teacher training, community lab establishment, and educational event hosting.

The Nisai Group, according to Engr. Dodjie S. Maestrecampo, offers innovative and flexible learning approaches that allow learners to study at their own pace and progress unlike in traditional classrooms.

EEF, meanwhile, is dedicated to resolving educational inequalities through innovative approaches, such as using big data and direct measures to know individual students' needs and find direct solutions to problems, along with providing opportunities for capacity development, according to Dr. Pumsaran Tongliemnak.

The testimonies of the administrators and faculty of Malayan Colleges Mindanao on using WileyPLUS and E-Text as learning management systems (LMSs) showed that such solutions make learning more creative, increase student engagement and preparedness, and improve teaching. Feedback is very important. These solutions allow the faculty to produce and include relevant content, which matters most to students.

Akadasia, through Mr. Neelesh Bhatia, pointed out that being a 21st-century educator means cultivating a culture of 4Cs. And the foundation of a 21st-century classroom must be based on inquiry, innovation, and interaction. Teachers must be ready for a complete paradigm shift. Pedagogical approaches, such as experiential learning, hand-on experience provision, role playing, and blended learning, can be implemented to change to transition to student-centered learning. As such, 21st-century educators must always look for opportunities and platforms to grow and evolve with time to equip students for the challenges of the oncoming century.

Finally, the participants were introduced to Worlddidac, a global hub where education comes together."

THEME #3

## Science and Science, Technology, Engineering, and Mathematics Education

MODERATOR

**Ms. Piyapa Su-angavatin**
Knowledge Management Manager
SEAMEO Secretariat
Thailand

PRESENTERS

**SEAMEO STEM-ED and Chevron Enjoy Science**
Thailand

**Dr. Sheryl Lyn C. Monterola**
Executive Director
Center for Integrated STEM Education in the Philippines
Philippines

**Dr. Inez Ponce de Leon**
Associate Professor
Department of Communication
Ateneo de Manila University
Representing Unilab Foundation
Philippines

**Prof. Dr. Sukit Limpijumnong**
President
Institute for the Promotion of Teaching and Technology
Thailand

Chevron and SEAMEO STEM-ED gave an overview of Thailand's STEM education improvement project, which is already entering the second phase. The project is aligned with government policies on improving STEM teaching and learning, enriching STEM learning resources, building STEM awareness, and advocating STEM research and policymaking.

CISTEM, meanwhile, through Dr. Sheryl Lyn C. Monterola, provided background information on what it does. It aims to improve STEM education in the Philippines by collaborating with leading institutions to create a culture of inquiry and innovation for nation building.

Unilab Foundation, through Dr. Inez Ponce de Leon, encouraged the youth to become scientists because having more scientists can build a better Philippines.

Finally, IPST, represented by Prof. Dr. Sukit Limpijumnong, talked about what it has been doing to help Thailand during the pandemic. Two of its projects were highlighted—Project 14 and the implementation of a competency-based learning model in Patumkongka School. Project 14 provides self-learning resources for students.

THEME #4

# Technical and Vocational Education and Training Collaboration and Initiatives

MODERATOR

**Ms. Piyapa Su-angavatin**
Knowledge Management Manager
SEAMEO Secretariat
Thailand

PRESENTERS

**Mr. Volker Schmid**
Director for Asia-Pacific
Festo Didactic SE
Germany

**Mr. Colin Doerr**
Director of External Relations
British Columbia Council for International Education
Canada

**Deutsche Gesellschaft für Internationale Zusammenarbeit Regional Cooperation Programme for TVET in ASEAN**
Vietnam

Mr. Volker Schmid of Festo Didactic SE gave an overview on what the company does, along with its products and services. He said its goal and expertise has been helping employees build up their competence to keep up with Industry 4.0 developments. He highlighted some best practices and emphasised that Festo supports the transformation of Southeast Asian education, science, and culture fully.

BCCIE's Mr. Colin Doerr, meanwhile, presented what the organisation has done so far as a SEAMEO affiliate member. It has been facilitating partnerships in education and is very committed to promoting diversity, equity, inclusion, and reconciliation. He also told the participants of upcoming events that it is co-organising with SEAMEO.

Finally, GIZ/RECOTVET's presentation gave a background of the project, highlighting the collaboration with the ASEAN Secretariat, SEAMEO, TVET institutions, and private companies to improve TVET. It aims to match TVET with the requirements of digitalisation.

THEME #5

# Higher Education Initiatives

MODERATOR

**Ms. Piyapa Su-angavatin**
Knowledge Management Manager
SEAMEO Secretariat
Thailand

PRESENTERS

**Dr. Bao Nguyen Le**
Provost
Duy Tan University
Vietnam

**Philippine Normal University**
Philippines

**University of the Philippines Open University**
Philippines

**Prof. Dr. Ojat Darojat**
Rector
Universitas Terbuka
Indonesia

**Dr. Nomura Nakao**
Regional Director for Southeast Asia
Bureau of Global Initiatives
University of Tsukuba
Japan

Dr. Bao Nguyen Le of Duy Tan University shared success stories related to its response to the COVID-19 pandemic, which highlighted its smooth transition to online learning and collaboration.

The PNU presentation, meanwhile, showed how the university changed its curriculum to teach only the most essential subjects during the pandemic. It ensured that teaching and learning materials were accessible to all students. It also implemented a new form of assessment. Its shift to flexible learning focused on three areas—redesigning pedagogical and assessment directions, recalibrating course tracking, and clustering instructional preparation. But it would not be successful without the university management's support.

The UPOU presentation highlighted its over 10 years of experience in open and distance learning. UPOU offers various programmes to learners located in more than 70 countries around the world. At present, it offers short online courses, free OERs, and free webinars and training to anyone interested.

Prof. Dr. Ojat Darojat of Universitas Terbuka pointed out that the university is the leading open and distance institution in Indonesia. It currently provides MOOCs, continuous learning and instructional training programmes, and professional skills training. It also publishes high-quality OERs free of charge to all students and the general public.

Finally, Dr. Nomura Nakao of University of Tsukuba gave an overview of the university. His presentation highlighted three of its graduate school programmes and highly advanced research centres. He shared the programmes collaborate to initiate large-scale research on projects, such as identifying new academic fields that can focus on the relationship between humans and machines.

6

# SEAMEO Congress 2021 Regional Centre Presentations

# Transforming Southeast Asian Education, Science, and Culture in the Digital Age

Six of SEAMEO's regional centre directors shared their thoughts and insights on transforming education, science, and culture in the digital age. More details on these are shown in the next section.

SESSION #1

# SEAMEO Regional Centre for Quality Improvement of Teachers and Education Personnel in Language

The COVID-19 pandemic forced teachers and students to optimise the use of technology in the digital era. Teaching and learning underwent an inevitable change in the form of online learning but it comes with challenges.

Online learning cannot happen by merely using digital tools or platforms. Teachers need to combine their use with face-to-face activities. But this brings problems, too, for both teachers and students.

Dr. Luh Anik Mayani presented some of these challenges from teachers and students themselves. She also shared the results of a SEAMEO QITEP in Language survey on what online training teachers need. The report also enumerated ways to enrich readers' knowledge about available online resources, specifically digital tools and platforms for language learning.

MODERATOR

**Dr. Ramon C. Bacani**
Centre Director
SEAMEO INNTOECH
Philippines

PANELISTS

**Dr. Luh Anik Mayani**
Centre Director
SEAMEO QITEP in Language
Indonesia

**Ms. Susan Leong**
Centre Director
SEAMEO RELC
Singapore

**Dr. Indrawati**
Centre Director
SEAMEO QITEP in Science
Indonesia

**Dr. R. Alpha Amirrachman**
Centre Director
SEAMEO SEAMOLEC
Indonesia

**Dr. Sumardyono**
Centre Director
SEAMEO QITEP in Mathematics
Indonesia

**Dr. Songheang Ai**
Centre Director
SEAMEO TED
Cambodia

The pressure to shift to online learning gave the teachers an opportunity to improve their knowledge and master technology use. Technology use in language learning should not only last during the pandemic, it should become the norm as we move further into the digital era. In effect, training centres like SEAMEO QITEP in Language also need to modify its training programmes to help language teachers become resilient. The transformation will then not only benefit language teachers but also their students.

SESSION #2

## SEAMEO Regional Language Centre

In 2020, educational leaders and educators faced one of the greatest challenges in the history of education—the massive and sudden shift to online teaching and learning due to the global COVID-19 pandemic. Many schools and teachers were caught unprepared due to limited resources, skills, and support to carry out online teaching and assessment. More seriously, many students had very limited access to technology, making it difficult to sustain meaningful and productive learning.

SEAMEO RELC faced similar challenges. Serving teachers throughout the region, it faced issues related to accessibility and equity since all of its learners could not come to Singapore due to travel restrictions.

Ms. Susan Leong shared some of the initiatives SEAMEO RELC implemented to overcome some pandemic-related problems. She also shared some insights from the centre's experiences during the pandemic that can help address relevant issues in the age of digital language teaching and learning.

SESSION #3

## SEAMEO Regional Centre for Quality Improvement of Teachers and Education Personnel in Science

This decade, digital competence and computational thinking are gradually being integrated into school curricula. These are considered key skills for global citizens. Science and technology have become vital to education. Teachers, however, need continuous support to enhance their professionalism. They have to understand every aspect of learning to encourage students to stay actively involved in the digital world.

SEAMEO QITEP in Science, according to Dr. Indrawati will focus on improving science teachers' competence, especially in CT. As part of this programme, it has conducted several activities, such as providing in-house CT training for its academic staff. This was followed by developing training resources and a textbook on CT integration into science learning.

CT is a problem-solving technique with a very broad application scope. It is not only used to solve problems related to computer science but also those we face in daily life. Dr. Indrawati shared about one of the centre's programmes that can accelerate digital transformation by helping teachers enhance their skill in teaching CT as part of science learning.

SESSION #4

## SEAMEO Regional Open Learning Centre

Everyone agrees that this year is amongst the hardest of the century with the onset of the COVID-19 pandemic worldwide. It seems we see and hear nothing but bad news every day, talking about more cases, more losses, and more restrictions.

But we have all heard the saying, "Every dark cloud has a silver lining." And although the virus caused immense suffering and challenges since the start of 2020, it has had some surprising and unanticipated silver linings, proving that nothing is absolute and that positive things can come out of even the worst tragedies.

Amongst these is the acceleration of ICT use in the society, including the education sector. We are seeing more free webinars and online courses and training programmes. The pandemic certainly woke the world to the need to go online and be digitally or ICT literate.

Researchers believe that in the 21st century, students who lack ICT skills will not find work in the future. Even now, education personnel have had to start using virtual platforms and conceptualising and implementing new approaches to collaborative teaching and learning. Students are enhancing their digital competence with the help and support of their parents. Most parents also had to adapt to use technology more effectively.

Dr. R. Alpha Amirrachman tackled how people are becoming increasingly familiar with technology use in education, regardless of their role—teachers, students, or parents. He also explained how SEAMEO SEAMOLEC has been continuing to work even during the pandemic.

SESSION #5

## SEAMEO Regional Centre for Quality Improvement of Teachers and Education Personnel in Mathematics

SEAMEO QITEP in Mathematics has long been improving the knowledge and competence of Southeast Asian teachers in mathematics teaching. But the pandemic prompted it to make some changes in the way it organised its regular course offerings, especially those that had to do with ICT integration and digital technology transformation.

Dr. Sumardyono shared that the centre faced several changes to make its resources more suited to teachers' current needs, including infrastructure readiness and course management. It did so by changing its platforms and course content and duration.

SESSION #6

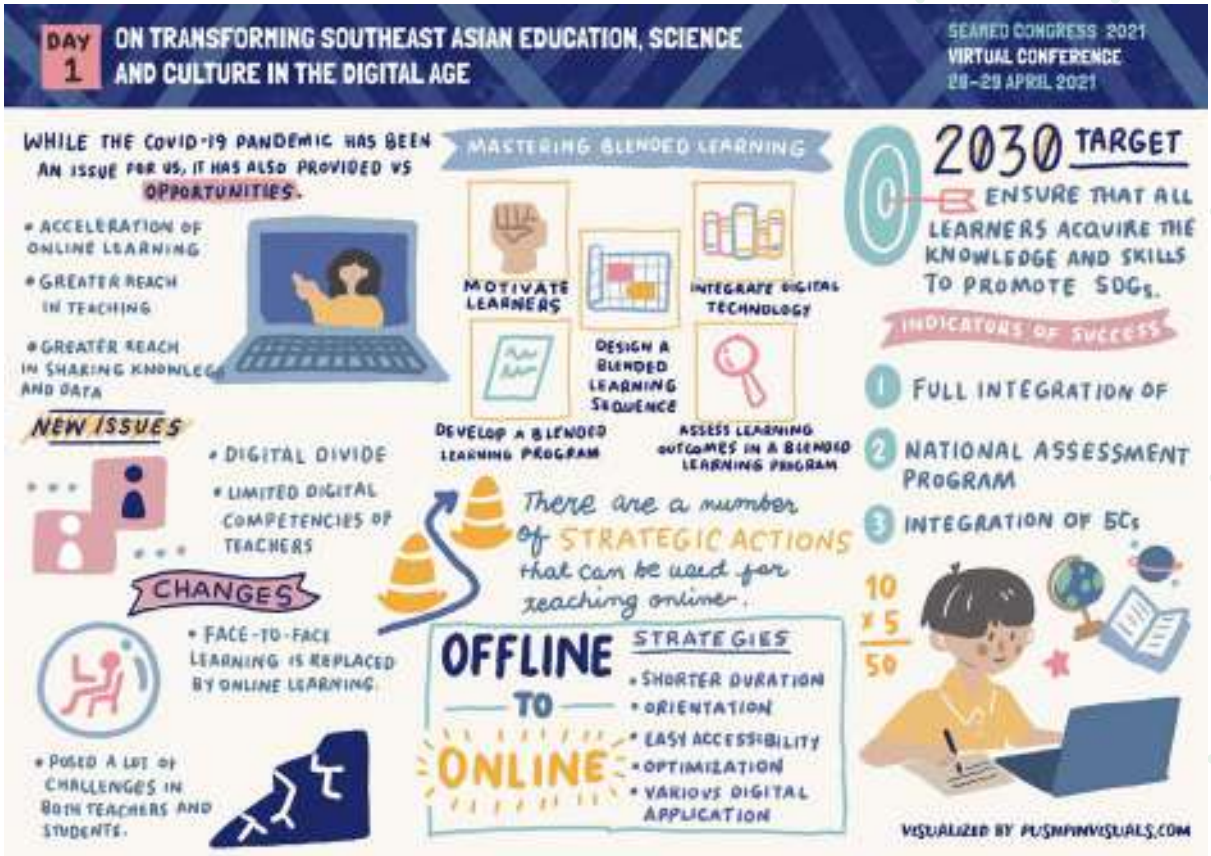
# SEAMEO Regional Centre for Technical Education Development

The COVID-19 pandemic has caused the education sector in Cambodia challenges. Technical education was severely affected by lockdowns. Students could not learn face-to-face.

SEAMEO TED had to make adjustments. It needed to shift to online course delivery and general and technical high schools have been fledgling gradually.

Dr. Songheang Ai tackled the SEAMEO TED study that measured student satisfaction with technical education delivery during the pandemic. Overall, the quality of distance learning course delivery was limited due to lack of technological materials. Teachers and students also did not have the know-how and skills to adapt. More resources and effort should be allocated and exerted to support this new learning norm.

The infographic below shows the highlights from the SEAMEO regional centre presentations.



7

# SEAMEO Congress 2021 Teaching and Learning Innovation and Research Sessions

# Teaching and Learning Innovation and Research

Several papers were presented in SEAMEO Congress 2021. More details on each are presented in the succeeding sections.

SESSION #1

# Teaching Innovation and Research in Mathematics

MODERATOR

**Ms. Cheanmaly Phonesavanh**
Head of the Administration Office
SEAMEO CED
Lao PDR

PANELISTS

**Prof. Dr. Masami Isoda**
Director
Centre for Research on International Cooperation in Educational Development
University of Tsukuba
Japan

**Dr. Ariel B. Mabansag**
Assistant Professor
College of Education
Samar State University
Philippines

**Ms. Pasttita Ayu Laksmiwati**
Training Specialist
SEAMEO QITEP in Mathematics
Indonesia

**Ms. Yoong Soo May**
PhD Student
Department of Special Education
Sultan Idris Education University
Malaysia

**Mr. Albert Llego**
Head Teacher III—Mathematics
Kalalake National High School
Philippines

Prof. Dr. Masami Isoda gave a lecture on revitalising teacher education and adopting a 21st-century curriculum, two of SEAMEO's education priority areas. In collaboration with the SEAMEO Regional Centre for Education in Science and Mathematics (RECSAM), SEAMEO QITEP in Mathematics, IPST, and various curriculum specialists in Southeast Asia, CRICED published *SEA-BES: CCRLS and Mathematics Challenges.* It also provided Indonesian schools with mathematics textbooks. But due to difficulties with onsite collaboration, it instead decided to offer an online programme on the SEAMEO Schools Network in collaboration with SEAMEO QITEP in Mathematics, SEAMEO RECSAM, Khon Kaen University, Vietnam National University, and UP. This course has 20 lessons that will be available online from March 24 to May 31 2021. To date, it has trained 1,700 lecturers, teacher trainers, and teachers from around the world. It hopes to explain conceptual changes that have been made to mathematics curricula to help those who may be facing language barriers. In effect, inconsistencies will be reduced.

In his presentation, Dr. Ariel B. Mabansag shared how he investigated the causal relationship between various factors and the PISA student performance in mathematics in the Philippines and Singapore. The study revealed the positive effects of adaptive instruction, perseverance, metacognition, fear of failure, classroom discipline, and competitiveness on the mathematics performance while teacher-directed instruction, reading difficulty, and mastery goal orientation showed negative effects. Moreover, reading difficulty, metacognition, and mastery goal orientation partially mediated the relationship between teacher-directed instruction, perseverance, classroom discipline, and competitiveness in school to mathematics performance. While mathematics performance was influenced both positively and negatively by latent factors, causal relationships can be addressed if reading difficulty, metacognition, and mastery goal orientation are reduced.

Ms. Pasttita Ayu Laksmiwati, meanwhile, said integrating ICT into mathematics is necessary if we want students to succeed in the digital era. ICT use can give students better learning experiences and help them develop skills essential to the digital era. She shared how to design technology-enhanced mathematical tasks using Cabri 3.3. These could improve learners' spatial skills. The results of her study showed how these taks allowed students to learn by predicting, exploring, and solving given problems. They can also provide teachers with alternatives to paper-and-pencil tasks.

In her presentation, Ms. Yoong Soo May opened by saying SDG 4 aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. But prolonged absence from school due to COVID-19 worsened the learning outcomes of students, especially the disadvantaged. She shared how the implementation of the ADDIE Model helped students with dyscalculia, a specific learning difficulty in mathematics. She hopes that her findings can serve as a reference for developing content for children with specific learning difficulties.

Finally, Mr. Albert Llego said that online teaching has been dubbed effective during the pandemic. But the change required teachers to prepare to adapt to the paradigm shift. His study identified the factors that could affect teaching performance in mathematics. The results showed that the teachers surveyed were competent. No significant variations in their online teaching competence were observed but attending webinars and training sessions related to online assessment and evaluation can improve their performance.

SESSION #2

# Teaching Innovation and Research in Technical and Vocational Education and Training

MODERATOR

**Dr. Dwi Priyono**
Centre Director
SEAMEO CECCEP
Indonesia

PANELISTS

**Prof. Dr. Nomura Nakao**
Regional Director for the Southeast Asia and Taiwan Offices
University of Tsukuba
Japan

**Mr. Adirek Vajrapatkul**
Researcher and Lecturer
Sukhothai Thammathirat Open University
Thailand

**Mr. David Edward Jimenez**
PhD Student
University of the Philippines
Philippines

**Dr. Finita Dewi**
English Lecturer
Universitas Pendidikan
Indonesia

**Mr. Jerick Temporal Gonzales**
Coordinator
Naglaoa-an National High School
Philippines

Prof. Dr. Nomura Nakao said the pandemic helped the education sector use online tools as platforms for academic activities, albeit some drawbacks. That includes no opportunities for students to participate in cultural and social exchange activities. The University of Tsukuba, therefore, launched TSUKU-CHAT to serve as a cultural exchange space for local and international students. It lets students participate in cultural discussions and debates. TSUKU-CHAT hosts events weekly. Hundreds students from Japan and other countries participate in it. Three sessions have been held so far.

In his presentation, Mr. Adirek Vajrapatkul stated that human resources are crucial to sustainable economic development. As such, raising their quality and quantity is a must. Well-designed national policies is one way to go about it. His study, however, focused on how education affected people's life expectancy and thus a country's national income. It concluded that education significantly impacted life expectancy.

Mr. David Edward Jimenez talked about TESDA, the Philippine agency responsible for promoting and standardising TVET. His study showed that teachers have noticed lack of perseverance and creativity amongst students, which affected their academic performance. In response, TESDA added a life skills programme to the TVET curriculum. It has so far attained very satisfactory feedback from students.

In her presentation, Dr. Finita Dewi stressed that the ever-changing and -evolving work landscape demands professional life skills from students. If we want to avoid a skills gap, educators need to create a road map for students and equip them with work-ready skills before they graduate. Her study attempted to explore how much online teacher capacity building can help educators design instruction, create classroom environments, and develop assessment tools to arm students with work-ready skills. All in all, the study showed that online teacher capacity building could successfully immerse participants in their future work environments and boost their capacity to do the same for others.

Finally, Mr. Jerick Temporal Gonzales discussed the Joint Delivery Voucher Programme (JDVP) of DepEd, which aims to upskill and train technical-vocational livelihood students. His study looked at the beneficiaries' experiences. He concluded that even amidst the pandemic, learning can take place through programmes, such as JDVP.

SESSION #3

# Research on Digital Learning

Prof. Huang Ronghuai believes we are facing the third wave of online learning, which is a tragedy since it was accelerated by the COVID-19 pandemic. But it is also good in that we are rethinking education to get students ready for the digital age. He shared the latest research and findings as well on three innovative practices in China. From these, he noted some key issues that need to be addressed. These include lack of student diversity, differentiated instruction, and ICT literacy, leading to a digital divide. He believes new education should be personalised, contextualised, and data-driven and discussed steps we could take to achieve this. The flexible learning strategies being employed now is a step towards this goal. We must make online education sustainable. In the future, schools can make the online-merge-offline (OMO) learning mode mainstream.

In his presentation, Mr. Gino A. Cabrera said that overusing the Internet is problematic. It has been leading to undesirable habits and behaviours, including uncontrolled use of social networks for fear of missing out. His study showed that the issue is moderately prevalent, especially amongst college students.

Dr. Romualdo Mabuan, meanwhile, believes that as educational front liners, it is critical for teachers to have access to quality professional development, as it is vital in delivering quality education and improving student learning outcomes. He shared his own experience with successfully completing 52 webinars to improve his work performance and urged others to do the same.

MODERATOR

**Dr. Margarita Consolacion Ballesteros**
Director
International Cooperation Office
Department of Education
Philippines

PANELISTS

**Prof. Huang Ronghuai**
Dean of the Smart Learning Institute
Beijing Normal University
China

**Mr. Gino A. Cabrera**
Licensed Psychometrian and a Certified Specialist in Industrial-Organisational Psychology
Southern Luzon State University
Philippines

**Dr. Romualdo Mabuan**
Assistant Professorial Lecturer
English Area
Far Eastern University
Philippines

**Dr. Jake Raymund F. Fabregar**
Faculty Member—Teacher Education and College Research Coordinator
College of Education
Cavite State University
Philippines

**Dr. Rhodora P. Suarez-Crizaldo**
Associate Professor V and Faculty Researcher
College of Education
Cavite State University
Philippines

**Dr. Jovan B. Alitagtag**
Faculty Member—Teacher Education and College Public Information and Management Information System Officer
College of Education
Cavite State University
Philippines

**Ms. Diane Dimapasok Lipat**
College Instructor—Psychology Department
University of Batangas
Philippines

In their presentation, Dr. Jake Raymund F. Fabregar, Dr. Rhodora P. Suarez-Crizaldo, and Dr. Jovan B. Alitagtag assessed the level of preparedness of state universities and colleges (SUCs) in the CALABARZON region in the Philippines in implementing flexible learning. They also looked into the differences between the assessment methods SUCs used and what strategies they should consider to improve education in the new normal. The results showed a need to strengthen the implementation of flexible learning so it can reshape the future of education and improve learning delivery.

Finally, Ms. Diane Dimapasok Lipat shared how she measured and compared the online and offline personalities of the Gen-Z respondents to her study on social media. The results of which, she said, can catalyse changes and further understanding on the part of school administrators. She noted significant differences in the respondents' agreeableness, conscientiousness, emotional stability, and intellect and imagination when online and offline. She said children must be taught to properly manage their digital identities, as huge differences between their digital and real selves could result in psychological disturbances.

SESSION #4

# Innovation and Research in Language Teaching

MODERATOR

**Mr. Joselito G. Florendo**
Deputy Director
SEAMEO SEARCA
Philippines

PANELISTS

**Ms. Leah Joyce Quilang**
English and Journalism Teacher
Cauayan City National High School
Philippines

**Ms. Tracey Ang**
Teacher
SJK(C) Cheng Ming
Malaysia

**Ms. Bui Thi Xuan Linh**
Lecturer
Vinh University of Technology Education
Vietnam

**Mr. Eryl A. Garantuza**
English Teacher
Lumban National High School
Philippines

Ms. Leah Joyce Quilang began by enumerating the challenges nonnative English speakers face, which include increased dropout rates and anxiety. She noted the effects of using subtitled anime shows on students' vocabulary and syntax expertise. Her study's results showed that anime use effectively expanded learners' vocabulary and knowledge of syntax. It concretised learning for the participants.

In her presentation, Ms. Tracey Ang said 21st-century education means improving learners' higher order thinking skills (HOTS). That translates to adhering to the *Malaysia Education Blueprint.* Her study's results showed that gamification allowed students to engage more in discussions. Transdisciplinary learning makes students happier and, therefore, more open to learning. Traditional learning, meanwhile, may no longer work amongst today's students.

Ms. Bui Thi Xuan Linh, meanwhile, investigated written errors students commit in A2 Flyers, a Cambridge English qualifications test designed for young learners. She found that the learners had the greatest difficulty with the composition part of the exam. They had an especially hard time with subject-verb agreement and verb tenses. They also struggled with pluralisation, using prepositions and articles, word order, and spelling. Some used very short and incomprehensible sentences. These errors could be due to confusion stemming from their native tongue, carelessness, and lack of knowledge of grammar rules. She recommends that teachers focus on correcting the common errors.

Finally, Mr. Eryl A. Garantuza opened by saying DepEd considers reading an essential skill. He tested if teaching reading culture-sensitive materials is effective. The study's results showed an evident increase in the learners' mean percentage scores when traditional reading materials were replaced with culture-sensitive ones. Their cultural sensitivity was also enhanced.


Teaching and Learning Innovation and Research
Session D: Innovation and Research in Language Teaching
Ms Leah Joyce Quilang
Cauayan City National High School
Philippines
Ms Tracey Ang
SJK (C) Cheng Ming
Malaysia
Ms Bui Thi Xuan Linh
Vinh University of Technology Education
Vietnam
Mr Eryl A Garantuza
Lumban National High School
Philippines
Moderator:
Mr Joselito G Florendo
Deputy Director
SEAMEO SEARCA
Philippines
Co-organisers
unesco
Gold Partners
nisaiAsia
WILEY
Silver Partners
ENJOY SCIENCE
EEF
Bronze Partners
DepED
FESTO
SEAMEO CONGRESS 2021 (Virtual)
Theme : Transforming Southeast Asian Education, Science and Culture in the Digital Age

SESSION #5

# Research at the Classroom and School Levels

Dr. Russel T. Soltura discussed how the academic performance of senior high school general chemistry students improved because of their exposure to learning materials that used the *5Es Teaching and Learning Model for STEM Education.* The learning materials included difficult topics.

In his presentation, Dr. Worrawit Nakpan compared students' satisfaction with subjects using four quality indicators—class management, instructor performance, equipment preparedness, and teaching effectiveness. One group was taught using face-to-face discussions while the other used online learning. No statistical differences were observed between the two groups regarding class management and teaching effectiveness. For instructor performance, the online group was more satisfied most likely due to the extra preparation done for this new mode of education delivery. But for equipment preparedness, the face-to-face group was more satisfied since they could use actual equipment.

Mr. Ronnie Tariman demonstrated the positive effects of implementing school-based management (SBM). He said that transferring the responsibility to make decisions from the state to individual schools had better results.

MODERATOR

**Prof. Dr. Ma. Sandra B. Tempongko**
Deputy Coordinator
SEAMEO TROPMED Network
Thailand

PANELISTS

**Dr. Russel T. Soltura**
Senior High School Coordinator and Master Teacher II
Quezon Science High School
Philippines

**Dr. Worrawit Nakpan**
Lecturer
Sukhothai Thammathirat Open University
Thailand

**Mr. Ronnie Tariman**
Researcher
Aleosan National High School
Philippines

**Ms. Ruby Ann D. Jeremias**
Researcher
F. De Castro Elementary School
Philippines

**Ms. Elsa O. De Leon**
District Supervisor of the Municipality of GMA and Executive Chair of the Municipal Research Council in GMA
Philippines

**Mr. Ramuel Ibay Bersamin**
Administrator
F. De Castro Elementary School
Philippines

**Dr. Ma. Victoria Castillo-Magayon**
Lecturer
Taytay Senior High School
Philippines

**Ms. Magdalena C. Valdez**
Division Statistician
Schools Division Office-Rizal
Philippines

**Ms. Ma. Theresa T. Cruz**
Research Teacher
Taytay Senior High School
Philippines

In their presentation, Ms. Ruby Ann D. Jeremias, Ms. Elsa O. De Leon, and Mr. Ramuel Ibay Bersamin explored elementary schoolchildren's experiences with early career guidance programmes. They found that the experience allowed the learners to improve their self-exploration, -development, and -awareness.

Finally, Dr. Ma. Victoria Castillo-Magayon, Ms. Magdalena C. Valdez, and Ms. Ma. Theresa T. Cruz described the effects of using template- and task-based activities as supplementary materials in research subjects in senior high school. Their findings showed that students find the materials helpful, enabling them to do research, explore, and complete tasks on their own.

SESSION #6

# Teaching Innovation and Research in Higher and Special Education Institutions

Dr. Mildred M. Crisostomo analysed participants' experiences with internationalisation. She found that they viewed internationalisation as a form of global engagement amongst culturally and linguistically competent learners. They considered student mobility a gateway to study abroad and form networks. The challenges they faced include time frame and workload differences, technology use and connectivity, and cultural and language adjustments. An ideal student mobility programme, according to the participants, must have a clear sense of purpose and agenda, be run or handled by effective and topnotch facilitators, and foster an environment that supports equality and equity.

In their presentation, Dr. Fernando P. Palacio and Dr. Nikan Sadehvandi discussed how a collaborative MOOC co-created by Kyoto University, Hong Kong Polytechnic University, and the University Social Responsibility (USR) Network worked. They also described how the universities responded to COVID-19 to help others improve their own action plans.

MODERATOR

**Dr. Paryono**
Deputy Director for Professional Affairs and Research Manager
SEAMEO VOCTECH
Brunei Darussalam

PANELISTS

**Dr. Mildred M. Crisostomo**
Researcher
Don Honorio Ventura State University
Philippines

**Dr. Fernando D. Palacio**
Relationship Manager
Kyoto University
Japan

**Dr. Nikan Sadehvandi**
Research Associate
Center for the Promotion of Excellence in Higher Education
Kyoto University
Japan

**Prof. Deanne Lynn Clouder**
Project Lead for the Entender CBHE Project
Coventry University
U.K.

**Dr. Wulan Patria Saroinsong**
Lead for Research and Development Studies on Gamification Education for Young Kids
Universitas Negeri Surabaya
Indonesia

**Mr. Ferdi Widiputera**
Analyst and Researcher
Centre for Policy Research
Ministry of Education and Culture
Indonesia

Prof. Deanne Lynn Clouder, meanwhile, shared the factors that influenced access to and inclusion for disabled students in higher education institutions in Indonesia, Malaysia, the Philippines, and Vietnam. Her findings suggest that while laws and policies supporting the inclusion of disabled students in HEIs exist, they are not translated into practice well. Disability awareness remained limited amongst staff and conceptions of disability are narrowly defined to only include physical impairment. And when adjustments are made to accommodate issues, they are generally on an individual basis rather than systematic. Students with impairments rely on available strategies and technologies. But their choices in terms of programme, for example, appear limited. The ALIGN Network hopes to extend its membership to other partner HEIs in Southeast Asia and develop a capacity-building project to raise awareness amongst stakeholders.

Dr. Wulan Patria Saroinsong determined how the parents of Alpha Generation learners used positive habituation to help them develop autonomy. If other parents are not yet doing the same training, they can start.

Finally, Mr. Ferdi Widiputera tackled the implementation of the Independent Campus Policy in Indonesia. His study's results showed that while HEIs are already implementing the policy, they are facing a number of challenges. One of these is how to evaluate and assess results. Every institution has a different geography and context. As such, the government needs to formulate standard process criteria to make the policy work for all HEIs.

SESSION #7

# Teaching Innovation and Research in Science

MODERATOR

**Mr. Khau Huu Phuoc**
Research and Training Manager
SEAMEO CELLL
Vietnam

PANELISTS

**Mr. Eufemio D. Adarayan, Jr.**
Master Teacher
Pambujan National High School
Philippines

**Dr. Joy Talens**
Programme Chair
Education Department
De La Salle Lipa
Philippines

**Mr. Ronaldo C. Reyes**
Education Programme Supervisor
Department of Education Schools Division Office
Philippines

**Ms. Faith Micah D. Abenes**
Instructor I
College of Education
Rizal Technological University
Philippines

**Mr. Lukman Nulhakim**
Head
ICT, Data, and Evaluation Division
SEAMEO QITEP in Science
Indonesia

Mr. Eufemio D. Adarayan, Jr. developed a system to enhance teacher competence in basic education, specifically, their skill in conducting science experiments and investigations. He created a module that was validated by academic experts and science trainers from DepEd's National Educator's Academy of the Philippines. Findings showed that before using the module, the teachers performed below expectations. Using it, meanwhile, significantly improved their skills. Their overall outlook towards deliberate planning for lessons also improved.

In her presentation, Dr. Joy Talens said all learners are expected to know their environment and understand how living and nonliving things in it interact. That sets the foundation for how they can appreciate similarities and differences between organisms and, in effect, understand the concept of biodiversity. She explored how senior high school students see biodiversity. Based on her findings, the learners had a narrow concept of biodiversity, especially how humans interact with nature. So she proposed sample active learning strategies to deepen the students' understanding so they can preserve biodiversity.

Mr. Ronaldo C. Reyes said that learners need to develop 21st-century skills, especially making inquiries. That means upgrading science instruction using various innovative teaching strategies and techniques, particularly socio-scientific-based instruction (SSBI). He investigated how SSBI facilitates the development of inquiry skills amongst students. Results suggest that using SSBI improved the participants' inquiry skills. They could provide better explanations based on evidence, communicate better, and justify their explanations.

In her presentation, Ms. Faith Micah D. Abenes stated that in 2018, the Philippines scored lowest in the PISA reading comprehension test and second lowest in mathematics and science. The National Achievement Test (NAT) results echoed these results. As such, DepEd realised this needs to be addressed. From then on, the ministry has been improving the educational system. Several instructional materials were upgraded and made more engaging. These were made more relevant to today's learners who want to know everything with just one click. Since they are used to going digital, education must become digital as well. She suggests that schools use digital game-based learning (DGBL). Her study proved that it was more effective but issues like lack of digital devices in school need to be addressed.

Finally, Mr. Lukman Nulhakim described the development of STEM teaching materials in SEAMEO QITEP in Science in an effort to inspire science teachers in implementing STEM learning. The teaching materials are modules with three main components—a learning scenario, worksheets, and assessment instruments. Each module will require students to apply physics, Arduino technology, and mathematics concepts to create practical things like smart face shields.

SESSION #8

# Research on Digital Learning

Ms. Kezia Marcellova Glory, Mrs. Lemmuela Kurniawati, and Ms. Lia Erica Debbyanti said that lack of motivation to learn could stem from boring and lengthy synchronous classroom activities. In online learning, Internet connectivity and credit accreditation were added to the list. So the researchers developed a synchronous and asynchronous class session on Google Classroom. Their findings showed that this gave teachers a means to better assess student performance.

In her presentation, Ms. Mailyn R. Ugali investigated how much teachers integrated technology into science lessons. The results showed that technology use in class increased the students' level of interest. This is especially true since today's learners are digital natives.

Dr. Maria Theresa B. Markines, meanwhile, examined the effectiveness of ICT-based phonetic drills to improve students' English pronunciation skills. The results showed that using ICT-based phonetic drills could enhance learners' pronunciation skills. She also found that the longer remediation lasted, the better the students performed.

MODERATOR

**Mr. Reza Setiawan**
Deputy Director for Programmes
SEAMEO QITEP in Science
Indonesia

PANELISTS

**Ms. Kezia Marcellova Glory**
Faculty Member of the English Language Education Department
Universitas Kristen Duta Wacana
Indonesia

**Mrs. Lemmuela Kurniawati**
Faculty Member and Head of the English Language Education Department
Universitas Kristen Duta Wacana
Indonesia

**Ms. Lia Erica Debbyanti**
SEAMEO SEAMOLEC
Indonesia

**Ms. Mailyn R. Ugali**
Focal Person in Continuing Professional Development
Professional Regulation Commission—Regional Office III
Philippines

**Dr. Maria Theresa B. Markines**
Research Publication Supervisor
Northern Bukidnon State College
Philippines

**Dr. Edith A. Lindog**
Teacher and Researcher
Lipa City Senior High School
Philippines

**Ms. Esra Nelvi M. Siagian**
Deputy Director for Programmes
SEAMEO QITEP in Language
Indonesia

In her presentation, Dr. Edith A. Lindog investigated the effect of using the photovoice method in teaching oral communication. The results revealed that it was an effective method to improve learners' speaking ability. It also enhanced other skills, allowing them to communicate their knowledge, views, feelings, and experiences better.

Finally, Ms. Esra Nelvi M. Siagian said teachers need to know what characterises Gen-Z and Alpha learners. They should also know what 21st-century skills are and how these can be taught well. Students should not only learn how to use a specific language but also be ready to take on challenges in their future workplaces. They need to have critical thinking, problem solving, creativity and innovation, and good communication and collaboration skills. But language teachers cannot help learners if they do not start using communicative language teaching, cooperative language learning, and mobile-assisted language learning.

SESSION #9

# Innovation and Research in Teaching Science, Technology, Engineering, Arts, and Mathematics

MODERATOR

**Dr. Sumardyono**
Centre Director
SEAMEO QITEP in Mathematics
Indonesia

PANELISTS

**Mr. Daniel Obst**
President and CEO
AFS Intercultural Programs
U.S.

**Ms. Ratih Ayu Apsari**
Lecturer
Faculty of Teacher Training and Education
Universitas Mataram
Indonesia

**Dr. Chokchai Yuenyong**
Assistant Professor for Science Education Programme and Faculty of Education Vice President of the Science Education Association of Thailand
Khon Kaen University
Thailand

**Ms. Pairoh Sohsomboon**
Lecturer
Division of Science Education
Faculty of Education
Nakhon Phanom University
Thailand

**Ms. Russasmita Sri Padmi**
Specialist
SEAMEO QITEP in Mathematics
Indonesia

Mr. Daniel Obst said STEM skills alone will not be sufficient to create the leaders we need to achieve the SDGs. Most of these transcend borders and require people to collaborate across cultures. He presented a compelling case showing why future STEM professionals must be empowered with essential global skills to successfully tackle pressing problems. His study showcased innovative educational solutions from around the world. He also shared how short international intercultural experiences could build global skills based on AFS case studies and Purdue University research and how to build public-private partnerships (PPPs) to bring women and students from diverse low-income communities into the STEM landscape.

In her presentation, Ms. Ratih Ayu Apsari described a set of STEAM learning activities that could be applied to a Balinese context. She discussed how creating an ogoh-ogoh, a traditional wooden statue that aims to purify the universe could be likened to the knowledge students can gain from STEAM education. With her findings, she hoped to inspire teachers to use cultural practices in lessons so students can relate these to real life.

Dr. Chokchai Yuenyong said STEM instruction can enhance students' engineering and technological skills. But to be effective, lessons need to use real-world problems or tasks. He discussed what teachers need to properly assess the effectiveness of STEM instruction. They could, for instance, gauge this by looking at how well learners acquire 21st-century skills.

In her presentation, Ms. Pairoh Sohsomboon applied her learnings from *The Ascent of Man* to improve STEM teaching and learning strategies. She provided guidelines for designing STEM activities because she believes teachers can use these to encourage students to acquire a STEM mindset and, thus, become good 21st-century citizens.

Finally, Ms. Russasmita Sri Padmi said that while most lessons can easily be brought online, some like hands-on and physical activities, cannot. STEM activities, which require students to work in groups, tinker with materials, and communicate findings, fall under the second category. She thus attempted to develop a STEM lesson that could be executed online. At the end of the study, the participants separated what worked from those that did not. The activities that translated well online could be adopted by STEM teachers for better student performance.

SESSION #10

# Research at the Classroom and School Levels

MODERATOR

**Dr. Mariam binti Othman**
Deputy Director of Research and Development
SEAMEO RECSAM
Malaysia

PANELISTS

**Ms. Estrella O. Simon**
Founder and President
First City Providential College
Philippines

**Ms. Nefrijanti Sutikno**
Parenting Coach and Core Specialist in Training
Yayasan Pusat Kemandirian Anak
Indonesia

**Mr. Pornchai Chinnasa**
PhD Student
Khon Kaen University
Thailand

**Mr. Brian Adams V. Bugarin**
Faculty Member
Don Mariano Marcos Memorial State University
Philippines

**Dr. Milano O. Torres**
Science Education Graduate Programme
Chairperson
Bicol State College of Applied Sciences and Technology
Philippines

Ms. Estrella O. Simon assessed the online learning styles of junior high school students in science, mathematics, and English to determine if these are related to their achievements. The results showed that science and mathematics students were mostly auditory learners while English students were more visual. She found that learning style and student achievement are related, suggesting that science teachers need to give more auditory and kinesthetic or tactile activities. English teachers, meanwhile, need to provide more visual and kinesthetic or tactile activities. And mathematics teachers should focus on more visual and auditory lessons. Doing so would likely translate to better grades.

In her presentation, Ms. Nefrijanti Sutikno said children with special needs encounter issues that prevented them from participating well in the new era where education, science, and culture are entering the digital age. She studied the effectiveness of Masgutova Neurosensorimotor Reflex Integration (MNRI) in reducing the issues the students face. She concluded that MNRI is an essential therapy method, as it provides the “missing link” in the special needs development chain.

Mr. Pornchai Chinnasa explained what the “nature of science” is. Many teachers use textbooks to impart this to students but it does not seem to be working. She proposed several ways to link historical information with practical examples, as this could bring about better results.

In his presentation, Mr. Brian Adams V. Bugarin said teachers are critical to making learning effective. They are crucial to properly implementing the K–12 curriculum and attaining the Philippine education goals. But many of them are hired to teach subjects outside their specialisations. They also end up doing a host of Herculean tasks, negatively affecting student learning. He sought to understand the experiences of out-of-field teachers in teaching physics. They suffered personal and classroom- and government-related challenges. But they handle these by taking professional and personal development training. Despite their struggles, they still strive to demonstrate love, passion, patience, care, and happiness with what they do. Administrators should review existing practices and policies in hiring teachers. Out-of-field teachers must also be given more opportunities to attend seminars and workshops to strengthen their conceptual knowledge and skills in their assigned subject areas.

Finally, Dr. Milano O. Torres said metacognition should be understood and explored in the context of teaching to develop a framework for science teaching that uses a multimethod lens. His findings revealed that metacognitive teaching needs to be further developed, as it could give science teachers the qualities they need to train students better. He introduced the so-called "Metacognitive Environment in Teaching and Learning (MEnTaL) Model," which enumerates the attributes every science teacher should have.

8

# SEAMEO Congress 2021 E-Poster Exhibit

# E-Poster Exhibit

Apart from the panel discussions and paper presentations, SEAMEO Congress 2021 participants also had the chance to view 33 e-posters and interact with their creators via the Floor system feature. Listed below are the e-posters and their corresponding creators from Indonesia, the Philippines, Malaysia, and Australia.

| Number | Title | Creator |
|---|---|---|
| EP01 | Student-Related and Motivating Factors | Ms. Lorraine Lubel P. Sajulan<br>Linga National High School<br>Philippines |
| EP02 | The Effect of Interactive Digital Learning Modules on Student Learning Activities and Autonomy | Ms. Wenny Pinta Litna Br Tarigan<br>Chandra Kumala School<br>Indonesia |
| EP03 | A Bibliometric Portrait of Southeast Asian Education | Mr. Abdul Syahid<br>Institut Agama Islam Negeri Palangka Raya<br>Indonesia |
| EP04 | Collaborative Reflective Activity Using Online Collaborative Apps to Enhance Student Engagement in New Normal Education | Ms. Mariefe Ambat Escalaw<br>DepEd<br>Philippines |
| EP05 | Adopting the Actor-Network Theory Approach for School Library Digital Content in Lagro Senior High School (LSHS) | Mr. Mamerto T. Goneda, et. al<br>LSHS<br>Philippines |
| EP06 | A Web-Based Library System for LSHS amidst the Pandemic | Mr. Jomer Reign C. Hilario, et. al<br>LSHS<br>Philippines |
| EP07 | Stakeholders' Leadership Capabilities: Their Contribution to School Improvement | Mr. Gay R. Lumapguid<br>Dilangalen National High School<br>Philippines |
| EP08 | The Implementation of Flipped Learning in Biotechnology to Improve Concept Mastery and Develop a Positive Character among Grade 9 Students | Ms. Gita Nurul Puspita<br>Sekolah Menengah Pertama Negeri (SMPN) 2 Cimahi<br>Indonesia |
| EP09 | Predictors of Team Effectiveness amongst Early Childhood Teachers in Bukidnon, Philippines | Ms. Merasol P. Yunker<br>Northern Bukidnon State College<br>Philippines |
| EP10 | Journey of Neophyte Teachers from the Mirrors of School Administrators | Ms. Marilyn Lorente-Balmeo, et. al<br>Saint Louis University Laboratory Junior High School<br>Philippines |

| Number | Title | Creator |
|---|---|---|
| EP11 | Mediating Factors in NAT Performance in Mathematics Using Structural Equation Modeling (SEM) | Dr. Aurelia G. Vivas<br>DepEd Batangas City<br>Philippines |
| EP12 | The Language of School-Based Memoranda: A Textual Analysis | Mr. Edwin S. Badilla<br>Dilangalen National High School<br>Philippines |
| EP13 | Determinants of the Mathematics Performance of Grade 10 Students in Midsayap | Mr. Francis Sam L. Santañez<br>Southern Christian College<br>Philippines |
| EP14 | Satisfaction Level of Teachers with Human Resource Management (HRM) Practices | Mr. Mark Anthony A. Catiil<br>Gingoog City Comprehensive National High School<br>Philippines |
| EP15 | Antecedents of Quality Educational Services and School Performance of Integrated National High Schools in the Philippines | Dr. Gina Esquilona Virina<br>Magdalena Integrated National High School-Division of Laguna Philippines<br>Philippines |
| EP16 | Compliance to the Guidelines of the Caloocan City Secondary Public Schools' Canteen Operation Management and Services in Accordance with Revised DepEd Order No. 8, S. 2007 | Ms. Elena Ignacio Malicdem<br>Caloocan High School<br>Philippines |
| EP17 | Towards an Evolving Change Management Theory for SBM | Dr. Ronald Vincent R. Salva<br>PNU<br>Philippines |
| EP18 | Improving Civil Servants' Competence through Communication Skills Training | Ms. Jamila Lestyowati<br>Financial Education and Training Agency, Ministry of Finance<br>Indonesia |
| EP19 | Analysing the Level of Student Digital Literacy and Collaborative Skill through the Innovative "Science Explorer" Method | Mr. Qurrota A'yun<br>Semesta Secondary School 2, Semarang<br>Indonesia |
| EP20 | Problem Solving Learning Strategy in an Abundant Era | Ms. Silviani Kesuma<br>Regional HRD Agency of Central Sulawesi<br>Indonesia |
| EP21 | Teachers' Scholastic Achievement Test and Students' NAT | Dr. Daniel S. Lerongan<br>Northern Bukidnon State College<br>Philippines |
| EP22 | Unraveling Students' Insights from Their Job Fair Experiences: A Qualitative Analysis | Ms. Jessica Cabaces<br>Alangilan Senior High School<br>Philippines |
| EP23 | Project English Teachers Offer Writing Workmanship; Guide for Instruction (ETO WAGI): Its Impact to Teacher Professional Development and Student Achievement | Ms. Blessie D. Arabe<br>Alangilan Senior High School<br>Philippines |
| EP24 | The Real Culprit: School Support, Parental Involvement, and Academic and Socio-Emotional Outcomes for Learners | Dr. Pablo A. Regalario and Mr. Joseph Ma. Steven S. Cabalo<br>Lipa City Senior High School<br>Philippines |

| Number | Title | Creator |
|---|---|---|
| EP25 | Teacher Confidence and Level of Awareness of Their Training Needs towards Inclusive Education | Mr. Nick John B. Solar and Mr. Nilo L. Masbaño<br>DepEd Iloilo<br>Philippines |
| EP26 | Project Work Immersion Safety Induction Program (WISIP): An Innovation to Research Utilisation | Ms. Ma. Queencita M. Realingo<br>Alangilan Senior High School<br>Philippines |
| EP27 | Managing the Use of Fun Activities in Accounting for Senior High School Teachers | Ms. Kathleen P. Garcia<br>Alangilan Senior High School<br>Philippines |
| EP28 | Project-Based Learning with Wingeom-Assisted Mathematics Game Media | Ms. Siska Firmasari<br>Universitas Pendidikan Indonesia<br>Indonesia |
| EP29 | Powtoon-Based Learning about Polyhedrons | Ms. Setiyani<br>Universitas Swadaya Gunung Jati<br>Indonesia |
| EP30 | Analysis of the Effects of Learning Systems, Teaching Quality, Parental Support on the Literacy of Junior High School Students | Mr. Hanjaya<br>Rumah Observasi Indonesia Internasional<br>Indonesia |
| EP31 | Planning and Organising: How They Help in Developing and Achieving Realistic Goals in a Digital World | Ms. Pan Htwa Myo Sein<br>University of Wollongong<br>Australia |
| EP32 | Teacher-Made Audio Lessons: Learning by Listening Anytime, Anywhere | Mr. Chin Chee Keong<br>Institute of Teacher Education Tuanku Bainun Campus, Bukit Mertajam<br>Malaysia |
| EP33 | School of the Future: The Use of the 5Ps in Facilitating Mathematics Learning | Mr. Christian R. Repuya<br>Bicol State College of Applied Sciences and Technology<br>Philippines |

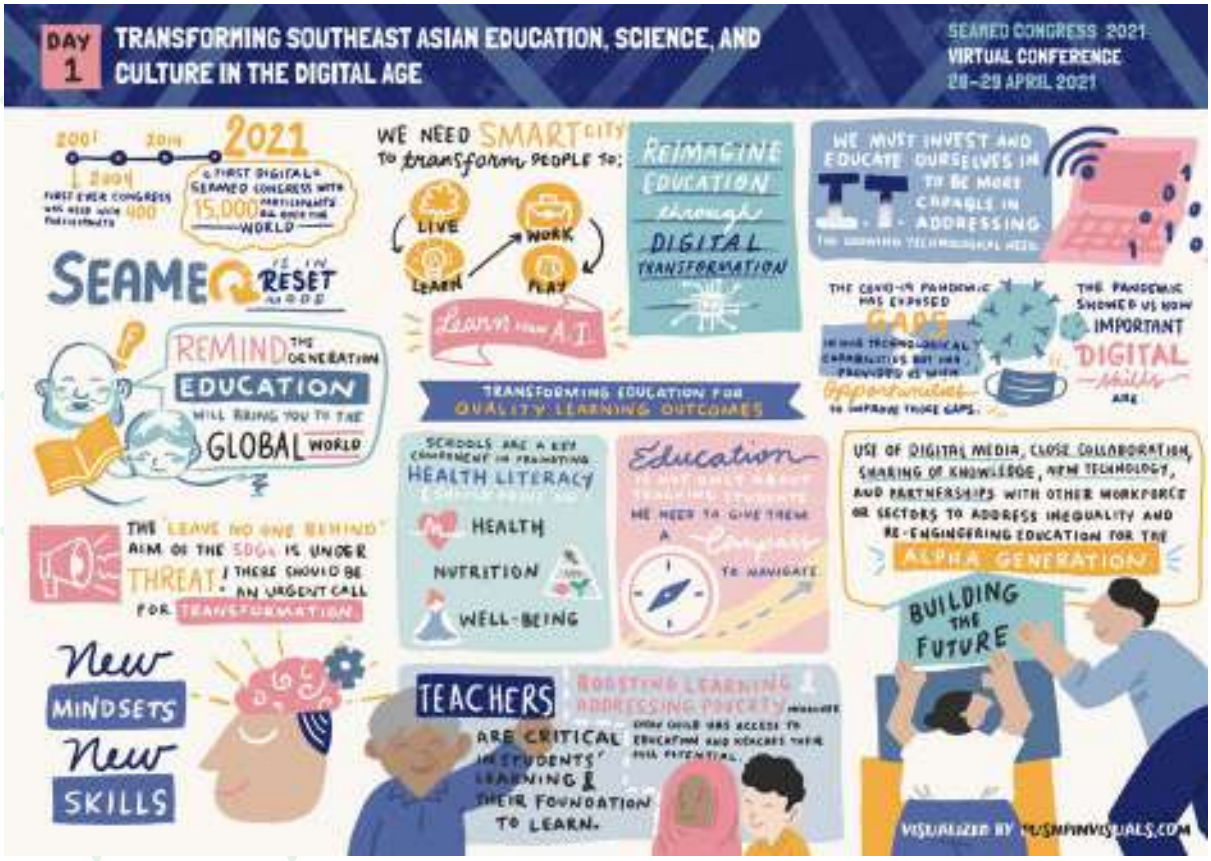
# 9

# SEAMEO Congress 2021 Closing Ceremony

# Closing Ceremony

After two days full of discussions and sharing of experiences and best practices, Dr. Wahyudi and Dr. Kritsachai Somsaman led the closing ceremony by providing a synthesis of the congress and recommendations. The festivities were hosted by Mr. Khau Huu Phuoc. To sum up, Hon. Datuk Yusran Shah bin Mohd Yusof and Hon. Dr. Suphat Champatong provided closing messages.


The following Pushpin infographics on the next page showcase the highlights of SEAMEO Congress 2021.





The SEAMEO Congress 2021 Declaration was also presented.

Co-organisers

# SEAMEO Congress 2021 Declaration


## Theme : Transforming Southeast Asian Education, Science and Culture in the Digital Age

## 28-29 April 2021

# SEAMEO Congress 2021 Declaration

We, the Southeast Asian Ministers of Education Organization Council, on the occasion of SEAMEO Congress 2021 led by the SEAMEO Council President and Senior Minister of Education of Malaysia and SEAMEO Secretariat host, the Ministry of Education of Thailand, with the theme "Transforming Southeast Asian Education, Science, and Culture in the Digital Age" on 28–29 April 2021, along with more than 15,000 experts and participants, composed of policymakers, educators, researchers, school heads, teachers, youth and lifelong learners in Southeast Asia and beyond:

- Realising that the COVID-19 pandemic exposed the educational system and technology gaps during lockdowns and school closures that resulted in the shift to online learning and alternative delivery modalities, which endangered the learning of the most vulnerable and underprivileged children and learners

- Considering this opportunity to discuss on a responsive and inclusive platform the possibilities in transforming Southeast Asian education, science, and culture to meet the needs of the new normal

- Noting that strategic collaboration and partnership between and amongst SEAMEO member countries can help build back better to ensure continued commitment to achieving the SDGs

- Ensuring that learning continuity for all and embracing gender equity will help transform education, science, and culture in Southeast Asia

- Realising that the region is still far from achieving the 2030 Agenda and so will prepare for the future of education for all learners now

- Acknowledging the rich discussions and recommendations from SEAMEO Congress 2021 as potential areas for interconnected response:

    ◊ Taking action for people transformation towards the achievement of the SDGs

    ◊ Building back better: Actions for digital transformation in AI era

    ◊ Transforming education in the post-COVID-19 world

- ◊ The Sufficiency Economy Philosophy and the society in the new normal: Balancing reforms to achieve the SDGs
- ◊ Crafting Southeast Asian education future agendas
- ◊ Transforming educational systems for quality learning outcomes
- ◊ Building a future for the Alpha Generation
- ◊ Implementing post-pandemic reforms and innovations
- ◊ Improving STEM education designs to enhance workforce quality
- ◊ Implementing teaching and learning innovations and research

- Recognising and reflecting on the importance of SEAMEO as a regional organisation in undertaking strategic actions to move these commitments forward towards a better, stronger, and more inclusive and sustainable Southeast Asia

We do hereby commit to:

- Support the SEAMEO COVID-19 Accessible and Responsive Education Support (CARES) Programme to ensure that no learner gets left behind and the activities under this programme will continue to promote the development of learning materials and capacity-building programmes for teachers from ECCD to K–12, technical and vocational education and training (TVET), and higher education, as they transition to remote teaching during and even beyond the COVID-19 pandemic

- Lead transformative change collectively and support the launch of the *SEAMEO Strategic Plan 2021–2030* during the 51st SEAMEO Council Conference to carry forward the regional action agenda and SEAMEO priority areas in education, science, and culture that will concretise transformative programmes for implementation by member countries and the SEAMEO units in the digital era

- Enhance cooperation programmes to ensure greater sharing and transfer of knowledge in response to the specific needs of SEAMEO member countries in education, science, and culture, benefiting all learners, ensuring that transformation is built on principles of inclusion and equity, including digital access and literacy, and promoting an enabling positive transformation for the next generation of learners, the Alpha Generation

Bangkok, Thailand
SEAMEO Congress 2021
28–29 April 2021

# SEAMEO Congress 2021 Video

If you wish to view SEAMEO Congress 2021 in its entirety, you may access it at https://youtu.be/MM1QOtNFiGs. Or you can click the play button in the image below to play it on YouTube.

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