Participatory simulation:
Climate and ocean literacy in action
EGU-1656, 24 May 2022, EOS1.8

Pimnutcha Promduangsri, Pariphat Promduangsri,
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Abstract

Climate change (CC) and **ocean degradation** (OD) are major **threats** to the perpetuation of life on planet Earth.

This makes it important for people of all walks to learn about the problems and about how they may contribute to solutions. It is our responsibility to ensure that the planet remains habitable for humans and for all species.

One way to **learn** about CC and OD is through **experience** and direct **interaction** with the environment.

Experiential learning (Kolb) allows people to learn with both their heads and their hearts, to become engaged with the issues and with their own **learning process**. Experience can be real, as in an internship or living with sea-level rise, or it can be contrived, as in a game or simulation.

Many **simulation/games** have been designed to teach climate and ocean literacy (e.g., review by Ulrich).

Here we will outline our own experience of two online, large-scale **participatory simulations** – running over several days. The broad learning objectives for each participant were as follows:

o   to become an even better **ocean-climate-coast-literate** and **geoethical** stakeholder and

o   to help other people to become literate in the **ocean-climate-coast processes**,

in other words,

o   to learn about the ocean, coasts and climate system, to behave in a **responsible manner** in that system and to learn how to multiply and convey their **knowledge** and **skills** to other

o   to learn how to **collaborate** effectively with and facilitate the inclusion of a range of stakeholders.

The objective of each online, participatory simulation was to write a collective document, in somewhat similar fashion to drafting an international treaty. In so doing, participants need to **interact**, build **trust**, **negotiate**, find **compromises**, **listen** to others, articulate their own ideas and wishes, draft text, rewrite drafts and so on. Each simulation is contextualized with a **scenario** based on real data, but projected into the future. The interactions are conducted via Discord and Google Drive. At the end, a **structured debrief** is conducted.

In this presentation, we will share our **experiences** and explain the **learning processes**. We will outline:

o   The **content areas** of the online participatory simulations.

o   The **pedagogical principles**, such as learner-centred participatory simulation, feedback and debriefing.

o   Participants **feedback**.

We will provide time to answer audience questions, and provide information on how you can

participate in the next simulation run. We hope to see you virtually and in person at the EGU.

Plan

The Inter- Ocean-Climate School (IOCS) is…

o online, simulation

o 3,5 days / 3 weeks
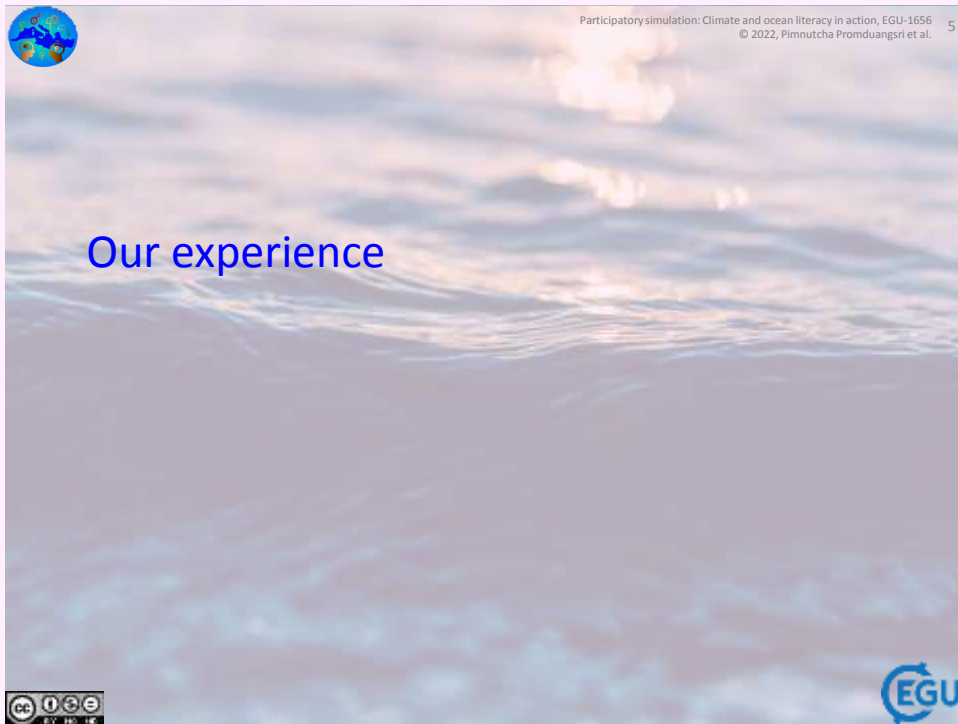
I.   Our experience (sessions Oct 2020, May 2021)

a.   Warm-up: Preparatory activities

b.   The simulation: Briefing, action, debriefing

II.   The School

a.   About participants & feedback (evaluation)

b.   Pedagogical methods, tools & tech

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Our experience

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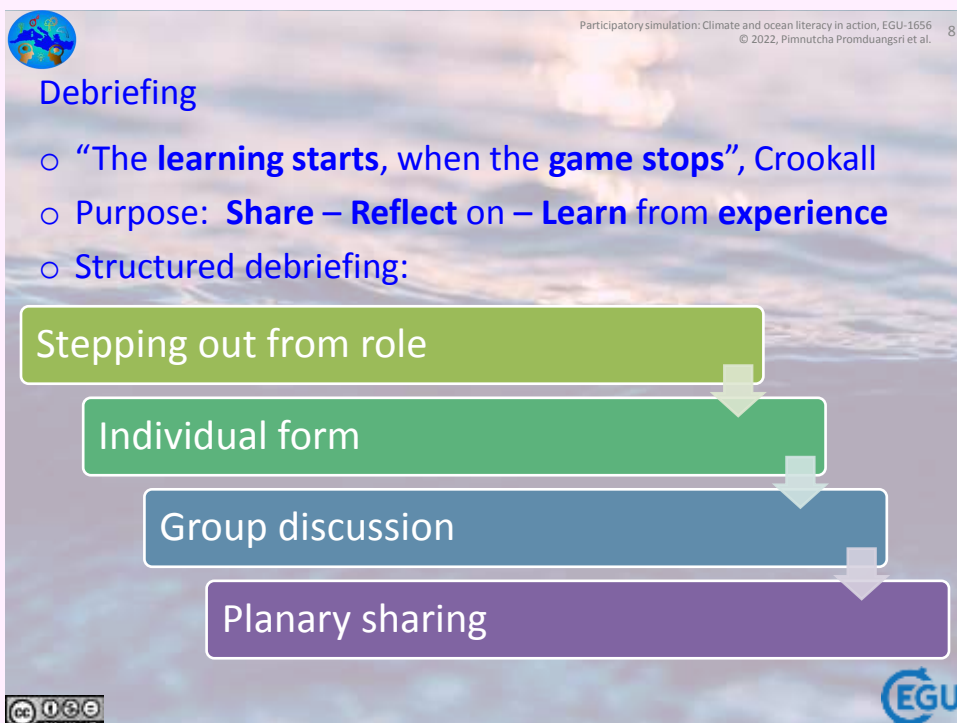© 2022, Pimnutcha Promduangsri et al. 6

Preparatory activities

o Oct 2020, lecture by Fabienne Goux-Baudiment
o May 2021, online game by Alice Vitoux

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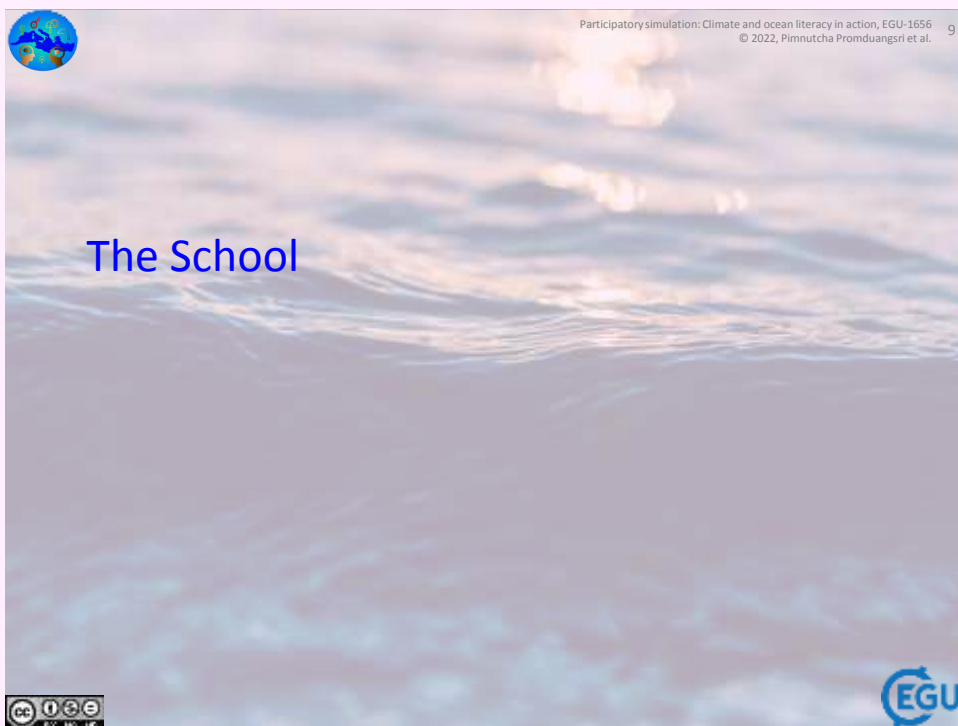
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Simulation

Phases	Activities	Examples
Briefing	• Scenario • Roles • Goals	• From 2025 to 2050 • Edu, Tourists, Fishers,... • Ex: "Train teachers in climate lit"
Actions → Outcomes (deliverable)	Negotiation → Roadmaps Small groups & plenary discussions → make decisions +	Plan for actions on 3 levels of awareness: High, medium, ordinary = Set of policy recommendations • Ex: "Reduce 50% emissions from agriculture/aquaculture greenhouse gases by 2050"
Debriefing	Writing, reflection, discussion	See next page

Debriefing

o "The **learning starts**, when the **game stops**", Crookall
o Purpose: **Share** – **Reflect** on – **Learn** from **experience**
o Structured debriefing:

Stepping out from role

Individual form

Group discussion

Planary sharing

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Feedback - Examples

"It was a wonderful experience"

"With a series of people and scientists who really wanted to do something for the climate and the ocean."

"I felt very good with all the participants. … all the discussion rooms and all the meetings were very useful to me."

"When I describe the experience to friends I always say that it was something really useful for my personal & professional growth."

"What excited me was when we exchanged our different point of views."

For more feedback, pls visit the School website:
https://oceansclimate.wixsite.com/oceansclimate/feedback

Methods, tools & tech

Experiential Learning Cycle (ELS)
David Kolb

School & participatory simulation are based on the ELS

Presentations, prep games, interactive simulation, discussions, debriefing, …

o Discord
o Google Drive
o Google Docs
o Mural

o Advantages
  o People from around the world
  o Relatively simple applications, easy to learn & use collectively

o Drawbacks
  o Fast connection
  o Laptop (no tablet, no mobile phone)

Concrete Experience
(doing / having an experience)

Active Experimentation
(planning / trying out what you have learned)

Reflective Observation
(reviewing / reflecting on the experience)

Abstract Conceptualisation
(concluding / learning from the experience)

Source: https://www.skillshub.com/what-are-kolbs-learning-styles/

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Pimnutcha & Pariphat

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Thank you - Questions?

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Ambassador

Become an Ambassador for the School
→ **ambassadors.iocs** at gmail

Anyone with an interest to protect the
Planet is very welcomed!

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