

Sustainable Competences
in Higher Education.

‘SustainComp Curriculum’



SustainComp



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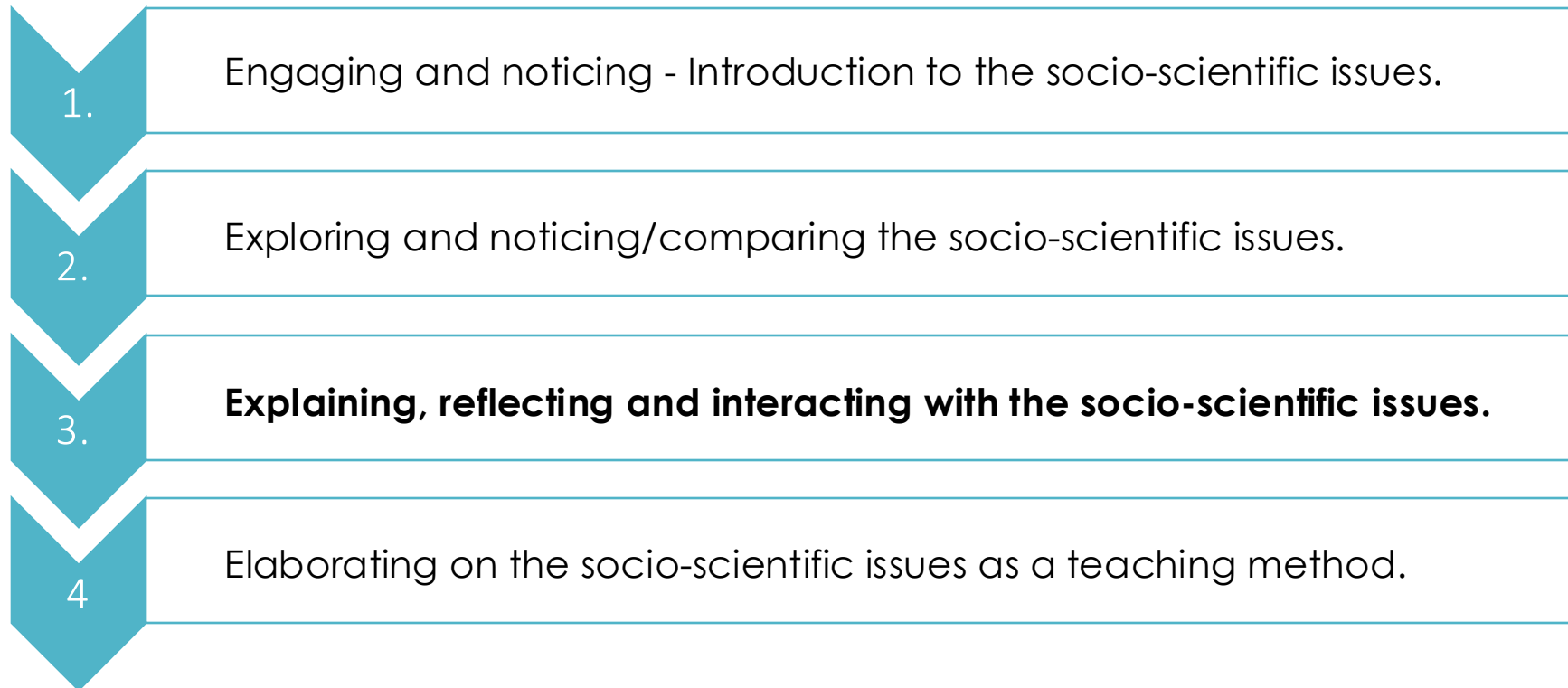
Step 3.

Sustainability - Sand

Sustainable Competences in Higher Education

- *How to develop intercultural competences through a project about the use of sand*

Plan for the next progressive steps



Outline for Step 3.

- Work in groups – present the information you have read for today
 - Summarise e.g. in Padlet
- Matrix group work - based on your knowledge, you discuss the topic
- Back in your own group, debate and discuss new perspectives
- Student Product: Prepare lesson plan and poster
- Didactical models for the student products

Group Work

In study groups, you inform each other and discuss the content of texts you have read:

- What surprised you?
- What was new knowledge to you?
- What did you know in advance?
- Have the other group members read something that reminds of or defers from what you have read?

Elaborating the theme:

Sand resources in Greenland

Due to the rise of temperature on earth,
the ice sheet of Greenland is melting rapidly.

Meltwater transports sediments from the ice sheet,
through the landscape and deposits it at the deltas,
which are areas where a river meets the sea.

This results in huge masses of sand that is free to be used... or what?

Discuss this theme in your own groups and afterwards in matrix groups.



Groups and Matrix Groups

The horizontal groups of 4 students are the original ones,
The matrix groups are the verticals ones, divided half way by the black line.

Group nr.	Student 1	Student 2	Student 3	Student 4	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Matrix Group Work

Debate (30 min)

How should we relate to the until untouched sand resources that are now accessible in Greenland due to climate changes?

- Which stakeholders are involved?
- Which dilemmas are at stake?
- Who is to decide on the resources?
- Discuss the interests and challenges that the actors have.

Group Work

Back in your study groups, you sum up your knowledge and the inspiration you have gained from your matrix groups

Student products

- Lesson plan
- Poster

Group work lesson plan and poster

- **Prepare a lesson plan for pupils** (Sustainability, interculturality, common goals – see criteria in next slides)
- **Make a poster** about this submodule. Whole lesson 5
- Prepare a presentation in lesson 6 (you will have 30 minutes at the beginning of the lesson to finish your work)

Criteria for the Lesson Plan

Criteria:

- Socio-Scientific Issues
 - sustainability
 - intercultural competences,
 - the 17 UN Sustainability Goals
- Duration: minimum 6 lessons
- Common goals of the Danish State Schools?
- Year?

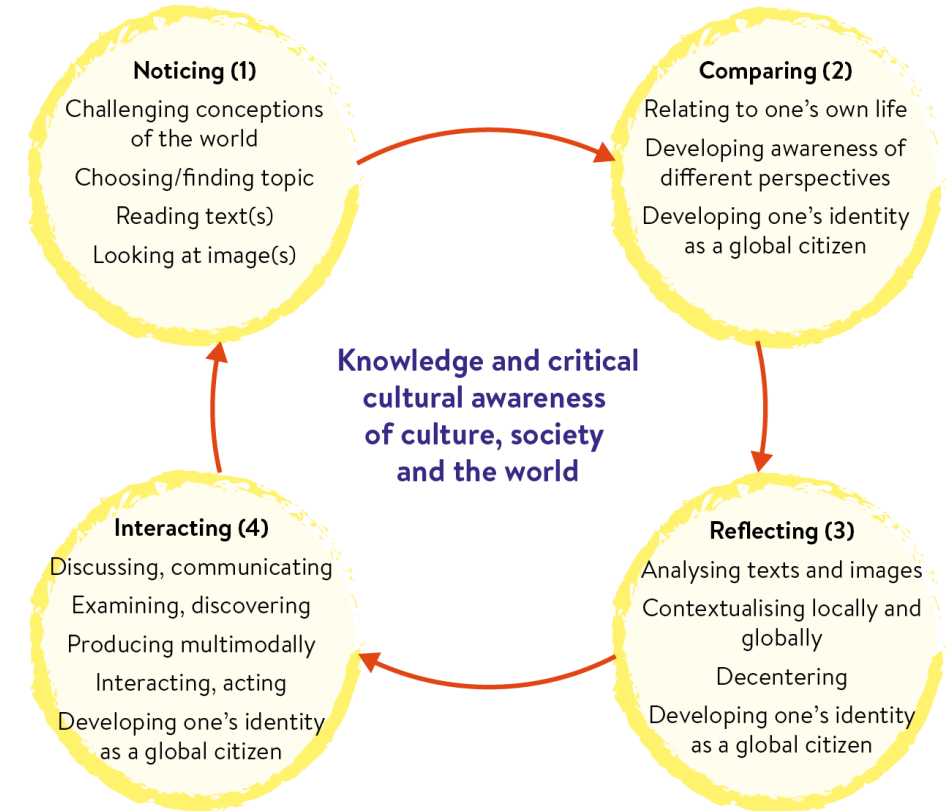
You must clarify which of the models (the 5E or the cycle model) you use for planning your lesson (see next slide)

Didactic Planning Models

Natural Science didactics: The 5E model



The cycle model of intercultural learning



Criteria for the poster

Formulate a problem statement

e.g. 'How can you teach sustainability in Biology for 4th grade?'

Answer your question by using your lesson plan as an illustration

Remember to apply graphics and aesthetical artefacts such as photos and drawings.

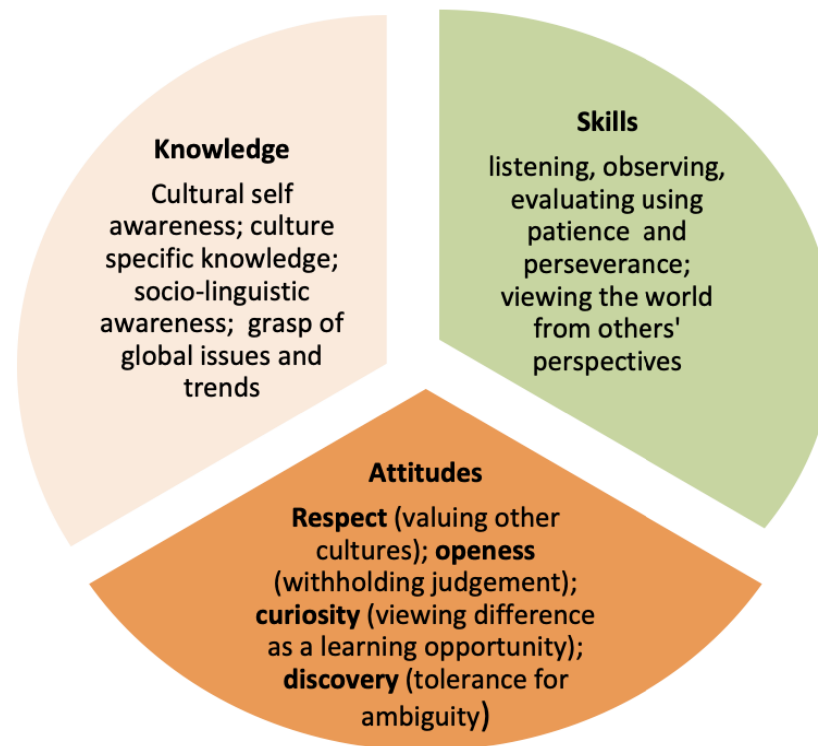
Socio-Scientific Issues

- Authenticity
- Relevance
- Disputable (also outside school)
- Open
- Subject related content *STUK, (2020).*
- Impact in society
- Ethical aspect *Christenson, (2015)*
- In the media *Ekborg, Ideland, Malmberg, (2009)*

Intercultural Competences

Constituent elements of intercultural competence

(Adapted from Deardorff, 2006)



21st Century Skills

WHAT ARE 21ST CENTURY SKILLS? THESE 4 C'S:

C

COMMUNICATION

Sharing thoughts,
questions, ideas &
solutions

C

COLLABORATION

Working together to
reach a goal. Putting
talent, expertise,
and smarts to work

C

CRITICAL
THINKING

Looking at problems in
a new way and linking
learning across
subjects & disciplines

C

CREATIVITY

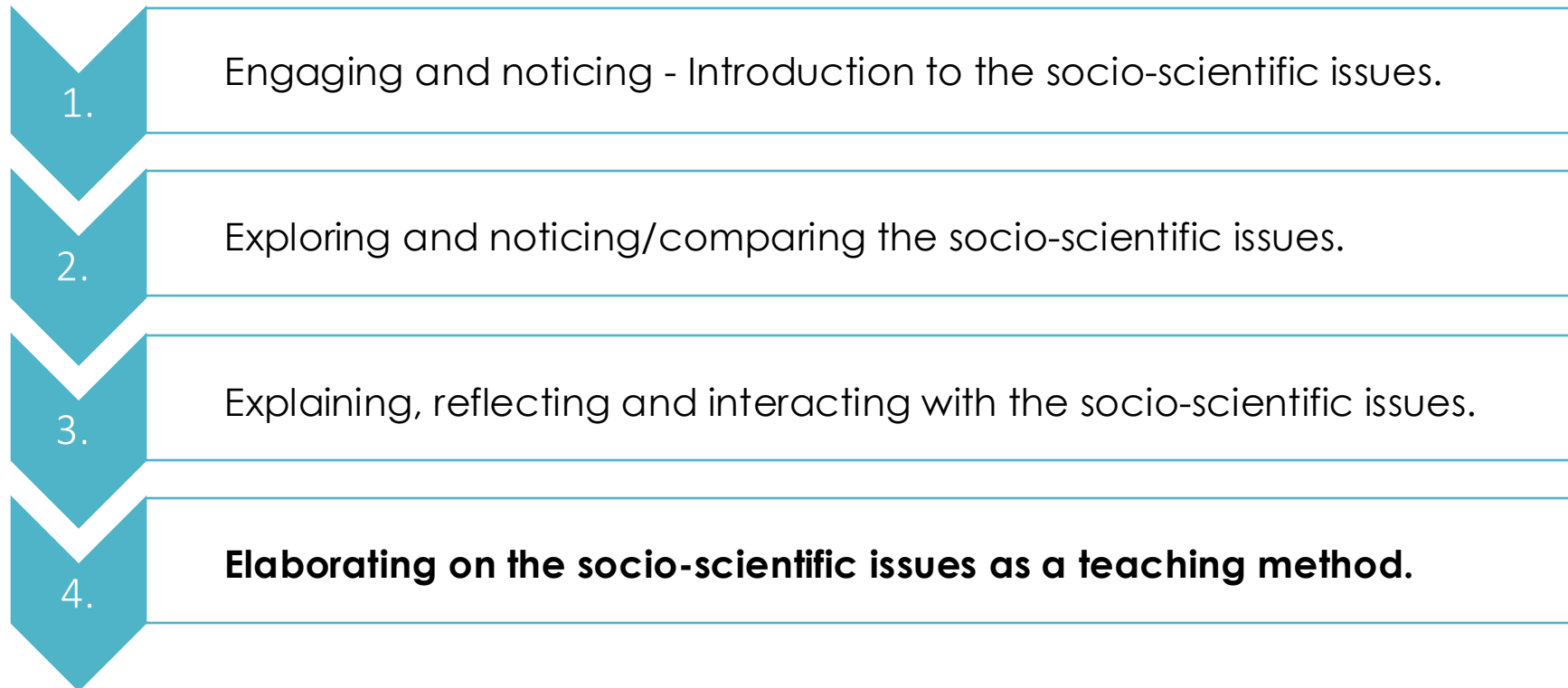
Trying new approaches
to get things done equals
innovation & invention



SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY 	2 ZERO HUNGER 	3 GOOD HEALTH AND WELL-BEING 	4 QUALITY EDUCATION 	5 GENDER EQUALITY 	6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY 	8 DECENT WORK AND ECONOMIC GROWTH 	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 	10 REDUCED INEQUALITIES 	11 SUSTAINABLE CITIES AND COMMUNITIES 	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION 	14 LIFE BELOW WATER 	15 LIFE ON LAND 	16 PEACE, JUSTICE AND STRONG INSTITUTIONS 	17 PARTNERSHIPS FOR THE GOALS 	 SUSTAINABLE DEVELOPMENT GOALS

Plan for Step 4



Outline – Step 4

Lesson 5:

- Prepare a lesson plan for pupils (Sustainability, interculturality, common goals)
- Make a poster about this submodules

Lesson 6:

- Presentation of your lesson plan in matrix groups
- Give feedback to each other's lesson plan

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