

21ST CENTURY ICT TOOLS FOR SCIENCE TEACHERS AND EDUCATORS

INTRODUCTION:

Education in the emerging knowledge society is critically important - not only because it is the source of basic skills, but it is also the foundation for the development of new knowledge and innovation. The Ministries of Education (MoE) in most developing countries have been embarking on reforms to more closely relate and interlink their systems with innovation, knowledge creation, development of creative capacities and the ability to exploit and absorb progressive technologies like ICT that in turn stimulate economic development. These reforms aim to equip tomorrow's citizens with increasingly important science and technology related 21st Century skills such as ICT skills, problem solving skills, collaboration skills, critical thinking and higher order thinking skills.

RATIONALE:

As Information and Communication Technology (ICT) permeates the classroom of the 21st century, its role in teaching and learning science has also grown to become the means through which learning is facilitated. ICT plays a significant part in the process of learning and knowledge creation, and will become especially significant in impacting important 21st century skills such as handling information, solving problems as well as communication and collaboration, skills which are largely related to teaching and learning science. Technology in teaching and learning science, however, cannot be viewed in isolation because its role and impact are largely dependent on its users – the teachers and students. While ICT poses some challenges to science teachers in terms of technological expertise, accessibility and reliability, it has also offered great opportunities for increased engagement, interactivity and motivation in the science classroom. Teachers are challenged to facilitate and support learning which is constantly offering possibilities through the emergence of new technologies which the learners are comfortable with.

OBJECTIVES:

At the end of this workshop, participants will be able to:

- recognise the importance of 21st century learning
- explore and identify the tools for teaching and learning science
- examine how ICT can help schools to enhance and enrich teaching and learning science
- discuss and reflect on how curriculum and assessment systems should be aligned for the acquisition of 21st century skills
- discuss practical ways and innovative models to build learning proficiencies in 21st century skills.

STRATEGIES / APPROACHES:

This is a hands-on and minds-on workshop on 21st century ICT Tools in Science Education. It will be conducted in a workshop format with 4 to 5 participants in a group. Participants will also be given a chance to share their own experiences to their fellow participants.

TARGET PARTICIPANTS:

Secondary science teachers & teacher educators

SCHEDULE

DAY 1 WEDNESDAY (28 SEPT. 2011)

0815 - 0830	REGISTRATION
0830 - 0845	Workshop Briefing
0845 - 0930	21 st century learning – What, When, Where and Why
0930 - 1000	Overview of 21 st century learning Tools
1000 - 1030	Communication Tools in Teaching & Learning Science (1)
1100 - 1230	Communication Tools in Teaching & Learning Science (2)
1230 - 1300	Quiz & Reflection
1430 - 1500	Overview of 21 st century Collaboration Tools
1500 - 1530	Collaboration Tools in Teaching & Learning Science (1)
1530 - 1600	Collaboration Tools in Teaching & Learning Science (2)
1600 - 1630	Quiz & Reflection

DAY 2 THURSDAY (29 SEPT. 2011)

0830 - 0900	Overview of 21 st century Creativity Tools
0900 - 0930	Creativity Tools in Teaching & Learning Science (1)
0930 - 1000	Creativity Tools in Teaching & Learning Science (2)
1000 - 1030	Quiz & Reflection
1100 - 1130	Overview of 21 st century Critical Thinking Tools
1130 - 1300	Critical Thinking Tools in Teaching & Learning Science (1)
1430 - 1530	Critical Thinking Tools in Teaching & Learning Science (2)
1530 - 1600	Quiz, Reflection and Summary
1600 - 1630	Closing & Certificate Presentation Ceremony

INTRODUCING THE WORKSHOP FACILITATOR:



Mr. C. Annamalai is a Science Education Specialist in Training Programme Division, SEAMEO RECSAM, Penang, Malaysia. He has been the course supervisor and workshop coordinator for various courses on Integrating ICT into Science and Mathematics teaching. He has published articles on ICT in the national and international journals. He is the peer reviewer of International Journal on Education using ICT (IJEDICT, South Africa) and Editorial Board member of Journal of Information Systems Education (JISE, USA).

PARTICIPATION FEES:

Type 1: **RM 490.00 per participant** (Without Accommodation)

Type 2: **RM 630.00 per participant** (Twin Sharing at RECSAM International House)

Type 3: **RM 760.00 per participant** (Single occupancy at RECSAM International House)

ACCOMMODATION AT RECSAM INTERNATIONAL HOUSE:

For Type 2 & 3 participants boarded at the RECSAM International House

Check in A Day Before 1400 to 1800

Check out A Day After by 1200

FOOD:

Morning tea, lunch and afternoon tea will be provided by SEAMEO RECSAM during the workshop sessions. For stay-in participants (Type 2 & Type 3), breakfast and dinner will be provided.

SUBMISSION AND CLOSING DATE:

All participation forms are to be submitted to the following latest by **15 September 2011**:

Director, SEAMEO RECSAM,
Jalan Sultan Azlan Shah, 11700 Gelugor, Penang.
or by fax 04-6522742

LOCAL ORDER INFORMATION:

Pay to: SEAMEO RECSAM
Bank: MAYBANK GELUGOR BRANCH, PENANG
Account Number: 5571 5700 0647

FOR ENQUIRIES:

C. Annamalai / Ms. Deng Mee Cheng
Email: annac@recsam.edu.my / deng@recsam.edu.my
Telephone: 04-6522741 / 04-6522750

PARTICIPATION FORM

Name: _____

School / Organisation: _____

Gender: Male / Female

Telephone: Office: _____

Home: _____ Mobile: _____

Email: _____

Do you need accommodation at RECSAM International House?

Yes Date: _____ No

I enclose a Cheque / Local Order / Postal Order

No: _____ bearing the sum of RM _____ as payment for the workshop.

(Please make cheque/local order/postal order payable to: **SEAMEO RECSAM**)

Note: To enrol please complete the PARTICIPATION FORM and send/fax it to:

**Director, SEAMEO RECSAM, 11700 Gelugor, Pulau Pinang.
Fax: 04-6522742**

Closing date for registration is **15 SEPTEMBER 2011**.

Signature: _____

Date: _____



Passion for Learning

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Facilitator:
Mr. C. ANNAMALAI

Dates:
28 & 29 SEPTEMBER 2011

Venue:
ICT LAB 2, SEAMEO RECSAM, Penang

Organised by
Southeast Asian Ministers of Education Organisation
Regional Centre for Education in Science and Mathematics
Jalan Sultan Azlan Shah, 11700 Gelugor, Penang, Malaysia
www.recsam.edu.my