Socioscientific issues via controversy mapping: Bringing actor-network theory into the science classroom with digital technology

# Details

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* Learning
* Internet usage, practices and engagement
* Literacy and skills
* Digital and socio-cultural environment

## Sample

Students (11th and 12th grades) and teachers in 1 upper secondary school in Sweden.

## Implications For Educators About

* Digital citizenship
* School innovation
* Professional development
* Other

## Implications For Policy Makers About

Other

## Other PolicyMaker Implication

Digital literacy and digital tools and methods as contemporary infrastructures of free and open inquiry

## Implications For Stakeholders About

Researchers

# Abstract

What are the current challenges and opportunities for bringing actor-network theory (ANT) into issues-based science education? This article discusses experiences gained from introducing an educational version of ANT deploying digital technology into an upper secondary school science class. This teaching innovation, called controversy mapping, has been pioneered in different contexts of higher education before being adapted to school education. Experimenting with controversy mapping in a Swedish science class raised both conceptual and practical issues. These centre on: (1) how ANT-inspired controversy mapping redesigns the citizenship training enacted by institutionalized approaches to issues-based education as socioscientific issues (SSI); (2) how controversy mapping reconfigures the interdisciplinarity of issues-based science education; and (3) how controversy mapping displaces scientific literacy and knowledge of the nature of science as guiding concerns for teaching in favour of new preoccupations with digital literacy and digital tools and methods as contemporary infrastructures of free and open inquiry.

# Outcome

"Through our school project students were drawn into engaging with controversies by being asked to cartographically represent them. Therefore, instead of working to break issues down into different component parts, students were asked to act as mediators of controversies describing, interpreting and representing them in a form communicable to others. In Deweyan terms, the maps constitute potential tools of social intelligence promising to help others see beyond more ‘partial and distorted’ issue definitions and think more freely and creatively about the matter at hand.... [Controversy mapping] prizes digital literacy as the contemporary basis for lives of free and open inquiry enabling individuals to continue developing their capacities for thought and reflection.... Controversy mapping promises to further extend the scope of interdisciplinary teaching in schools by pointing to the need to open up the black boxes of digital infrastructure and platform design for the futures of science, democracy and education alike." (Authors, in Conclusions)