SOCIOECONOMIC IMPACT

inSTEAM

ORIENTATION

Focus on socioeconomic implications of a well-defined environmental topic: climate change; renewable energy; water management

Narrow down any selected topic to structure student inquiry: If, for instance, the general topic is climate change, a specific topic can be carbon footprint at home or school

Highlight a challenge for students: Which small changes in everyday life may bring a substantial improvement in the carbon footprint at home or school?

Design should be analogous to social-economic dimensions of socio-scientific issues: Scientific knowledge on the domain should be considered as necessary prior knowledge

CONCEPTUALISATION

Guide students to populate the **Strengths, Weaknesses, Opportunities and Threats (SWOT) template**, with explicit reference to stakeholder groups

Give examples for Strengths and Weaknesses: ingroup aspects in each stakeholder group, which promote or hinder the goal as specified in the challenge, respectively

Give examples for Opportunities and Threats: intergroup aspects between stakeholders, which promote or hinder the goal as specified in the challenge, respectively

Underline the need to populate the SWOT template with reference to the **narrow theme identified;** in our former example, carbon footprint at home or school

INVESTIGATION

Consider the SWOT template as analogous to virtual/remote laboratories: When properly completed in this phase, the SWOT template can then be used for decision-making

Outline methods for students to complete the SWOT template: Standard methods of social science research can be employed: Interviews, focus groups, and questionnaires

Take advantage of technological options for data selection and analysis: Web-conference platforms for interviews or focus groups; software to administer questionnaires online; software for qualitative data analysis

Design structured webquests for students: This may be needed to fill gaps in the SWOT template and triangulate findings

CONCLUSION

Guide students to process data gathered in the SWOT template: They need to present the main findings/trends for each stakeholder group and across stakeholder groups

Prompt students to respond to the challenge: They need to suggest creative ways to build on Strengths and Opportunities as well as address Weaknesses and Threats

Encourage students to justify their recommendations: They need to refer to quantitative and qualitative data gathered, processed, and stored in the SWOT template

Motivate students to consider how they would continue their inquiry: What next challenge they would like to take up based on the completed SWOT template?

DISCUSSION

Outline methods for students to use the completed SWOT template creatively: For instance, they can use the template to develop a scenario for stakeholder interaction

Using this scenario, students can: Develop and implement a role play; develop and implement a round-table discussion

Further uses of the scenario can include: A newspaper article; a letter addressed to the City Council and/or other competent institutions

Give students the opportunity to interact with the community: Students can discuss the completed SWOT template with relevant stakeholders in their community