



'Moving towards innovative education for research- based and sustainable management of marine and freshwater ecosystems'

CORRIENTE XXI

Educational toolkit

Transferable skills

Design thinking and Problem solving

Consultants:

Oceanogami – Patricia Marti Puig

Ocean Raye - Kiera Hellard



CORRIENTE XXI was co-funded by the Erasmus+ Programme of the European Union under Grant Agreement n° 2019-1994/001-001.

DESIGN THINKING AND PROBLEM SOLVING

AGENDA

9:00 - 9:30 Introduction and check in
9:30 - 9:40 Problem solving:
9:40 - 10:15 Finding the 'why'
10:15 - 10:30 Break
10:30 - 11:00 Ideation techniques
11:00 - 11:20 Design thinking
11:20 - 12:00 Innovation activity
12:00 - 14:00 Lunch



Introduction

Patricia Marti-Puig



- Founder at Oceanogami
- Ph.D in Marine Protected Areas

Kiera Hellard



- Founder of Ocean Raye
- 1st Class Honours Team Entrepreneurship

- Explanation: what does the concept 'Problem Solving' mean?



Workshop 'Transferable Skills'. Session on Design Thinking and Problem Solving by Kiera Hellard and Patricia Marti-Puig (Brussels, Belgium). June 8th, 2022.

Problem Solving Process

- Identify/define the problem
- Generate possible solutions/options using ideation techniques
- Evaluate alternatives
- Decide on a plan
- Implement plan
- Evaluate the outcome
- Improve the process

- The 'Why' Exercise: 20 min in groups of 4

The 'why' activity

- Come up with a set of problems related to the marine environment
- Look at the 'why' of each problem, in depth

Problem: Ran through a red light.

Why? Late for work.

Why? Woke up late.

Why? Alarm clock broke.

Why? Didn't check if it worked.

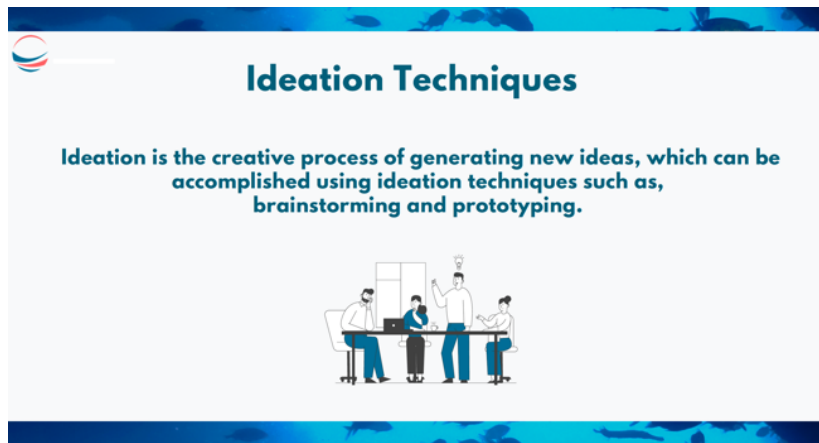
Why? Forgot to do it last night.

An iterative process to explore the cause-and-effect relationships underlying a particular problem by repeating the question "why?"



Workshop 'Transferable Skills'. Session on Design Thing and Problem Solving by Kiera Hellard and Patricia Marti-Puig (Brussels, Belgium). June 8th, 2022.

- Ideation techniques: creative process of generation new ideas, e.g. brainstorming and prototyping



- **The 'Worst Idea Possible' Exercise: 20 min in groups of 4**
 - Pick one problem that you have clearly defined + come up with the worst ideas for this problem
 - Look at all your worst ideas and flip them on their head to come up with new innovative solutions
- **What is design thinking?**

A creative process for problem solving, through 5 steps:

Empathise
Define
Ideate
Prototype
Test
- **Key Elements for Success:**
 - *'Smart' teams with an ideal team size*
 - *A brief with the right amount of constraint*
 - *A inclusive, safe space with visual aids*
 - *Ideas that create a buzz should be favoured*
 - *Design thinkers must embrace abduction*
 - *Clear overarching purpose*
- **How can you be a design thinker?**
 - Welcome change - Believe that the world can change
 - Use experience and sensitivity to help make decisions.
 - Use abductive reasoning.
 - Key tools of design thinker = open/mindful observation, imagination, configuration (transforming the idea into a product/service)
 - Put unfamiliar concepts into familiar terms.
 - Learn to reframe extreme view as a creative challenge.

- **Innovation Challenge: Exercise: 20 min in groups of 4**
Use innovation to turn your everyday object into something that would help solve a marine problem.
 - Empathise - Think about the problem and those affected by it
 - Define - Make sure the problem is clearly defined!
 - Ideate - Come up with your innovative solutions.
 - Pro-type - Design your idea
 - Pitch - Each group will do a 3 minute pitch to the judges