Southeast Asian Ministers of Education Organization
Regional Centre for Education in Science and Mathematics

REGULAR COURSES FOR FISCAL YEAR 2019/2020 (Batch 2)

Course Code	: RC-PS-144-3
Course Title	: Technology Enhanced Learning in Primary Science Education
Duration	: 01 – 26 February 2021: 4 Weeks
	(2 Weeks Online Classes & 2 Weeks Online Project Supervision
Participants	: Science/ICT educators or key primary Science/ICT teachers
Course Supervisor	: Sharfuddin Abdul Shukor

1. RATIONALE

For the past decades, digital technology has become embedded in education and the results indicate a positive impact on learning and teaching styles (Raffagheli, Cucchiara & Persico, 2016). Nevertheless, majority of the teachers does not fully utilise technology meaningfully in their teaching and instruction (Canbazoglu Bilici, Guzey & Yamak, 2016). Therefore, the use of classroom technology should be maximised in order to improve both hands-on and minds-on activities in science classrooms (Brunström & Fahlgren, 2019).

According to Goodchild and Speed (2019), lessons that are supported by technology will lead to more innovative forms of teaching and learning. This is because the use of technology involves real-world problems, current informational resources, simulations of concepts, and communication with professionals in the field. Besides, learning using technology is believed to complement the traditional forms of teaching and learning (Fagerberg, 2018).

The integration of technology tools and its application into the curriculum is becoming part of good teaching practises in enhancing student learning and engagement in a particular lesson (Tan, Liew & Low, 2017). There is a potential for supporting and enabling learning through exploring the use of animations, multimedia, computer-based simulations, and games-based learning (Kirkwood & Price, 2014).

There is a growing importance of technological applications to improve students' understanding of science contents. According to Barak and Levenberg (2016), it is found that different types of learning technologies can make science learning authentic as they are able to sustain learners' participation and engagement in learning. In addition, the use of a variety of technology applications enhanced students' understanding of subject content (Coffman & Klinger, 2019). Thus, there is a need to understand various strategies to integrate technologies in science learning.

2. OBJECTIVES

The main objective of this course is to provide participants with opportunities to use technology in enhancing science pedagogical skills and content knowledge in teaching primary science.

Upon completion of this course, participants are able to:
    i. acquire basic knowledge on types of Technology-Enhanced Learning (TEL);
   ii. develop skills in using technology tools and applications to improve teaching and learning in primary science;
  iii. adopt strategies such as project-based learning, problem-based learning and active learning for enhancing teaching and learning of primary science; and
  iv. collaboratively plan, design, implement and make conclusion of a primary TEL lesson in the science classroom