Chapter 7
Developing Environmental Literacy Through Eco-Documentary-Mediated Climate Change Education:
A Metalanguage Toolkit With Multimodal Approaches

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ABSTRACT

Eco-documentaries have been widely used as effective resources to engage young people in discussion and education about climate change. Despite the increasing interest in climate change, secondary school educators are facing significant challenges in the design and implementation of climate change education due to the lack of a comprehensive, widely-applicable educational approach. Drawing on social semiotics, this chapter aims to develop a metalanguage toolkit for eco-documentary-mediated climate change education. The metalanguage toolkit will provide both educators and students multimodal lenses to understand how a wide range of semiotic modalities (e.g., language, image, music, shot editing, camera angle) are carefully selected and configured into a cohesive filmic text, and how the filmic text effectively serves the climate change activist purpose. Findings will suggest an educational path for the development of environmental literacy through the development of multimodal literacies. This chapter will draw more scholarly attention to the in-depth exploration of eco-documentaries.

INTRODUCTION

School education has been a battlefield of climate change campaigns worldwide. In 2017, over 25,000 American K-12 Science teachers were reported had received "a package from the Heartland Institute, a libertarian think tank that rejects the scientific consensus on climate change" (Worth, 2017). The package includes a book entitled *Why Scientists Disagree About Global Warming*, a DVD and a cover letter to convince schoolteachers to "consider the possibility" that the science of global warming "is not settled" yet (Worth, 2017). In 2020, Advance Australia, a conservative, right-wing activist group, was on a mission to raise $180,000 to develop "educational materials" that target primary school students, teachers, parents and grandparents (Koziol, 2020). The materials were reported include an e-Book containing "10 climate facts to expose the climate change hoax" and a Smart Scientist's Kit explaining "how Australia is blessed with an excess of natural resources and that it doesn't make sense to try and stop the climate from changing" to primary school students "in a way a child can understand" (Koziol, 2020).

As a response to skeptics, non-governmental organizations (NGOs) like Climate Change Connection and Cool Australia have developed a wide range of free resources on home webpages for primary and secondary school teachers to access and use in their teaching of climate change topics. These resources include brochures explaining scientific evidence of global warming to rebut skeptics' common myths, official documents like Intergovernmental Panel on Climate Change (IPCC) reports for teachers to refer to, students' multimodal products like drawings created in climate-change-related modules, curriculum ideas cultivated in NGO-partnered schools, popular science books suitable for adult readers and children respectively, and eco-documentaries recommended to play in class.

Despite the emerging in teaching resources, Australian schools still felt being "left to their own devices when it comes to teaching the climate emergency" because "education departments at state and federal level show few public signs of creating a coordinated curriculum approach" (Whitehouse & Larri, 2019). American teachers felt the similar absence of a structured, consistent design in the curriculum to assist their implementation of climate change components in class: "It's too early to know how the materials will be used in schools around the country. There aren't uniform standards for teaching climate change" (Worth, 2017).

This chapter aims to develop a multimodal toolkit to assist the teaching and learning of climate change topics using eco-documentary films as educational resources. This multimodal toolkit is designed to be handy and accessible, without requiring sophisticated multimodal analysis background in school educators. The development of this multimodal toolkit is driven by following research questions:

1. How do the understandings of the multimodal mechanism behind eco-documentaries inform climate change education?
2. How to facilitate students' development of environmental literacy through the development of multimodal literacies in film-mediated climate change education?

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