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SEAMEO CENTRES POLICY RESEARCH NETWORK (SEAMEO CPRN)

ACTION AGENDA 2022 - 2023

*“Embracing Inclusivity in Education, Science
and Culture towards a Future-Ready Southeast Asia”*

**SEAMEO Centre Policy Research Network
(SEAMEO CPRN)
Action Agenda 2022-2023**

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SEAMEO Centre Policy Research Network (SEAMEO CPRN) Action Agenda 2022-2023

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SEAMEO RECSAM

Jalan Sultan Azlan Shah, 11700 Gelugor

Penang, Malaysia

Tel: +604-6522700

Fax: +604-6522737

Email: director@recsam.edu.my

URL: www.recsam.edu.my

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TABLE OF CONTENT

Foreword Message by Director, SEAMEO Secretariat	v
Foreword Message by Centre Director, SEAMEO RECSAM	vi
Background and Objectives	1

Research in Science

Mapping the Extent of Curricular Integration of One Health Related Concepts in Basic Education in Southeast Asia	3
Study of Adolescents' Knowledge, Attitudes, and Practices toward Sustainable Food Consumption in Indonesia, Malaysia and the Philippines	5
STEM Career Education to Strengthen the Workforce of the Future	7
Saving Biodiversity through the Inclusion of Environmental Education in the Curriculum of ASEAN High School Students	9

Research in Education

Curriculum Design for the Future	
Digital Transformation and Artificial Intelligence (AI) Education: A Case Study on Technology and Digital Resolution in Education	11
A Brief Policy Paper on Educators' Competencies in Digital Technologies	16
The Readiness of TVET Institutions for IR 4.0 in Southeast Asia	17
Development of a Framework on Teacher Motivation in Southeast Asia	20
Training Needs Assessment for Technical-Vocational High School Management in the SEAMEO Member Countries	23
Language Policy and Language Education in Southeast Asia	25
Current Practice of Climate Change Learning Implementation in Junior High Schools In ASEAN Countries	27
Developing the SEAMEO QITEP (Mathematics) Instrument for Mathematics Teachers' Proficiency in Southeast Asia Countries (Phase I – 2022/2023)	29

The Effectiveness of the Teacher Professional Development Program on Teaching Practices to Promote Learners' Learning and Skills in STEM Education	32
An Ethno-Parenting Study: An Exploration of the Value of Children among Indigenous Communities in Indonesia	35
The Development of Our Happy Neighbourhood Module within a Holistic Integrated Ecce and Children's Rights Framework	37
Exploring Effective Classroom Climate for Technical Education in the SEAMEO Country	39
A Comparative Study of the Contemporary German VHS and the Japanese Kominkan and Shared Lessons to be Learnt from the Two Models for Southeast Asia	41

Research in Culture

Symposium on Traditions of Food in Southeast Asia: In Trace of Southeast Asia's Food Culture	44
Strengthening Culture-Based Education in Primary Education of Southeast Asian Countries	46

FOREWORD MESSAGE BY DIRECTOR, SEAMEO SECRETARIAT



The SEAMEO Centre Policy Research Network (SEAMEO CPRN) 2022/2023 is a platform where SEAMEO Centres and the Network may meet with other Centres to discuss their research and goals, as well as evaluate activities that are scheduled to take place during the last SEAMEO CPRN Summit in 2022.

The SEAMEO CPRN was provided for the first time as a component of the SEAMEO College, which was a project that started in 2013. In March 2016, the Network was set up with the goal of making the SEAMEO Centres and Network, as well as the Secretariat, more useful and responsive to the needs of education leaders in Southeast Asia for policy research on issues related to the development of human resources in the region.

It was agreed that Education, Science, and Culture would be the three pillars around which the CPRN's policy research would be built. We are optimistic that the SEAMEO CPRN Action Agenda can direct SEAMEO Centres and Network in their policy and research activities to introduce new ideas and initiatives to transform Education, Science, and Culture to meet the needs of policymakers and decision-makers in addressing regional development issues in the new normal.

This Action Agenda aims to guide policymakers, instructors, researchers, and educators, with the final objective of supplying regional centres with current policy research and best practices. We are sure that each of the highlighted research projects will both inspire us and help us move forward and improve the quality of research done in the fields of education, science, and culture at SEAMEO centres, both locally and internationally.

In view of that, I would like to take this opportunity to extend my gratitude to SEAMEO RECSAM. In our pursuit of ongoing human resource development to maintain social and economic progress in the context of regional needs, we hope to gain new insights and extensions through policy research in Education, Science, and Culture towards a future-ready Southeast Asia.

A handwritten signature in blue ink that reads "Dr. Ethel Agnes Pascua-Valenzuela". The signature is fluid and cursive, written in a professional style.

Dr. Ethel Agnes Pascua-Valenzuela
Director, SEAMEO Secretariat

FOREWORD MESSAGE BY CENTRE DIRECTOR, SEAMEO RECSAM



I would like to take this opportunity to thank the SEAMEO Secretariat and the SEAMEO Regional Centres/Network for nominating SEAMEO RECSAM to serve as the Secretariat to consolidate the SEAMEO Centre Policy Research Network (SEAMEO CPRN) Action Agenda for 2021–2023.

The best way to build regional consensus on how Education, Science, and Culture transformation can effectively contribute to the promotion of human development at the community, national, and regional levels is to exchange perspectives on global trends and issues affecting Southeast Asian countries. The most substantial basis for this consensus may be found in research which is the main purpose of this initiative.

The major aims of research are to guide action, collect evidence, and make important advances to the existing body of knowledge, notably in education, science, and culture. The study findings may then be utilised to get a better understanding of the issues at hand and to develop a well-informed society in preparation for a brighter future.

The SEAMEO CPRN Action Agenda 2021–2023 highlights the ongoing policy research conducted by SEAMEO Centres/Networks to improve Education, Science, and Culture. It is vital to promote cooperation in research to develop effective policy briefs for a future-ready Southeast Asia.

Finally, I am optimistic that the aforementioned study areas will provide productive evidence-based research that will inform policies that can be presented in CPRN Summit in March 2023. I would like to wish everyone the very greatest success in their research activities.

A handwritten signature in black ink, consisting of stylized, flowing lines that form the name of the signatory.

Dr. Shah Jahan Bin Assanarkutty
Director, SEAMEO RECSAM

SEAMEO Centres Policy Research Network (CPRN) Action Agenda 2022-2023

“Embracing Inclusivity in Education, Science and Culture towards a Future-Ready Southeast Asia”

1. BACKGROUND

Education is altering the globe quicker than ever before. The transition from in-person to online learning has altered our daily routine. This is a critical problem for citizens, particularly those in Southeast Asian countries striving to improve the ability of their human resources to support social and economic prosperity. Policymakers need appropriate facts to choose the best course of action in light of the changing environment. However, a lack of research presents critical knowledge that is not always accessible, resulting in ambiguous directions and unproductive consequences.

SEAMEO centres play an important role as regional think tanks to harness the holistic development of human resources in the area using the various experiences built and acquired in their centres situated around Southeast Asia. To do this, SEAMEO centres must produce reliable and credible research that fits with, if not leads, development trends. The SEAMEO Centres Policy Research Network can help with this (SEAMEO CPRN).

The SEAMEO CPRN first debuted as part of the SEAMEO College, a 2013 initiative. The Network was established to enhance the relevance and responsiveness of SEAMEO Centres and the Secretariat to the requirements of Southeast Asian education leaders for policy research to address regional human resource development challenges. In March 2016, the Southeast Asian Regional Centre for Graduate Study and Research in Agriculture (SEARCA) sponsored a workshop titled “Establishment of SEAMEO Centres Policy Research Network (CPRN)” at College, Los Banos in the Philippines. This marked the Network’s formal launch.

In 2020 and 2021, teaching and learning will move from in-person to online. As we continue to deal with the pandemic’s new normal, the SEAMEO Secretariat’s SEAMEO CPRN Summit gives SEAMEO Centres/Networks a place to talk about their current activities with other centres and look at the activities plan that was agreed upon at the last SEAMEO CPRN Summit in 2022.

2. OBJECTIVES

The SEAMEO CPRN Action Agenda 2022 - 2023 on Education, Science and Culture aims to:

- Strengthen and align the SEAMEO Centres’ Policy Research Network projects with the SEAMEO Strategic Plan for 2021–2030 and the recent SMPeF and High-Level Forum declarations.
- Allow SEAMEO Centres and the Network to share policy research and knowledge management updates.
- Improvement and consolidation of the CPRN Action Agenda until 2023.
- Share research results with other SEAMEO Member Countries.

RESEARCH IN SCIENCE

MAPPING THE EXTENT OF CURRICULAR INTEGRATION OF ONE HEALTH RELATED CONCEPTS IN BASIC EDUCATION IN SOUTHEAST ASIA

SEAMEO TROPED NETWORK (SCIENCE)

Ma. Sandra B. Tempongko, DrPH
jolinatwoph@yahoo.com

BACKGROUND

The emergence of a number of zoonoses like bird flu, Ebola, Zika and the current COVID-19 pandemic clearly demonstrate the interdependence of human health, animal health and ecosystem health. This interdependence is embodied in the “One Health” concept initiated in 2004. The principle behind “One Health” concept is consistent with a number of SDGs i.e. SDG 3, 4, 6, 12, 14, 15, and 17. This is also consistent with the first priority area under SEAMEO Science Cluster that is “Health Literacy”.

Promotion of the One Health concept should not only be limited to human health, animal health and environmental health professionals. Understanding the interdependence of these three will facilitate the development of primitive and preventative behaviour of everyone. Children usually associate closely with animals, thus there’s a need for preventive education against zoonosis. In addition, the school plays a key role in the development of positive attitudes and behaviours that can help them in making decisions later in life. In addition, students can bring these concepts to home and to the greater community.

OBJECTIVES

1. Identify the One Health related concepts included in the basic education curriculum in Southeast Asia;
2. Define the possible entry points in the curricular integration of the concepts;
3. Discuss the different learning methodologies utilised for integration;
4. Identify the barriers and facilitating factors for integration;
5. Define the gaps in terms of priority “One Health” related concepts that can be integrated in the curriculum; and
6. Identify training needs of classroom teachers for curricular integration of “One Health”.

EXPECTED OUTCOME

1. A list of “One Health” related concepts present in the curriculum of basic education
2. A list of priority concepts for integration
3. Training Needs of classroom teachers
4. Inputs for the “regionalisation” of the existing “One Health” modules of SEAMEO TROPED Network

ACTIVITIES AND TIMELINE

The major activity is a Regional Workshop tentatively planned to be convened on the first quarter of 2023.

FUNDING MECHANISM

To be discussed

STUDY OF ADOLESCENTS' KNOWLEDGE, ATTITUDES, AND PRACTICES TOWARD SUSTAINABLE FOOD CONSUMPTION IN INDONESIA, MALAYSIA AND THE PHILIPPINES

SEAMEO RECFON (SCIENCE)

Dr. Luh Ade Wiradnyani & Dr. Judhiastuty Februhartanty
awiradnyani@seameo-recfon.org; jfebruhartanty@seameo-recfon.org

BACKGROUND

In 2019, the United Nations predicted that the number of people globally will reach nine to ten billion in 2050 and about 11 billion in 2100 (PBB, 2019). As a result, food security must be implemented to ensure each person obtains nutritious and sufficient food. Effective and sustainable food consumption is required to ensure food availability, including maintaining an environment supporting food production and supply chain, and evenly food distribution to avoid inefficiency or food shortage in the world.

Sustainable consumption is beyond minimising consumption, as it also promotes reorientation regarding the changes in customer habits toward a more sustainable lifestyle and purchasing decisions (Vasilova, 2013). For sustainable food consumption, the food must be safe and healthy. It must be economically, socially, culturally, and environmentally sustainable by minimising waste and pollution and not jeopardising the needs of others. Sustainable food consumption is a choice for food which is beneficial and life-enhancing for individuals, society, and the planet (Reisch, 2010).

A study in Malaysia showed that generation Z born between 1996 and 2012 has been more receptive to sustainable development issues (Homer, ST & Khor, SK. 2021). Additionally, Generation Z also cares about ethical buying practices (Robichaud, Z. and Yu, H., 2021). Ahmad N.R. dan Ariffin M (2018) found that there has been a high level of knowledge with a moderate level of attitude and practice among university students in Malaysia regarding sustainable consumption. Meanwhile, the exploration of this topic in high school students is still limited in most Southeast Asian countries. Considering the importance of sustainable food consumption detailed above, SEAMEO RECFON will conduct a collaboration study with regional partners in the Philippines and Malaysia to investigate the level of knowledge, attitude, and practice of adolescents in Southeast Asia on sustainable food consumption.

OBJECTIVES

1. To determine the knowledge, attitude, and practice of high school students in Indonesia, Malaysia and the Philippines on the concept of sustainable food consumption.
2. To generate a readiness mapping of high school students in Indonesia, Malaysia and the Philippines in implementing the concept of sustainable food consumption.

EXPECTED OUTCOME

This study is expected to produce the readiness mapping of high school students in Indonesia, Malaysia and the Philippines related to sustainable food consumption. The study results could serve as a basis to enhance policies and programs on school-based nutrition promotion among

high school students in the region, including the program being implemented by SEAMEO RECFON called Nutrition Goes to School (NGTS). The study results are also expected to contribute to strengthening the goal of Education for Sustainable Development among adolescents.

ACTIVITIES AND TIMELINE

Activity	Timeline	Notes
Development of study protocols	June 2022	
Coordination meeting among partners to discuss the study protocols	July - August 2022	
Instrument Development	August 2022	
Coordination meeting to discuss and finalise the instrument	August 2022	
Application for Study's Ethical Clearances:		
Indonesia	July 2022	
Malaysia	November 2022	
The Philippines	October 2022	
Preparation for data collection	September - October 2022	
Data collection (online survey):		
Indonesia	October - November 2022	
Malaysia	January - March 2023	
The Philippines	October - November 2022	
Data analysis:		
Indonesia	November - December 2022	
Malaysia	April - June 2023	
The Philippines	April - May 2023	
Writing of study report:		
Indonesia	December 2022 - January 2023	
Malaysia	April - June 2023	
The Philippines	June - July 2023	
Study dissemination	August - December 2023	

FUNDING MECHANISM

The fund for this study will be supported by each partner-institutions per country:

1. Funding by SEAMEO RECFON will be valid for the study in Indonesia
2. Funding from the University of Los Banos will be valid for the study in The Philippines
3. Funding from International Medical University will be valid for the study in Malaysia

Each Institution will follow the financial/funding procedures in their respective Institutions and countries.

STEM CAREER EDUCATION TO STRENGTHEN THE WORKFORCE OF THE FUTURE

SEAMEO STEM ED (SCIENCE)

Dr. Kessara Amornvuthivorn & Ms. Yaowalak Jittakoat
kessaraa@seameo-stemed.org; yaowalakj@seameo-stemed.org

BACKGROUND

The overall purpose of the STEM Career Academies initiative is to pilot and implement a university and career readiness program region-wide. The program seeks to equip students with the knowledge and skills they need to pursue their chosen careers. Based on data reported by the World Bank during 2015-2018, fewer than 30% of the students in Southeast Asia graduated from STEM-related fields in tertiary education. The Southeast Asian countries are all aware that STEM education is one of the essential mechanisms for developing their human resources and enhancing their competitiveness in the global economy, and therefore is a key to addressing the skills gap in current and future workplaces. Consequently, addressing the skills gap by strengthening STEM education in the region and integrating career-related skills into the program are critical to enhancing the employability of young people. Moreover, students need to be equipped with technology skills which are in high demand in the global economy.

Career Academies have been widely adopted across the United States and many countries. It has been proven to be one of the most successful reform models which serve a wide group of students, especially those at-risk groups who are prone to drop out or leave school early after they complete compulsory education. The students participating in the Career Academies program have higher graduation and employment rate as well as earnings compared to the comparison groups. In the US, several states have legislation supporting Career Academies with multiple funding streams. Therefore, Investments in career-related experiences during high school can produce substantial and sustained improvements in the labour market prospects and transitions to adulthood for youth.

OBJECTIVES

The project aims to pilot STEM Career Academies in four professional groups, including healthcare and wellness, information technology, smart agriculture, and teaching and learning. In addition, the researcher team will study the effectiveness of the STEM Career Academies Program in preparing future workforce as well as to study the factors contributing to the program success. The results of the development and pilot test will be presented to the high officials of MoEs of SEAMEO Member Countries for endorsement and implementation scale up.

EXPECTED OUTCOME

Through fostering public-private-academia collaboration, Career Academies will provide a new platform within the current education system by setting new standards, curriculum, teaching and learning, internship, and certification system, which will improve the quality of the education system. The research aims to study the effectiveness of the "STEM Career Academies" in preparing future workforce. It is designed based on inclusive evaluation; it is not only to examine the effectiveness of the STEM Career Academies but also explores the implementation process and to identify the contributing factors involved in the successful implementation of STEM Career Academies in preparing the future workforce.

ACTIVITIES AND TIMELINE

Activity	Timeline	Notes
Program Implementation		
1. Committee and working team set up	July - September 2022	
2. Stakeholder engagement (Smart Agriculture and Teaching)	July - September 2022	
3. Sharing Career Academies model implementation by US experts	September - December 2022	
4. The development of core trainers and mentors	August - September 2022	
5. The initial testing of the courses or modules offered to students	November - December 2022	
6. Piloting Career Academies Model (Healthcare and Wellness, IT)	November - December 2022	
7. Curriculum development for adoption in schools	November - December 2022	
8. Piloting Career Academies (Smart Agriculture and Teaching)	November 2021 - March 2023	
Research Implementation*		
1. Research proposal development	August 2022	
2. Develop research instruments	September 2022	
3. Pilot research instruments	October 2022	
4. Collect baseline data (STEM Career academies intervention group vs comparison group)	November - December 2022	
5. Analyse baseline data (qualitative and quantitative)	January 2023	
6. Present preliminary baseline data (key findings)	March 2023	
7. Write report	May 2023	

Remarks:

** The researchers will receive mentorship and capacity building from Dr. James Kemple, Executive Director of the Research Alliance for New York City Schools and Research Steinhardt School of Culture, Education, and Human Development, New York University.*

FUNDING MECHANISM

Chevron will support the program and research implementation thru March 2023. After the completion of Chevron Enjoy Science Project, additional funding will be sought to continue the project. The Centre will provide continued support for the adoption of the model by governments in the region to set up their own career academies.

SAVING BIODIVERSITY THROUGH THE INCLUSION OF ENVIRONMENTAL EDUCATION IN THE CURRICULUM OF ASEAN HIGH SCHOOL STUDENTS

SEAMEO BIOTROP (SCIENCE)

Dr. Zulhamsyah Imran
zulhamsyah.imran@biotrop.org

BACKGROUND

Recent environmental issues that are one of the worldwide main concerns include the following: (1) environmental degradation, (2) climate change that disrupts food security, (3) human demand for food increasing, (4) land agriculture and the forest area is reduced due to land clearing, and (5) occurrence of new diseases. These conditions are triggered by human behaviour that is less concerned about the deteriorating condition of the natural environment. Moreover, the environmental quality is currently decreasing due to excessive exploitation of nature without regard to its carrying capacity and ecological functions such excessive deforestation has resulted in catastrophic floods and landslides, and the use of dynamite in catching fish has damaged the coral reefs. It is due to biodiversity loss. Regional Centre for Tropical Biology (SEAMEO BIOTROP), in carrying out its mandate, the Centre conducts its activities on the empowerment of human resources in Southeast Asia through research, training, networking, and information dissemination on tropical biology. One of SEAMEO BIOTROP's priority programs is the "Save Biodiversity for Future Generations" which emphasises the need to carry out the transfer of knowledge on biodiversity conservation as early as, in the young minds of high school or vocational school students in Indonesia and SEA. This knowledge transfer is one of the primary roles of the teacher as an educator to the students. The inclusion of biodiversity in environmental education is expected to increase the attractiveness of students in providing awareness of environmental conditions. The abundance and richness of biodiversity need to be utilised appropriately and supported by the potential of human resources, but they are nothing if there is no innovation. Protection of the ecological environment and conservation actions as well as the preservation of biodiversity are the main factors to create survival and sustainable development (Mak 2014).

OBJECTIVES

1. To measure the awareness of high school students on the value of biodiversity, to support the inclusion of environmental education among high school students in ASEAN.
2. To create and promote digital learning media in saving biodiversity, through environmental education among high school students in ASEAN based on results of the questionnaire survey analysis.

EXPECTED OUTCOME

1. Policy brief on the inclusion of "biodiversity-enriched" educational material and use of electronic learning media on saving biodiversity through environmental education among high schools in Indonesia/ASEAN.
2. Publication of the study results in the Scopus-indexed journal (BIOTROPIA).
3. Publication of the study results in BIODIVERS.

RESEARCH IN EDUCATION

CURRICULUM DESIGN FOR THE FUTURE

SEAMEO RECSAM (EDUCATION)

Ms. Deva Nanthini a/p Sinniah
nanthini@recsam.edu.my

BACKGROUND

The abrupt changes in social lives, including the education system, have stumbled upon us. The long-debated series of climate changes, social injustice, demographic challenges, and the more than two-year global health crisis has changed how curriculum is conceptualised and utilised. For instance, the existing curriculum designs are meant for the traditional physical classroom. However, the immediate reliance on digital technologies during the pandemic makes us wonder what and how a curriculum might better guide the formal learning ecosystem by acknowledging the diverse learning ecosystem. These issues were amongst addressed by the Organisation for Economic Co-operation and Development (OECD) and its call to redesign the curriculum for future generations.

In response to the call, Curriculum Design for the Future is an initiative to re-imagine the prospective Southeast Asia's (SEA's) curriculum. Rather than developing a curriculum, curriculum design entails sketching out a framework for how a curriculum will look and function to meet the requirements of humanistic well-being in the future. Thus, this study will offer a curriculum framework based on foresight and anticipation by focusing on the context of Southeast Asia's (SEA's) future generation and drawing on the diverse background of SEA's society. However, this project is not intended for strategic planning and does not attempt to offer definitive answers about the future. Since there is much idealisation of how technology will change the world, but the future is also a reflection of the past: SEA's rich history, local wisdom, culture, people, rich language, and different geographical differences. To think about the future of education, it is not just scientific progress that inspires, but also the unique identity and cultural context of SEA's in our education ecosystem, which makes them unique.

OBJECTIVES

This proposed project will have the following objectives:

- To identify emerging issues and trends likely to impact SEA's curriculum in the near future
- To identify the indicator of the future curriculum of SEA's curriculum
- To develop a framework for Curriculum Design for the Future based on the identified issues, trends, and indicators

EXPECTED OUTCOME

Report, articles and a book

ACTIVITIES AND TIMELINE

Activities	Timeline	Notes
Proposal writing and reviewing	January 2022	Completed
Establish the internal project experts	February 2022	Completed
Budget bidding / internal grant application	April 2022	Completed
Set up stakeholder directories	May 2022 - July 2023	Ongoing
Bibliometric analysis and literature review	June 2022	Completed
In-house training	July 2022	Scheduled on 18 and 19 July 2022
Preliminary data collection for protocol development	July 2022	Ongoing
Technical and administrative process for data collection – consent and ethics declaration	August 2022	Ongoing
Data collection 1: Horizon scanning Analysis	July 2022 - December 2022	Incomplete
Data collection 2: Scenario mapping Analysis	January 2023 - June 2023	Incomplete
Consolidates the final result	July 2022 - December 2023	Incomplete
Project dissemination	July 2022 - December 2023	Incomplete

FUNDING MECHANISM

Internal and external grants

DIGITAL TRANSFORMATION AND ARTIFICIAL INTELLIGENCE (AI) EDUCATION: A CASE STUDY ON TECHNOLOGY AND DIGITAL RESOLUTION IN EDUCATION

SEAMEO RECSAM (EDUCATION)

Dr. Thong Ying Li
thongyingli@gmail.com

BACKGROUND

Due to digital transformation, more artificial intelligence (AI) experts are needed to achieve aspirations for the Fourth Industrial Revolution (4IR). Today's students will be the future workforce. Digital skills and AI education are vital and have significant impacts in this 21st century informative society. AI will transform traditional education into new learning and teaching practices to generate a new social, cultural, and economic context. Digital tools and AI technologies are adopted, adapted, and applied in the evolved education system to accelerate the educational digital transformation, contribute to the production of education-edge AI and improve education quality. However, there are a lot of obstacles and challenges faced by logic- and knowledge-based AI education in digital transformation. There are limitations in teaching and learning models, guidelines, and platforms to promote AI literacy. Prevalent AI education curricula and learning systems should be developed in the future curriculum to expose AI's technical skills, concepts, knowledge, ethical and societal implications, AI career adaptability and impacts. This research focuses on digital revolution of education that aims to create a new digital age generation in today's real-world and a peek into the future. The students will adapt themselves in their future careers and become the critical talent pipeline in the digital era to meet the demand of the global job market. AI-literate citizens are cultivated by promoting digital citizenship, digital literacy, digital intelligence, digital creativity, digital entrepreneurship, AI literacy, and AI intelligence to generate more future experts and advocates of AI. AI concepts, technical knowledge, and implementations are exposed to the students via workshops, seminars, competitions, exhibitions, and talks to help them to identify their multiple intelligence and interests. This research is aligned with SEAMEO Education Agenda Priority Area 7 "Adopting 21st Century Curriculum" and Priority Area 4 "Promoting technical and vocational education and training".

OBJECTIVES

The research aims to:

- Highlight the importance and impacts of digital/ technological education and artificial intelligence (AI) education.
- Study the research and policies to organise, promote and support relevant curriculum in developing the AI curriculum or courses.
- Cultivate AI mind-set, digital literacy and competencies via exhibitions, workshops, webinars, talks and competitions.
- Study the potential contribution, cross-border learning and challenges faced by AI education, education technology and digital tools such as metaverse, AR, VR, robotics, digital platforms/ tools.

- Collaborate with industrial factories/ companies and colleges/ universities to investigate the AI education in future workforce and further education.
- Investigate the pros and cons of AI education and the effectiveness of AI education and digital education.
- Promote digital citizenship, digital literacy, digital creativity, digital intelligence, digital entrepreneurship, AI intelligence and AI literacy.

EXPECTED OUTCOME

Digital education initiative workshops and enrichment activities, competitions, exhibitions, talks focusing on the theory and practice of digital education are organised physically and virtually to develop digital and AI literacy skills and promote digital citizenship, digital intelligence and digital entrepreneurship among educators and students. Technological education and digital advances can support and accelerate achievement of each of the 17 Sustainable Development Goals as well as promoting global citizenships. These digital development workshops or activities, in collaboration with local and foreign agencies or universities such as Penang Science Cluster (PSC), Penang Math Platform (PMP), Tech Dome, Charles of Darwin University, Digital Technologies Institute, Vex Robotics, DJi Academy, Swiss Pac Sdn. Bhd., Eduwel Sdn. Bhd., VCC Sdn. Bhd., Tech Up Sdn. Bhd., Test Centre, National Science Centre Northern Region Branch, INTEL Sdn. Bhd., ViTrox Academy, National Instruments, International Cultural Communication Centre of Malaysia (ICCCM), Siliconmax Sdn. Bhd., National STEM Association, MySTEM Ambassador club, Centre for Instructional Technology & Multimedia, Universiti Sains Malaysia (USM) etc.

ACTIVITIES AND TIMELINE

Activities	Timeline	Notes
Project framework brainstorm and Project proposal writing	January 2022	Submission and grant application
Obtain endorsement of the proposal at divisional level and Seek for Centre approval	February 2022	
Research, Documentation, activities planning	February to April 2022	
Implementation activities and workshops	May to December 2022	
Questionnaire setting up via Google Form	May to June 2022	
Enhancement of professional skills via workshops, webinars, exhibition, professional talks, competitions etc.	June to December 2022	
Introduction of AI modules, learning platform, materials	October – November 2022	
Lighthouse Network for AI education	December 2022 to March 2023	

Data analysis based on the feedback of participants and overall assessment	December 2022 to March 2023	
Attending conference, Paper writing	November 2022 to May 2023	

FUNDING MECHANISM

Funding by SEAMEO RECSAM research fund

Funding by UNESCO APCEIU

Funding by Ai Elsevier by invitation as a member of AAA

A BRIEF POLICY PAPER ON EDUCATORS' COMPETENCIES IN DIGITAL TECHNOLOGIES

SEAMEO RECSAM (EDUCATION)

Dr. Shah Jahan Bin Assanarkutty
shahjahan@recsam.edu.my

BACKGROUND

Currently, everything is digital, and this is the core of the nation. As a result, comprehensive introductions to digital technology skills are required even for teachers with a higher level of education and expertise. Educators, who are our nation's most significant resource for defining the future of education, must be given enough opportunities to study the subject in order to eliminate a skills gap in the field of digital technology competencies. It is essential that educators have more knowledge than their students. Numerous opportunities exist for the professional development of educators if enough resources are supplied. Education should prioritise educator challenges and provide a comprehensive strategy for long-term action on the ground.

This paper and its suggestions are based on the following ideas: (a) a lack of media and information literacy knowledge and use; (b) a lack of knowledge and application in the creation of digital content; (c) a lack of knowledge and use in collaboration and communication; (d) a lack of knowledge and use of safety and security measures; (e) a lack of knowledge and use in problem/technical resolution; and (f) a lack of knowledge and use to promote students' digital literacy.

OBJECTIVES

This brief policy paper is to analyse and assist educational systems in implementing digital technology skills policies that benefit educator development. The report is intended for various levels of education policymakers and practitioners.

EXPECTED OUTCOME

This paper should result in an evidence-based analysis and support for educational systems where digital technology skills are comprehensively important and should be implemented into the curriculum for professional development. The MoEs of SEAMEO Member Countries' officials will be presented with the paper's findings before determining endorsement and possible implementation to be taken into action.

THE READINESS OF TVET INSTITUTIONS FOR IR 4.0 IN SOUTHEAST ASIA

SEAMEO VOCTECH (EDUCATION)

Dr. Paryono

paryono@voctech.edu.bn

BACKGROUND

According to Martin Schwab, Chair of the World Economic Forum (WEF), during the current time of the 4th Industrial revolution, the way we live, work, and relate to one another will be affected. The novelty compared to the 3rd Industrial revolution is that we are moving from a physical world towards a virtual world, characterised by the current trend of automated data exchange in manufacturing technologies, which includes cyber-physical systems (CPS), the Internet of things (IoT) and cloud computing. IR 4.0 is characterised by connected machinery with the internet that product and information are interlinked, the speed of data transmission is dramatically increased, and storage opportunities are unlimited (Spoettl, 2018).

This has major implications for the workplace and employees, in particular in the form of more flexible production systems, the fact that human intervention is no longer necessary at several steps in the production chain, the need for improved co-decision of skilled workers regarding their working times, dissolving work boundaries and the situation where working time is just a variable within the complex optimisation plan of a factory.

Southeast Asian countries comprise mainly small and medium enterprises. The industry's responses to digitalisation vary according to the needs and the company's vision. It is still hard to predict with accuracy the extent to which the disruption from Industry 4.0 toward industries and jobs in Southeast Asia. Recent research findings showed that the region has a shortage of skilled workers and this has and will continue to become the bottleneck for the future economic development of ASEAN member states and their capacity to utilise the potentials of Industry 4.0 for sustained growth.

TVET is recognised as one of the important tools to narrow the skills gaps and reduce unemployment. Correspondingly, TVET ranks high on the political agenda of SEAMEO and ASEAN member states.

Knowing the current status of TVET institutions pertaining to their readiness for IR 4.0 is very important so that the government and industry players can make the necessary policies and strategies in response to the IR 4.0 requirements. Even though several studies have been conducted, none include all ASEAN/SEAMEO member countries and are mainly focused on industry readiness, not on TVET readiness.

Considering the necessary link between industry and TVET, the 4th High Officials Meeting (HOM) on SEA-TVET recommended that research on the readiness of TVET institutions for IR 4.0 be carried out. This research is a follow-up of the last HOM on SEA-TVET to conduct a study on the readiness of TVET Institutions in the selected SEAMEO Member Countries.

OBJECTIVES

In response to the recommendation of the 4th HOM on SEA-TVET, SEAMEO VOCTECH proposes to conduct a study on the Readiness of Industry and TVET Institutions for IR 4.0 in Southeast Asia with the following objectives:

- To assess the readiness for IR 4.0 of TVET institutions in SEAMEO Member States
- To solicit feedback and recommendations from TVET and industry leaders for the future adoption and development of IR 4.0 in Southeast Asian countries.

EXPECTED OUTCOME

From this study, the followings will be the expected outputs that can be produced at the end of the process:

1. National and comparative research reports
2. Posters
3. Policy briefs
4. Research articles.

The expected outcome from this study are:

1. Understanding the current status of TVET Institutions' readiness for IR 4.0 in the participating SEAMEO Member Countries;
2. Having strategies for stepping up to the next level IR 4.0 integration at the institutional level and developing a roadmap of IR 4.0 journey to excellence.

ACTIVITIES AND TIMELINE

Activities	Timeline	Notes
Proposal writing, presentation, and grant endorsement	July 2021 - June 2022	During CDM 2021, 44 th HOM, and SEAMEC Conference
To confirm with participating SEAMEO Units and to update the status	26 - 27 July 2022	During CDM 2022
To present the progress report at the 33 rd SV GBM	October 2022	During 33 rd SEAMEO VOCTECH GBM
To present the progress of the WP at the 45 th HOM	November 2022	During 45 th HOM
To coordinate with partners (including GIZ-RECOTVET, FESTO Didactic, and OECD) for possible contributions and to conduct desk research	January - August 2022	During CDM 2022 GIZ-RECOTVET, FESTO Didactic, and OECD are invited
To finalise and pilot the survey questionnaire and FGD questions	July 2021 - June 2022	
To administer the questionnaires	September 2022	

To conduct interviews and focus group discussions	September - October 2022	
To write national reports	November - December 2022	
To write comparative analysis	January - February 2023	
To complete the research report	March 2023	
To submit the report and other deliverables to SEAMES and relevant stakeholders	June 2023	

FUNDING MECHANISM

Contributor	Type of subsidy	USD	%	Note
SEAMEO VOCTECH	Expertise and task force to conduct the study at the national level and to conduct comparative analysis	20,000	44.4	Grant and in kind
Supporting SEAMEO Units	Expertise and taskforce to conduct the study at the national level	3,000*	6.7	In kind *At least 3 units/ centres participate. SV will offer funding support for data collection and report writing around USD 1000 per country depending on the size of sample.
The office in charge for TVET in the participating SEAMEO member countries	Personnel for data collection process	12,000**	26.7	USD 2,000 to 4,000 depending on the TVET population size. **At least 4 countries: 2 large and 2 small/ medium size population countries.
SEAMEO Secretariat	Inter-center collaboration fund to support data collection, a workshop, and report writing.	10,000	22.2	
Other supporting partners	GIZ-RECOTVET (in discussion) FESTO Didactic (in discussion) OECD (in discussion)	Yet to be confirmed		Expertise support
Total		45,000	100.0	

DEVELOPMENT OF A FRAMEWORK ON TEACHER MOTIVATION IN SOUTHEAST ASIA

SEAMEO INNOTECH (EDUCATION)

Sherlyne A. Almonte-Acosta, Ph.D. & Erlene G. Umali
she@seameo-innotech.org; erlene@seameo-innotech.org

BACKGROUND

Understanding the motivation of teachers in entering and remaining in the teaching profession is an important factor in promoting teacher quality and in effect, tends to improve education outcomes. Recognizing the importance of understanding teacher motivation and with the intention to provide technical assistance to the Department of Education (DepEd) of the Philippines, SEAMEO INNOTECH conducted a study in 2018 that explored the motivations of teachers in the Philippines. To expand the research undertaking at the regional level, SEAMEO INNOTECH intends to conduct a regional study on teacher motivation in Southeast Asia. The current proposed project on the development of a framework of teacher motivation in Southeast Asia will serve as an important preliminary activity. The Regional Framework that will be developed will serve as a guide to the succeeding activities for the conduct of the regional study on teacher motivation in Southeast Asia. The framework developed on teacher motivation in the Philippines will be revisited and will serve as a starting point for the development of a framework on teacher motivation in Southeast Asia. In collaboration with various SEAMEO Centres, the teacher contexts and policies related to entering and remaining in the teaching profession will be incorporated into the framework in order to have an understanding of teacher motivation at the regional level.

OBJECTIVES

The primary objective of this project is to develop a framework for teacher motivation in Southeast Asia. Specifically, it intends to:

- Identify current laws, policies and programs of each Southeast Asian country that support teachers' motivation to enter and remain in the teaching profession
- Understand the motivations of teachers across Southeast Asia

EXPECTED OUTCOME

In a Regional Research Forum (RRF) to be organized by SEAMEO INNOTECH, the representatives from SEAMEO Centres will be presenting the laws, policies and programs related to teacher motivation in their respective countries and will be sharing the contexts and motivations of teachers in entering and remaining in the teaching profession. These inputs will contribute to expanding the existing framework on teacher motivation in the Philippines and develop a framework on teacher motivation in Southeast Asia. This will further be validated in a study to be conducted by SEAMEO INNOTECH on understanding the nature and extent of teacher motivation in Southeast Asia.

ACTIVITIES AND TIMELINE

Activities	Timeline	Notes
Concept note development	January to March 2023	SEAMEO INNOTECH team will be developing a concept note for the proposed project.
Invitation to SEAMEO Centres for the conduct of regional research forum	March to April 2023	This involves the presentation of the concept note during the CPRN Summit and inviting SEAMEO Centres to participate in the regional research forum.
Development of questionnaire and interview guide	April to May 2023	<p>SEAMEO INNOTECH will organize online meeting/s with SEAMEO Centre representatives to discuss and develop the questionnaire and interview guide.</p> <p>The questionnaire will be accomplished by SEAMEO Centre representatives and this includes items on teacher context, policies, and other related information on teacher motivation. Some specific policies on teacher motivation may include provisions/current state of the status and welfare of teachers, salary, financial benefits, and incentives.</p> <p>The interview guide will be used by SEAMEO Centre representatives in conducting interviews with the teachers in their respective countries.</p>
Distribution of finalized questionnaire and interview guide in preparation for the conduct of regional research forum	June 2023	SEAMEO INNOTECH will be distributing the final version of the questionnaire that will be filled out by SEAMEO Centre representatives and the interview guide to be used for their interviews with teachers in their respective countries.
Accomplishment of questionnaire and conduct of interview with teachers	June to July 2023	SEAMEO Centres will be accomplishing the questionnaire and conducting interviews with the teachers in their respective countries.

Activities	Timeline	Notes
Submission of the accomplished questionnaires, interview guide, and slide presentation for the regional research forum	July 2023	<p>Representatives from SEAMEO Centres will submit the accomplished questionnaire, which includes the laws, policies, and programs related to teacher motivation in their respective countries. They will be preparing a slide presentation out of these information and will be presenting this in the first part of the regional research forum to be organized by SEAMEO INNOTECH.</p> <p>SEAMEO Centre representatives will also submit the accomplished interview guide for each teacher interviewed. The data to be gathered from the interviews will be shared in the 2nd part of the regional research forum. These will serve as inputs to the development of a framework on teacher motivation in Southeast Asia.</p>
Conduct of the regional research forum on the development of framework on teacher motivation in Southeast Asia	August to September 2023	The regional research forum is a whole-day event. At the end of the forum, a working draft of the framework on teacher motivation in Southeast Asia will be developed.
Review of the drafted framework on teacher motivation in Southeast Asia	September to October 2023	Content expert/s will be invited to provide technical review and inputs to the working draft of the framework on teacher motivation in Southeast Asia.
Report write-up and finalization	October to December 2023	A full report will be developed based on the results of the regional research forum and the review of content expert/s of the framework on teacher motivation in Southeast Asia.

FUNDING MECHANISM

Funding by SEAMEO INNOTECH (Educational Research and Innovation Fund)

TRAINING NEEDS ASSESSMENT FOR TECHNICAL-VOCATIONAL HIGH SCHOOL MANAGEMENT IN THE SEAMEO MEMBER COUNTRIES

SEAMEO TED (EDUCATION)

Dr. Song Heang Ai & Mr. Tim Vorn
song.heang@yahoo.com & timvorn@hotmail.com

BACKGROUND

Training needs assessment is a process of continuously collecting information to describe what training needs exist in order to develop training to help the organisation achieve its goals. Conducting a needs assessment is the foundation for the success of the training program. Organisations will often develop and implement training without first conducting a needs analysis. These organisations run the risk of over-training, under-training, or losing focus altogether (Brown, 2002). Still, according to Brown (2002) found that there were four main reasons why needed analysis before training such as (1) to identify specific problems areas in the organisation, (2) to obtain management support, (3) to develop data for evaluation, and (4) to determine the costs and benefits of training.

Education not only provides scientific and technical skills, but also provides motivation, reason, and social support for the pursuit and application of these skills. His study found that through the need assessment that the participation of all stakeholders was neglected in the previous core training model. It is understood that the content of teacher training in class is determined by superiors. The needs and priorities of teachers and principals are not systematically considered in training (Hanif, Buzdar, & Mohsin, 2018).

OBJECTIVES

This research study has the following objectives:

- To identify specific problems areas for technical-vocational high school management in the SEAMEO country members
- To obtain management support for technical-vocational high school management in the SEAMEO country members
- To develop data for evaluation for technical-vocational high school management in the SEAMEO country members
- To determine the costs and benefits of training technical-vocational high school management in the SEAMEO country members

EXPECTED OUTCOME

The result of this may provide evidence of a training needs assessment for technical-vocational high school management. It is shown that TVET is unresponsive curricula, poor methods of identifying training needs, lack of stakeholders' involvement in curriculum designs, inadequate numbers of specialised staff at the high school management to design and revise curriculum, poor training methods, and obsolete tools and equipment at the training institutions. The result

can likewise fill in as a guide that empowers teachers to consider a better method to build up their classroom directions appropriately, to present the learners whether there are or no significant differences in a study training needs assessment for technical-vocational high school management.

ACTIVITIES AND TIMELINE

	Activity	Timeline	Notes
1.	Survey questionnaire development and pilot testing	September 2022	
2.	Reviewing existing literature and data collection	October - November 2022	
3.	Data entry and data analysis	December 2022	
4.	First draft of research report	January 2023	
5.	Final draft of research report	February 2023	
6.	Submission of research report	February 2023	

FUNDING MECHANISM

This research project will be funded by Ministry of Education, Youth and Sport, Kingdom of Cambodia.

LANGUAGE POLICY AND LANGUAGE EDUCATION IN SOUTHEAST ASIA

SEAMEO QITEP LANGUAGE (EDUCATION)

Dr. Esra Nelvi M. Siagian
info@qiteplanguage.org; esranelvi@yahoo.co.id

BACKGROUND

Language plays important roles in all aspects of life. In the education context, language is a means for students to gain comprehension, do the tasks and solve problems in learning. Thus, it is important to decide not only what language(s) are taught as school subjects but also the language(s) used as a medium of instruction and interaction between teacher and students as well as among students. Language policy is, then, needed to ensure that the language use and language learning is able to accomplish educational goals.

In a broader scope, language policy is also significant for political and cultural aspects in multilingual countries, like the Southeast Asia region. This region is rich in languages, either local languages, official languages or foreign languages. Each language of course has its functions and roles. Language policy does not entirely mean choosing which language(s) as the national language(s), instead, considering the roles and functions of each existing language. This requires thoughtful consideration from the government. Thus, each country would have a different language policy due to various factors or arguments.

Further, among other purposes, the ASEAN community is expected to cultivate its collective identity and strength to engage with the world, responding to new developments and seizing new opportunities. Regarding the collective identity, the “ideal” ASEAN citizen might be defined as one who can speak one or more official/national languages in ASEAN countries. Thus, in order to build ASEAN collective identity, each ASEAN country may promote their young generations to learn and master the official/national language(s) of its neighbouring countries. Thailand, for example, promotes their students to learn Indonesian language. However, not all countries in ASEAN implement similar policies regarding foreign language education at schools.

OBJECTIVES

This research is aimed to meet the following objectives:

1. To identify the language policy applied by each country in Southeast Asia.
2. To identify the languages taught at SEA-schools and in higher education.
3. To provide policy brief and/or recommendation for the MoE in SEAMEO Member Countries regarding language education in SEA countries.
4. To promote official/national languages of ASEAN countries to be taught at SEA schools or higher education in order to strengthen ASEAN collective identity.

EXPECTED OUTCOME

The expected output of this research is in the form of research report, policy brief and/or recommendation. Those outputs are then disseminated to the Ministry of Education and SEAMEO Centres in the Southeast Asia region as well as by conducting seminars/webinars.

ACTIVITIES AND TIMELINE

Activities	Timeline	Notes
Conducting Webinar on Language Policy and Language Education in Southeast Asia	10 - 11 November 2020	Has been accomplished in 2020
Conducting meta-analysis of the webinar results	May - June 2021	Has been accomplished in 2020
Developing grand design of research plan	July - August 2021	
Developing survey instrument: <ul style="list-style-type: none"> • Drafting survey instrument • Piloting survey instrument • Revision of survey instrument • Finalisation of survey instrument 	September - December 2021	
Conducting coordination meetings with other Centres or stakeholders to clarify the roles and responsibilities of each party: <ul style="list-style-type: none"> • Discussing the research plan • Mapping and selecting respondents 	February 2022	Collaboration with Ministry of Education and SEAMEO Centres in Southeast Asia region
Disseminating survey instrument to Ministry of Education and SEAMEO Centres in Southeast Asia region	March 2022	
Collecting data	April - June 2022	
Checking response of survey data	July 2022	
Conducting focus group discussion to confirm information gathered from survey data	August 2022	Collaboration with Ministry of Education and SEAMEO Centres in Southeast Asia region
Checking the final results of survey data	September 2022	

FUNDING MECHANISM

Funding by SEAQIL with resource funding from the Ministry of Education, Culture, Research and Technology, Republic of Indonesia.

CURRENT PRACTICE OF CLIMATE CHANGE LEARNING IMPLEMENTATION IN JUNIOR HIGH SCHOOLS IN ASEAN COUNTRIES

SEAMEO QITEP (SCIENCE) (EDUCATION)

Dr. Reza Setiawan

reza.setiawan.moec@gmail.com

BACKGROUND

Climate change will have an impact on all regions of the world, so the slightest role of various groups or stakeholders needs to be sought in anticipating the impacts. Education for Sustainable Development (ESD) is an effort to encourage people to constructively and creatively face global challenges and create a resilient and sustainable society. The learning objectives of SDGs no 4 on Quality education is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. One of the indicator of this learning objective is that the learner understands the important role of education and lifelong learning opportunities for all (formal, non-formal and informal learning) as main drivers of sustainable development, for improving people's lives and in achieving the SDGs. Therefore Quality Education and learning for sustainable development at all levels and in various societal settings is urgently needed.

ESD, including Climate Change Education (CCE) enables every human being to acquire the knowledge, skills, attitudes, and values needed to shape a sustainable future. ESD/CCE incorporates key issues of sustainable development into teaching and learning; for example, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. For this reason, schools play a very important role to handle the issues of the environment, particularly climate change by facilitating them to acquire relevant knowledge, skills, attitudes, and values to involve in various environmentally friendly programs, including taking part as influencers to support the achievement of Zero Net Emission as the global target.

SEAQIS developed South East Asia Climate Change Program (SEA CEP) as one of SEAQIS flagships to support schools by facilitating the school team to have relevant competencies. To implement the program, there are several researches need to be conducted to develop baseline data. Based on the above description, this research need to be conducted.

OBJECTIVES

This project aims to:

1. How do schools carry out the implementation of learning on environmental /climate change issues?
2. What are the supporting factors in implementing learning on environmental /climate change issues?
3. What are the obstacle factors in implementing learning on environmental /climate change issues?
4. How do students respond to learning regarding environmental /climate change issues?

EXPECTED OUTCOME

This project should result in a set of baseline data on current practice of implementation in learning on environmental/Climate Change issues which will be used to develop SEA CEP program for ASEAN Countries. The program will hopefully be implemented at the end of 2023 particularly for Training of Trainer (ToT) phase 1 to equip a school team consisting of School Principal and teacher to develop Climate Resilience School (CRS). The ToT will be conducted through blended learning.

ACTIVITIES AND TIMELINE

Activity	Timeline	Notes
Develop research proposal	May 2023	
Develop and validate instruments	May 2023	
Collect and process data (each country)	June – July 2023	
Analyse data (each country)	July 2023	
Writing report (each country)	August 2023	
Writing article (each country)	August 2023	
Collect and process aggregated data from ASEAN countries	August – September 2023	
Analyse aggregated data from ASEAN countries	September 2023	
Write joint research reports for ASEAN countries	October – November 2023	
Write joint research article for ASEAN countries	November 2023	

FUNDING MECHANISM

Centre self-funding

DEVELOPING THE SEAMEO QITEP (MATHEMATICS) INSTRUMENT FOR MATHEMATICS TEACHERS' PROFICIENCY IN SOUTHEAST ASIA COUNTRIES (PHASE I – 2022/2023)

SEAMEO QITEP (MATHEMATICS) (EDUCATION)

Ms. Uki Rahmawati

uki.rahmawati@gmail.com

BACKGROUND

SEAMEO QITEP (Mathematics) or SEAQiM, under the Ministry of Education, Culture, Research and Technology, has the mandate to improve the educators and education personnel in the field of Mathematics. The main mandates of SEAQiM are to support mathematics teachers and education personnel in SEA countries in maintaining the quality of their professionalism through various Continuous Professional Development (CPD) programs. Distinguishing the professional teachers and the novice teachers is also important for the acknowledgments of the professionalism and teachers' competencies. In relation to this concern, providing an instrument to acknowledge mathematics teachers' competencies is urgent.

Teacher competence is an important thing to be concerned about since teachers play a vital role in the education system. To become professional, a teacher must have some knowledge and skills that will support them in providing a good quality of mathematical teaching and learning. There are at least two knowledge areas that need to be accomplished by mathematics teachers: Content Knowledge (CK) and Pedagogical Knowledge (PK) which will then be conveyed to students. Content Knowledge is knowledge about content such as numbers and operation, algebra, geometry and measurement, data and probability, and other mathematics strands. In addition, a teacher must understand about the ways to deliver the teaching and learning processes that involve how students learn, how to manage the classroom, how to develop lesson plans and how to assess the student. This is called Pedagogical Knowledge (PK). In the teaching and learning practice, CK and PK are two knowledge that are not mutually exclusive to each other. For this reason, having knowledge of standalone content and general pedagogical strategies was not enough for grasping the knowledge of good teachers.

Pedagogical Content Knowledge (PCK) is defined as specific Content Knowledge that focus on the applicability of the content to be delivered for students. Pedagogical Content Knowledge is represented as an intersection between CK and PK, since it is also a specific part of pedagogical knowledge that focuses on the teaching strategies that incorporate appropriate conceptual representations to address learner difficulties and misconceptions and foster meaningful understanding of a specific content (topic). To be a professional mathematics teacher nowadays, that knowledge is no longer enough to support teachers in providing qualified learning experiences to students. As we are now living in the digital era, technology plays an important role in the education sector.

Nowadays, teachers are intended to master technology, specifically the technology to be integrated into the learning process. Technological Knowledge (TK) is knowledge about standard technologies that must be updated since the technology is constantly changing in the shift time. In line with the content and pedagogical knowledge, technological knowledge must combine with the content and pedagogical in the learning process. Technological Content Knowledge (TCK) is the knowledge about how technology and content are reciprocally related

and Technological pedagogical Knowledge (TPK) is knowledge of how various technologies are used in teaching and learning settings and knowledge of how teaching might change as a result of using a particular technology.

The intersection between PCK, TCK, and TPK that are defined as TPACK (Technological Pedagogical Content Knowledge) should be mastered by teachers to be a good teacher in present-day teaching. Because TPACK includes PCK, TCK, and TPK are essential for the teacher, it is necessary to develop an instrument that can be used to measure them.

Considering the importance of evaluating and maintaining mathematics teachers' skills and knowledge, SEAQIM envisioned a rigorous region-wide instrument to measure Mathematics Teachers Proficiency in Southeast Asia Countries. We started this year by developing the frameworks for the instrument.

OBJECTIVES

The general objective of this project is to provide a set of Teachers' Proficiency Instrument tests for Primary and Secondary Mathematics Teachers in Southeast Asia.

EXPECTED OUTCOME

The expected outcomes are providing set of tests that can provide:

- An assessment of teacher competencies;
- Direction for teachers to aspire to and as an instrument of self-assessment;
- Direction for the provision of Teacher Professional Learning support

ACTIVITIES AND TIMELINE

Activities	Timeline	Notes
Workshop on Theoretical and Methodological Framework Development	April 2022	
Developing the Framework	May – October 2022	
Focus Group Discussion on Finalising Theoretical & Methodological Framework	November 2022	
Developing the Test Items	November – December 2022	
Expert Validation of the Test Items	December 2022	
Finalising the test items based on the experts' feedback and inputs	January – February 2023	
Developing the system and test platform	March – May 2023	
Final review of the digital test or platform	June 2023	

Pilot Testing for selected SEA Mathematics Teachers	August – September 2023	
Data analysis	October – November 2023	
Revision based on the pilot test results	December 2023	

FUNDING MECHANISM

Ministry of Education, Culture, Research and Technology (MoECRT) of Indonesia

THE EFFECTIVENESS OF THE TEACHER PROFESSIONAL DEVELOPMENT PROGRAM ON TEACHING PRACTICES TO PROMOTE LEARNERS' LEARNING AND SKILLS IN STEM EDUCATION

SEAMEO STEM-ED (EDUCATION)

Dr. Kessara Amornvuthivorn & Ms. Yaowalak Jittakoat
kessaraa@seameo-stemed.org; yaowalakj@seameo-stemed.org

BACKGROUND

STEM education is a vital tool used to develop the interest in science of youth around the world and to address the problems faced by our education communities as well as larger global issues that require a skilled workforce and knowledgeable citizens who can apply these knowledge and skills to solve problems. The world's leading countries all are paying attention to promoting STEM education by including it in basic education system. Among Asian countries, China, as one of the leading countries in economic development, has included STEM education in schools for children aged between 7-12 years old. All grade 11 students are required to present a STEM innovation including work pieces and activities that they had done through the research and development process focusing on compulsory STEM-related subjects of physics, chemistry, biology, and mathematics (Gao, 2020: online). In addition, Japan, which is another leading country, has developed a STEM program called "The Super Science High School (SSH)" that is applied in all schools throughout the country since 2002. The program effectively promotes science and STEM education (Ishikawa, Fujii and Moehle, 2020: online).

Teacher professional development combining capacity building in teaching practices and PLC for efficient STEM instructions needs to be done with true understanding of the local contexts. These contexts consist of the community's readiness to adopt the STEM approach in the instructions, adequate supporting systems and facilities available to use, and the areas of competencies that Thai STEM teachers have. Only by understanding these contexts and knowing how to overcome these challenges can lead to a better selection of the approach in designing and managing STEM learning that correspond to the community's contexts, which will create correct understanding of the learners that STEM education is important to their lives both at present and in the future. Furthermore, it will lead to an approach in building networks of STEM teachers for an instructional capacity building and PLC processes for the purposes of knowledge exchange and gaining higher academic positions. The lessons learned from this study will create the body of knowledge from research and analysis, which will be useful to policymakers seeking an approach for improving the teaching practice capacity-building and PLC processes for STEM teachers by using STEM instructions and activity design as the basis.

OBJECTIVES

This program effectiveness research study aims to present the progress of the program focusing on the effectiveness of the implementation of the Chevron Enjoy Science Phase 2 project and for supporting and implementing partners to learn about the changes directly resulting from the project implementation that is in line with education policies. The specific objectives include the following:

1. To examine the adoption and application by participating teachers of the STEM education concepts from the teacher professional development program in their teaching practices.
2. To study the teacher's attitude and increased confidence after participating in the teacher professional development program.
3. To investigate the changes in teachers' teaching practices and the impacts on learners' STEM skills and learning.
4. To explore supporting factors that affect the success of the Teacher Professional Academy.

EXPECTED OUTCOME

1. The teachers who participated in the teacher professional development program demonstrate greater efficiency in their STEM teaching practices than those who did not participate.
2. The teachers who participated in the teacher professional development program will have higher confidence in and better attitude towards the use of integrated STEM concepts in their classrooms than those who did not participate.
3. The learners who learn from the teachers who participated in the teacher professional development program will have better ability to apply STEM concepts in their daily lives and solve real world problems compared to those who did not learn from the teachers in the program.
4. The learners who learn from the teachers who participated in the teacher professional development program will have higher STEM skills than those who did not learn from the teachers in the program.

ACTIVITIES AND TIMELINE

Research Activity/Month	2021		2022				2023
	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	July-Sep	Oct-Dec	Jan-Mar
1. Proposal development	Jul-Sep						
2. Research instrument development	Sep	Oct-Dec					
3. Institutional Review Board submission and review			Jan				
4. Pilot research instruments			Jan				
5. Review and revise research instruments			Jan				
6. Introductory meeting			Jan				
7. 1 st data collection			Jan-Mar				
8. Data analysis-baseline				Apr			

9. Preliminary key findings-baseline				Apr-Jun			
10. 2 nd data collection				June	July-Sep		
11. Data analysis-2 nd round					Sep	Oct	
12. Key preliminary findings					Sep	Oct-Nov	
13. Interpretation workshop						Dec	
14. Reporting							Jan-Feb
15. Dissemination							Mar

Remarks:

**The researchers will receive mentorship and capacity building from Dr. James Kemple, Executive Director of the Research Alliance for New York City Schools and Research Steinhardt School of Culture, Education, and Human Development, New York University*

FUNDING MECHANISM

Chevron will support the program and research implementation thru Mar 2023. After the completion of Chevron Enjoy Science Project, additional funding will be sought to continue the project. The Centre will provide continued support for the adoption of the model by governments in the region to set up their own career academies.

AN ETHNO-PARENTING STUDY: AN EXPLORATION OF THE VALUE OF CHILDREN AMONG INDIGENOUS COMMUNITIES IN INDONESIA

SEAMEO CECCEP (EDUCATION)

Prof Vina Adriany, PhD, Suci Rahmdaeni, IAIN Syekh Nurjati Cirebon,
Fatima Rahmah & Irfan Ansori

vina@seameo-ceccep.org, fatimar@seameo-ceccep.org, irfan@seameo-ceccep.org

BACKGROUND

The changes in children and childhood concepts have affected the value of children worldwide. The notion that children are human beings who are fragile, innocent, helpless, and passive places children as creatures who need help from adults (Adriany, & Newberry, 2022; Kangaude, Bhana, & Skelton, 2020; Hoffman & Zhao, 2007; Janmohamed, 2010).

Western hegemony regarding child development has become a regime of truth in understanding children uniformly. This view aligns with the research conducted by Adriany & Newberry (2022) that children's values position children as fragile beings who need help, where parents are required to stimulate children's development in particular ways, such as following the specific theoretical framework. The knowledge about parenting that is often adapted is modern parenting. One perspective that contributes significantly to parenting knowledge from the west is authoritarian, permissive, and authoritative parenting styles (Robinson, Mandlco, Olsen, & Hart, 1995; Robinson, 1996).

Westernization in modern parenting often requires parents to unify children's values worldwide, which might that is irrelevant in some contexts. Previous research stated that ethnicity and culture contributed to how the family values the children and their parenting style. Where culture, ethnicity, socioeconomic status and environment affect the development of children (Kotchick & Forehand, 2002). Further, a study found that child development is built naturally and through culture and community groups (Tayima & Harachi, 2010; Nyarko, 2014). According to the previous research, it is essential to explore how cultures and ethnic shape the value of children and how parenting practices is based on traditional culture.

OBJECTIVES

This project aims to explore the value of children among indigenous people in Indonesia, specifically in Ciptarasa Indigenous Community, Sukabumi, and West Java, Indonesia. Therefore, there are several objectives of this study, including:

1. To explore the concept of the value of children among the indigenous community in Indonesia
2. To explore the parenting practices based on a local tradition among the indigenous community in Indonesia

EXPECTED OUTCOME

This project is expected to be an initial study on the discourse of the value of children and parenting practices based on local tradition. The result of this study is anticipated to explain the value of children and the parenting practices of ethnic groups in Indonesia. Further, SEAMEO and stakeholders could implement this study at the Southeast Asian level to identify parenting practices among ethnic groups in SEA Countries.

ACTIVITIES AND TIMELINE

Activities	Timeline	Notes
Coordination meetings with the internal team of SEAMEO CECCEP	August - September 2021	
Data collection on the locus study	October - November 2021	
Processing data finding from the data collection	December 2021	
Planning on data analysis with the internal team of SEAMEO CECCEP	January 2022	
Data analysis	February - May 2022	
Coordination meetings with the internal team of SEAMEO CECCEP on data analysis	June 2022	
Data analysis (continue)	July - September 2022	
Writing on the study report	October - December 2022	
Revision of the study report, if necessary	January 2023	
Planning meetings for the dissemination of the study report	February 2023	
Dissemination of study report at the local, national, and regional levels	March 2023	

FUNDING MECHANISM

Funding fully funded by SEAMEO CECCEP

THE DEVELOPMENT OF OUR HAPPY NEIGHBOURHOOD MODULE WITHIN A HOLISTIC INTEGRATED ECCE AND CHILDREN'S RIGHTS FRAMEWORK

SEAMEO CECCEP (EDUCATION)

Assila Prianggi Humara Baiin, Ith Vuthy, Asep Subagja & Rizal Nugraha
assila@seameo-ceccep.org, vuthy@seameo-ceccep.org, asep.subagja@seameo-ceccep.org,
nugraharizal@seameo-ceccep.org

BACKGROUND

Holistic Integrated Early Childhood Care Education (HI ECCE) is an early childhood development effort carried out to paradigm shift from emphasising of education aspect and neglecting the care along with the shifting responsibility of young children from family to all stakeholders. In other words, HI ECCE aim to meet the diverse and interrelated essential needs of children as well as the fulfilment of children's rights that is needed to be taken by all. Holistic Integrated Early Childhood Care Education (HI ECCE) is one of the frameworks which has been developed in international settings for its prominent and important idea of multisector collaboration. This impetus reconceptualization is proposed by Miskeljin and Haldad regarding education and care for young children:

1. Redefining the role of the state with the role of the family, including the role of the private sector concerned with child development.
2. Recognizing children as part of the social environment that will be raised not only by family but also by the community as the children are part of the community.
3. Recognize ECCE staff as professionals who are part of the system education of a country.
4. Optimizing various ways to stimulate early childhood development.

OBJECTIVES

This project aims to:

1. To improve the quality of Early Childhood Education and Care (ECCE) teachers' about complexity within the framework of child's rights.
2. To be a reflective teacher with less simple measurement and comparison of children's development and needs.
3. To acknowledge children's rights regarding children's agency who make their own future along with accommodating children's need for protection and care.
4. To develop partnerships with teachers' and parents' collaborations are important for sustainable education and care both at school and at home. At the same time to be aware of the parent's as well as children's voices during the parenting process.
5. To strongly promote children's voices and inclusive education which has proven to uncover bullying and children's harassment in the ECCE setting.
6. To raise teachers' awareness of universal care that is crucial for the responsibility of ECCE shall be addressed as a social issue.
7. To promote teachers' to be the active agents to create social cohesion between their community and their school. We encourage teachers to have a role to manage the dynamic relationship of all stakeholders with the aim of ECCE quality enhancement.

EXPECTED OUTCOME

The development of the Our Happy Neighbourhood (OHN) module should result in the dissemination of children’s holistic integrated development based on the three basic child’s rights that is important in Southeast Asia for all the SEAMEO member countries that have been ratified by the United Nation Convention Rights of Child (UNCRC). In other words, the fulfilment of child’s rights needs to be built by all stakeholders gather in the ECCE unit where the teachers are strongly involved.

ACTIVITIES AND TIMELINE

Activity	Timeline	Notes
Focus group discussion of OHN baseline which results in a thematic approach from SEAMEO CECCEP 2 nd FYDP	June 2022	
SEAMEO CECCEP discussion with ECCE experts’ regarding thematic approach	August 2022	
The OHN framework proposed as a working paper for Governing Board Meeting (GBM)	October 2022	
Survey and literature review of ECCE teachers in SEAMEO member countries understanding regarding holistic integrated ECCE & children’s rights	November - December 2022	
Development of OHN modules & materials based on the survey & literature review	December 2022 - January 2023	
External review by the experts of holistic integrated ECCE and children’s rights	February 2023	
Piloting test of OHN module to Brunei ECCE teachers within face-to-face training in SEAMEO CECCEP’s office	March 2023	
Evaluation of the face-to-face training	March 2023	
Revision of materials and processing, if necessary, based on the results of the evaluation	March - June 2023	
Dissemination of results at the local, national, and regional levels	July - October 2023	

FUNDING MECHANISM

Funding fully supported by SEAMEO CECCEP

EXPLORING EFFECTIVE CLASSROOM CLIMATE FOR TECHNICAL EDUCATION IN THE SEAMEO COUNTRY

SEAMEO TED (EDUCATION)

Dr. Tim Vorn

timvorn@hotmail.com

BACKGROUND

Education takes time with recurrent interaction and coordination between teachers and students. Constant interaction and communication between teachers and students in the classroom builds a positive classroom climate. When students and teachers feel welcoming, friendly, courteous, sound, helpful, and encouraging, it means that they build a positive classroom climate (Kamb, 2012). However, there are negative classroom climate practices occurring in some schools in the region. For example, negative classroom climate practices are resulting from harsh discipline methods, unproductive classroom instruction, untidy classrooms, and antisocial behaviours of students (Allen, 2010). Moreover, an effective classroom climate depends on the interaction and communication between teachers, students, school regulations and disciplines, and school management. Therefore, to ensure productive classrooms, effective classroom climate factors can be investigated accessing students as research participants.

OBJECTIVES

Technical education students at secondary education level can be accessed for online questionnaire completion as they are target audiences who frequently interact and communicate with each other within the classroom. They know the classroom reality clearly because they stay in the classroom for a longer period of time every day. Hence, this study aims to identify effective classroom climate factors for technical education in the SEAMEO country members.

EXPECTED OUTCOME

If effective classroom climate factors can be explored, the classroom climate will be welcoming, respectful, inspirational, supportive, curious to learn, and exciting. Positive interaction and communication between teachers, students and school management can be measured. Finally, a productive classroom climate might reduce student drop-out rates, reduce student and teacher absenteeism from classroom, increase student learning outcomes, tangible instructional quality, and more student enrolment rates.

ACTIVITIES AND TIMELINE

Activities	Timeline	Notes
Questionnaire google form distribution to target participants as vocational-technical high school students from SEAMEO country members.	October – December 2021	
Data Analysis	January 2022	
First Draft	March 2022	
Final Draft and Submission	April 2022	Publication

FUNDING MECHANISM

Funding by the Ministry of Education, Youth, and Sport, Cambodia.

A COMPARATIVE STUDY OF THE CONTEMPORARY GERMAN VHS AND THE JAPANESE KOMINKAN AND SHARED LESSONS TO BE LEARNT FROM THE TWO MODELS FOR SOUTHEAST ASIA

SEAMEO CELLL (EDUCATION)

Khau Huu Phuoc
khauhuuphuoc@seameocelll.org

BACKGROUND

In 2016 SEAMEO CELLL with financial and professional support conducted a prescriptive study of the Kominkan – the Japanese successful model of community learning centre. The study identified features of the Kominkan that has made it a location of social education and community development. The research result was presented at three workshops, one by SEAMEO CELLL, and two by the Ministry of Education and Training of Vietnam in subsequent years.

In 2021 SEAMEO CELLL conducted a desk study of VHS – the 100-year Germany model of adult education centres, which are similar to community learning centres commonly found in Asia-Pacific. The study found characteristics of governance, policy, funding, programme content and delivery that facilitate adults in learning according to their needs, hence high level of learner participation. Kominkan were first established after World War 2, and VHS celebrated the centenary of their inclusion in the Constitution of the Weimar Republic in 1919. What are the shared features that sustain the 70-year Kominkan and the 103-year VHS? Another study is needed to find the answer, which may prompt community learning centres in Asia-Pacific to adapt and adopt those key characteristics so that they can cater better to the learning needs of local people. The research is of a qualitative type, using information and data from SEAMEO CELLL's reports of the two studies, "Kominkan – the Japanese Successful Model of Community Learning Centre", and "VHS – the 100-year Germany model of adult education centres" and other sources of information and data.

OBJECTIVES

1. To identify shared success factors of the two models of community learning centres, and
2. To recommend good practices and potentially applicable model of community learning centres to Southeast Asian countries for development of their community learning centres.
3. To enhance cooperation between SEAMEO CELLL and DVV International, Asia-Pacific Cultural Centre for UNESCO, Japanese Kominkan Association.

EXPECTED OUTCOME

A technical report of the study detailing the purpose, process of the research, results and recommendations. The report will be presented to SEAMEO CELLL's Governing Board, and at SEAMEO Centre Director Meeting in 2023 for endorsement and dissemination. The study results will also be disseminated at relevant events that SEAMEO CELLL organises and participates in.

ACTIVITIES AND TIMELINE

Activities	Timeline	Notes
Perform a preliminary literature review of Kominkan and VHS, and compile a bibliography	December 2022	
Develop research proposal and a research outline	January 2022	
Send research proposal to potential partners	February 2023	
Finalise research proposal and invite partners to support in the research	March 2023	
Perform literature review	April 2023	
Update the research report on Kominkan that SEAMEO CELLL wrote in 2016	May 2023	
Interview specialists from Asia-Pacific Cultural Centre for UNESCO (online, semi-structured interview)	June 2023	
Interview specialists from Japan Kominkan Association (online, semi-structured interview)	June 2023	
Interview specialists from Dvv International (online, semi-structured interview)	July 2023	
Survey facilitators at Kominkan and VHS (online)	September 2023	
Analyse data and information obtained from interviewees and literature	October 2023	
Write the first draft	January 2024	
Send the first draft to the three partners for review and comments	January 2024	
Revise the draft	April 2024	
Discuss draft with partners (online)	May 2024	
Finalise the report	June 2024	
Share the research results at SEAMEO CELLL's regional workshop "Good Practices of Community Learning Centres in Southeast Asian Countries" in 2024	October 2024	
Share report among Southeast Asian countries, via SEAMEO centres and networks and through SEAMEO CELLL's governing Board	2024	

FUNDING MECHANISM

Cost sharing by SEAMEO CELLL, DVV International, Asia-Pacific Cultural Centre for UNESCO, and Japan Kominkan Association.

RESEARCH IN CULTURE

SYMPOSIUM ON TRADITIONS OF FOOD IN SOUTHEAST ASIA: IN TRACE OF SOUTHEAST ASIA'S FOOD CULTURE

SEAMEO CHAT (CULTURE)

Ms. Thuzar Aung
thuzaraung68718@gmail.com

BACKGROUND

The mission of the Southeast Asian Ministers for Education Organization Regional Center for History and Tradition (SEAMEO CHAT) is to promote the study of history and traditions among member countries as well as the development of greater identity through research, human resource development, education and public awareness programmes. Moreover, the centre has followed not only on SEAMEO's priority areas but also UNESCO SDG.

In Southeast Asia, we have simple daily meals and feasts that are elaborated to characterise all Southeast Asian culinary cultures. Most food is cooked by quick blanching or stir-frying and steaming. Southeast Asians are concerned with nutrition, economy, and ease of preparation related to their food. Due to the close proximity of the borders between countries in Southeast Asia and to combine influences from India and China that have affected indigenous taste and cooking styles, the ingredients are similar throughout most of the region while they are nonetheless manipulated by each culture to suit their plates and taste. Most often, food is consumed in Southeast Asia on a mat raised off the ground traditionally. More than three-quarter (3/4) of the Southeast Asia population is agriculture-based, twice as much fish is consumed in this region compared to other forms of animal protein, reflecting the long coastlines and river environments of years. Rice serves as the basic staple food for more than half of the world's population today. The food consumed in Southeast Asia varies not only by country but by religious and ethnic tradition. Now Southeast Asia's foods are not only popular in the region but also in the world. The results of this research are expected to show the value of our traditional food and the importance to preserve our food culture.

OBJECTIVES

- To be aware and value the similarities as well as diversities of tradition and culture of food in Southeast Asia
- To notice the importance of preserving the Southeast Asian food culture
- To know more and understand well each other's culture not only in the region but also in the world

EXPECTED OUTCOME

Publication as a reference book for those who are doing researches in the academic field.

ACTIVITIES AND TIMELINE

Activity	Timeline	Notes
Submission of the programme	March 2022	
Meeting and discussion with SEAMEO SPAFA to get advice for the inputs for the programme before the Diplomatic Briefing	June - July 2022	CPRN 2022
Call for papers and the resource persons from the region through the Centers	August 2022	
Selection for topics and the resource persons	October 2022	
Submission of the approval to MoE	October 2022	
Invitation to the SEAMEO Centers and the participants	October/ November 2022	
Test meeting with the resource persons before the symposium	November 2022	
Symposium on Traditions of Food in Southeast Asia: In Trace of Southeast Asia's Food Culture	7/8 December 2022	
Publication (online or printed)	February 2023	

FUNDING MECHANISM

Funding by SEDF (submitted - not yet received) or Government Budget

STRENGTHENING CULTURE-BASED EDUCATION IN PRIMARY EDUCATION OF SOUTHEAST ASIAN COUNTRIES

SEAMEO CHAT (CULTURE)

Ms. Thuzar Aung
thuzaraung68718@gmail.com

BACKGROUND

Education is defined as “an act or experience that has a formative effect on the mind, character or physical ability of an individual” or “the process by which society deliberately transmits its accumulated knowledge, skills and values from one generation to another”. Culture is the traditions, history, values and language of a group of people, which make them contribute to their identity. Integrated with education, it brings about awareness, appreciation and understanding of one’s national patrimony which reflects, validates and promotes the values, world views, and languages of the community’s cultures. Culture-based Education is not just about the incorporation of culture and heritage icons and symbols, historical events, and arts and creative traditional skills into the curriculum. It validates and affirms cultures by making them essential tools for knowledge formation. It also stills awareness of students’ heritage, values the accomplishments of their family, their community and their ancestors. In addition, it builds a sense of pride and self-esteem, which is the best gift any teacher can give to his/her students.

OBJECTIVES

- To provide the students in Southeast Asian countries to have a strong foundation of cultural identity; to be knowledgeable about the history, traditions and languages of the ethnic groups in Southeast Asia
- To have a better understanding and value their own culture
- To develop a balanced approach to social life
- To strengthen Culture-based Education of Southeast Asian countries through sharing and exchanging the ideas and practices in teaching culture in Primary Education
- To promote Inter Centre Collaboration
- To extend knowledge about culture, traditions and languages of the people in Southeast Asia for improving intercultural understanding

EXPECTED OUTCOME

Publication as a Culture-based Education curriculum in the respective countries

ACTIVITIES AND TIMELINE

Activity	Timeline	Notes
Submission of the programme	October 2022	21 st GB Meeting
Coordination meetings with the officials from MoE, to discuss the project concept, clarification and the approval	December 2024	
Meeting and discussion with the experts and curriculum planners from member countries together with resource persons from SEAMEO Centres before the Diplomatic Briefing (CDM)	January/February 2025	
Orientation meeting with school teachers to find out the students' needs	March 2025	
Collecting the feedback data from the teachers	May 2025	
The expert meeting for the outline of the draft contents of Culture based education curriculum in Southeast Asia via the basic education curriculum	May - June 2025	
The second expert meeting for finalising the contents and evaluation of the course content	July - Aug 2025	
Pilot test for implementation in schools	September 2025	
Evaluation of the implementation	October 2025	
Revision of materials and processing, if necessary, based on the data and feedback from the evaluation	December 2025	
Publication	February 2026	

FUNDING MECHANISM

Funding by SEDF (not yet submitted) or Government Budget



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