

# Chapter 41

## Climate Change Education through Art and Science Collaborations

**Phillip Gough**

*The University of Sydney, Australia*

**Kate Dunn**

*The University of NSW, Australia & The University of Sydney, Australia*

**Caitilin de Bérigny**

*The University of Sydney, Australia*

### ABSTRACT

*This chapter introduces three arts projects that employ different collaborative methods to promote climate change awareness through community-based environmental education. The artworks provide new access points to climate change information, rather than acting as a representative for the discipline of science. This allows different ways of knowing about climate change through the experience of the artworks. The artworks were created through collaboration between scientists and creative practitioners, such as artists or designers, who has expertise in communicating information to a non-expert audience. The collaboration is aided through the creation of a boundary object, which allows creative practitioners to develop their understanding of the science they are presenting to their audience. The artworks also act as a boundary object between the scientist and the general public, allowing both groups to understand and transform their knowledge about climate change.*

### INTRODUCTION

This chapter examines innovative art and science collaborations that facilitate education, community engagement and foster informed responses to climate change. The authors will describe the relevant disciplines, the different modes of collaboration and points of exchange. Climate change education can be imparted through innovative installation artworks, in a variety of contexts, using a range of media.

DOI: 10.4018/978-1-5225-0803-8.ch041

## ***Climate Change Education through Art and Science Collaborations***

This chapter will describe the goals of the contributing parties, the strategies of execution employed, and the outcomes of the collaboration.

Collaboration is an important term in this chapter's investigation of the nexus of art and science, two historically disparate fields. Art and science have different cultures: science investigates the natural world through controlled experiments, classification and analysis, while art is concerned with investigating the human experience through analogy, metaphor, criticism and evaluation; science values objectivity, rationality, neutrality; art values subjectivity, imagination and creativity (Cross, 1982). The philosopher Martin Heidegger declares that works of art are not merely representations of the way something is, but are able to produce a shared understanding for the community (Heidegger, 1971). This chapter will show how community understanding of climate science can be formed through publicly accessible artworks through collaboration between art and science.

This fusion of cultures has led to a range of interdisciplinary collaborations that academic Michael Tawa describes as a “multi, cross and trans disciplinary” way of working where “the value is in shuttling between boundaries—never restricting the work to one discipline, one theme, one image or one kind of thinking” (Tawa, 2011). The collaborations between artists and scientists described in this chapter, focus on the topic of climate change.

This raises the question:

*What are the goals for communicating information about climate change?*

There are a few immediate answers:

1. Transparency, particularly in the case of a government funded research project where outcomes are measured against funding.
2. The advancement of knowledge generally.
3. To provide a catalyst so that audience members act or respond, either as individuals or as members of a group.

Within the context of educating the general public about climate change, the last answer is the most relevant. Art and science collaborations have the potential to create images and objects that illustrate complex scientific data and make it accessible to a wide range of people.

*Articles in scientific journals mostly aim at informing other scientists; and scientific conferences and symposia are attended only by scientists and scientific editors. We therefore think that the most effective way to help scientists think outside the [box] is to introduce a curricular component that presents the alternative models and engages budding researchers in learning and debating the subject. (Pouliot et al., 2014)*

These collaborations and cross-curricular education programs have the potential to engage people through tangible interactions and community engagement programs affiliated with the collaborative project. There have been many models of climate change education with varying success in instigating action and empowered responses.

18 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/climate-change-education-through-art-and-science-collaborations/165325](http://www.igi-global.com/chapter/climate-change-education-through-art-and-science-collaborations/165325)

## Related Content

---

### Exacerbating Health Risks in India due to Climate Change: Rethinking Approach to Health Service Provision

Joyashree Roy, Duke Ghosh, Kuheli Mukhopadhyay and Anupa Ghosh (2017). *Natural Resources Management: Concepts, Methodologies, Tools, and Applications* (pp. 1325-1350).

[www.irma-international.org/chapter/exacerbating-health-risks-in-india-due-to-climate-change/165349](http://www.irma-international.org/chapter/exacerbating-health-risks-in-india-due-to-climate-change/165349)

### Contribution of Mining Operations Towards Education, Healthcare, Food Security, Housing, Sports, and Recreation in Katanga Province of the DRC

Germain Miteu Tshinu (2022). *Handbook of Research on Resource Management and the Struggle for Water Sustainability in Africa* (pp. 337-353).

[www.irma-international.org/chapter/contribution-of-mining-operations-towards-education-healthcare-food-security-housing-sports-and-recreation-in-katanga-province-of-the-drc/295938](http://www.irma-international.org/chapter/contribution-of-mining-operations-towards-education-healthcare-food-security-housing-sports-and-recreation-in-katanga-province-of-the-drc/295938)

### Foreign Land Acquisition: Food Security and Food Chains – The Nigerian Experience

Olanrewaju E. Ajiboye and Olabisi S. Yusuff (2017). *Natural Resources Management: Concepts, Methodologies, Tools, and Applications* (pp. 1524-1545).

[www.irma-international.org/chapter/foreign-land-acquisition/165359](http://www.irma-international.org/chapter/foreign-land-acquisition/165359)

### Food Security in Asia: Is There Convergence?

Sebak K. Jana and Asim K. Karmakar (2017). *Natural Resources Management: Concepts, Methodologies, Tools, and Applications* (pp. 109-123).

[www.irma-international.org/chapter/food-security-in-asia/165287](http://www.irma-international.org/chapter/food-security-in-asia/165287)

### Engineering Ethics, Global Climate Change, and the Precautionary Principle

Robin Attfield (2017). *Natural Resources Management: Concepts, Methodologies, Tools, and Applications* (pp. 254-264).

[www.irma-international.org/chapter/engineering-ethics-global-climate-change-and-the-precautionary-principle/165295](http://www.irma-international.org/chapter/engineering-ethics-global-climate-change-and-the-precautionary-principle/165295)