The Art of Scientific Communication

The perfect explainer: toolbox for science communication

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IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System
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What is “Public Engagement”?

Several initiatives aimed at sharing results and processes of research and nurturing the mutual exchange of knowledge, skills and views with the various social actors.

Tool n. 1:

Planning

The first thing to do is to set the goal of your science activity

In pedagogy, the “goal” (or “objective”) is something that the audience will learn/will be able to do
after participating in your activity.

Tool n. 2:

Fitting the constraints

1. Fit the space

Place the seats in a circle, don't make the audience clutter

Use the whole stage

Try to remove barriers

Prepare clear slides

2. Stay on time

Test your activity to check if you will respect the given time

Prepare "Shortcuts"

Tip: Usually 1 slide = 1 minute

Tool n. 3

Being essential

You should say/show something if it is useful to deal with the topic or engage the audience.

Avoid information overload and scientific jargon.

Tool n. 4

Ice breaking

The audience can participate in your activity for three main reasons:

- They want to
- They were obliged to
- They are random encounters

In each case, you have to find a link with these people and engage them.

Tip: start with an “ice-breaking” question and use metaphors.

Tool n. 5

Amazing the audience

We learn better if:

Different parts of the brain are involved	THEN	Use different languages and activities
The new knowledge is built upon something that we are already familiar with	THEN	Check the knowledge of the audience or assume that they haven't any
Informations are linked to emotions	THEN	Amaze with experiments and experiences, storytelling and the setting

Tool n. 6

Repeating the message

Redundancy: reinforce the message, avoiding repetition.

Use different media to reinforce the message.

Introduce the topic, explain the topic and close with a “take home message”.

Tool n. 7

Finding balance between speaker and medium

We should show on the medium everything that SUPPORTS our speech and not REPLACE it.

In a presentation, show key words instead of sentences and show them progressively

Each slide should have less than 5 elements.

Pictures (and slides in general) should be auto-explicative.

Tool n. 8

Making it beautiful

Show only things that you want to show and make them visually appealing.

Your presentation should be recognizable even in a single slide (“smashable”)

Don’t use too much fonts, gifs and colors. Respect the alignments.

Choose coherent graphics (i.e. don’t mix pictures with icons)

Useful links

Shared and easy graphic creator: canva.com

Free vectors and icons: freepik.com

Free silhouettes and more: creazilla.com

Free pictures: unsplash.com; pixabay.com

Gifs: giphy.com; per crearle, convertirle (es. da .webp) e modificarle: ezgif.com

Online polls: slido; kahoot; mentimeter; ahaslides

Website to produce memes: https://imgflip.com/memegenerator

Generate in 30 seconds free images with AI: https://creator.nightcafe.studio

To read more about:

https://questproject.eu/wp2-measuring-and-assessing-science-communication-quality/

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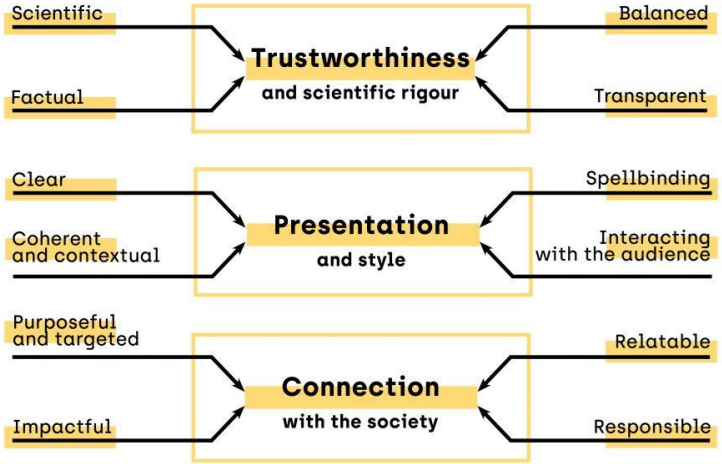
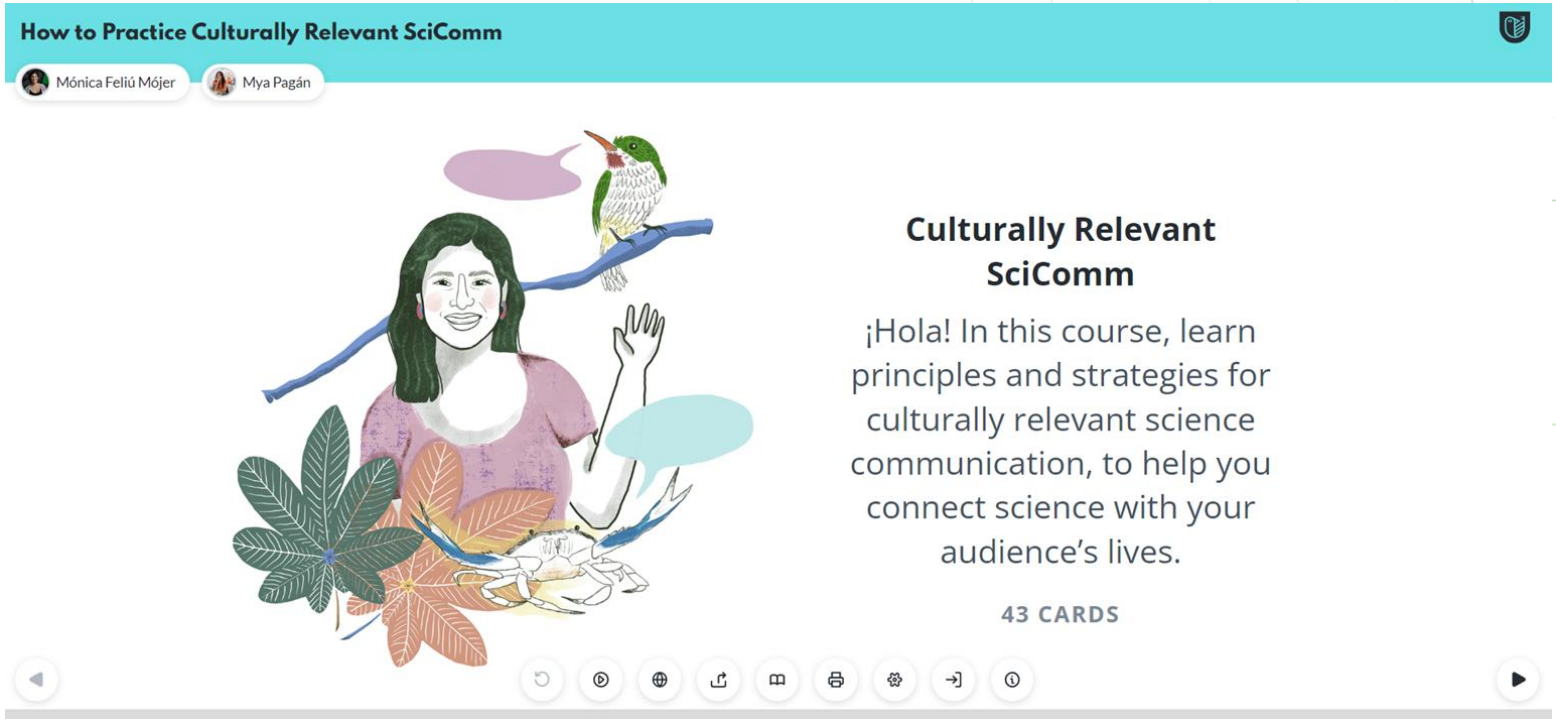
questproject.eu



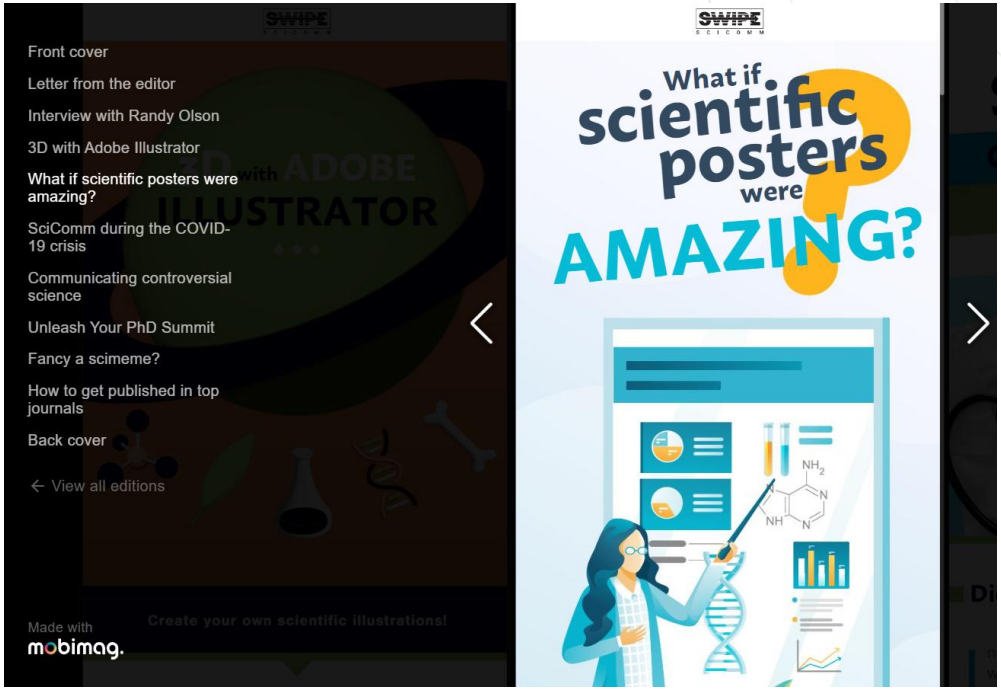
To read more about:

https://app.us.lifeology.io/viewer/lifeology/scicomm/how-to-practice-culturally-relevant-scicomm-en-US



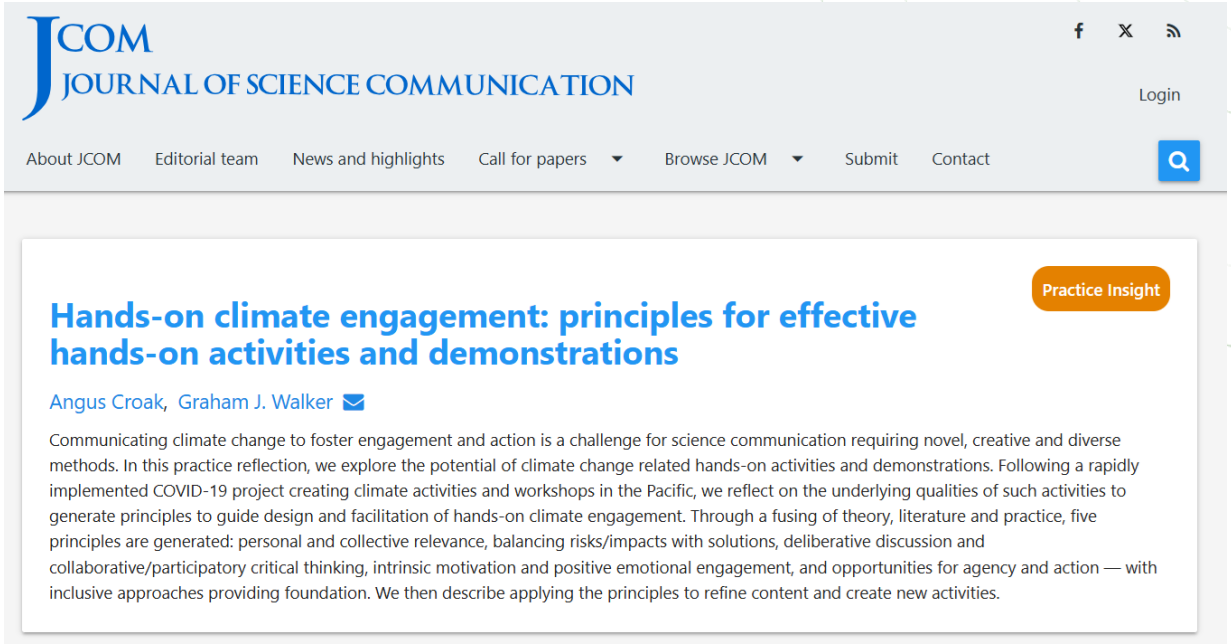
To read more about:

https://mobimag.co/swipescicomm/i1/5



To read more about:

Principles on how to design a great hands-on activity: Read from point 4.1 to 4.5



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Practice Insight

Hands-on climate engagement: principles for effective hands-on activities and demonstrations

Angus Croak, Graham J. Walker

Communicating climate change to foster engagement and action is a challenge for science communication requiring novel, creative and diverse methods. In this practice reflection, we explore the potential of climate change related hands-on activities and demonstrations. Following a rapidly implemented COVID-19 project creating climate activities and workshops in the Pacific, we reflect on the underlying qualities of such activities to generate principles to guide design and facilitation of hands-on climate engagement. Through a fusing of theory, literature and practice, five principles are generated: personal and collective relevance, balancing risks/impacts with solutions, deliberative discussion and collaborative/participatory critical thinking, intrinsic motivation and positive emotional engagement, and opportunities for agency and action — with inclusive approaches providing foundation. We then describe applying the principles to refine content and create new activities.

THANKS!

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