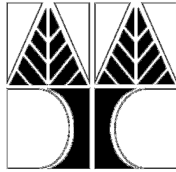


DRIVING QUESTIONS



Is global warming man-made or natural? What measures should be taken to reduce greenhouse gases?



LOCAL WORKING GROUP MEMBERS

Constantinos Constantinou, Kalypto Iordanou, Georgia Michael, University of Cyprus;
Andreani Baytelman, Maria Loi, Constantinos Phanis, Alexia Sevastidou, Cyprus Ministry of Education & Culture, Cyprus

SCENARIO

PILOT ENACTMENT

Begin date: Feb 26th 2009
End date: May 15th 2009
Number of sessions: 13
Duration of each session: Twice a week, 90-minute sessions
Grade level: 11th grade (16-17 years old)
Subject: Environmental Studies
Number of participating students: 45 (15 + 19 + 11)
Enactment teachers: 2 + 2 researchers

You are going to organize a conference in your school to inform your schoolmates about some phenomena that concern us nowadays, such as the ice melting. You are going to engage in a series of activities which will help you to get prepared for the conference.

WORKSPACE

Brief description of the Workspace templates used during the enactment

There are three types of templates.

The first type of templates supports students to appreciate the need of finding evidence to support their position.

The second type of templates supports students to develop their ability to produce evidence-based arguments and counter-arguments.

The third type of templates supports students to appreciate the need and apply the optimization strategy in a decision making situation.

LEARNING GOALS

By the end of the intervention students are expected to:

- To promote students' conceptual understanding of the following concepts: climate change, Greenhouse effect, Greenhouse gases, Sea level rise, Issues in biodiversity, Desertification.
- To promote students' ability to produce evidence-based arguments.
- To help students develop optimization as a strategy for choosing among alternative solutions in multi-attribute decision making situations.

INQUIRY ACTIVITY OVERVIEW

Students conduct an experiment to understand the mechanism of the Greenhouse Effect.

Students study information regarding dangerous phenomena that appear in nowadays

Students, working in pairs, engage in a series of electronic dialogues regarding the causes of climate change (manmade or natural).

Students who share the same view on the topic prepare arguments and counterarguments to use in the Showdown.

Showdown: Class is divided in two groups that hold contradictory positions towards climate change and an e-chat is conducted between the two groups.

Students are introduced to the decision making scenario. They review information regarding the issue and formulate criteria that could be used to guide the decision.

Students appreciate the need for an optimization strategy in decision making.

Students are introduced to the optimization strategy.

They are asked to apply that strategy to the original decision making situation.