


# Chapter 10

## Pedagogical Strategies to Enhance Climate Change Education Outcomes

**Billiah Nyamoita Gisore**

 <https://orcid.org/0000-0002-5116-7615>  
*Kisi University, Kenya*

**Evelyn Njurai**  
*Kisii University*

### **ABSTRACT**

*Global temperatures have soared since the Industrial Revolution some 140 years ago, with the ecosystems having a severe impact globally. Environmental issues are changing not only the normative lifestyles, but also the ethics and understanding of the world. Educating people on ways to relate to the habitat calls for adopting sustainable practices that reduce the impact on climate. Climate change education (CCE) is a new field of pedagogy that addresses the issues of climate change, but has no established model for implementation. The need for transformative learning with pedagogical approaches that incorporate diverse climate change learning experiences is required. The chapter therefore addresses the need for various aspects of climate change to be addressed as part of educational pedagogy and the need for a curriculum with climate-friendly, age-appropriate content. The possible strategies and the barriers that seem to hinder the achievement of educational outcomes are also examined.*

DOI: 10.4018/978-1-6684-9099-0.ch010

## **INTRODUCTION**

Climate change is an alteration of climate that is directly or indirectly caused by human activity which changes the composition of the earth's atmosphere (UNFCCC, 1992). Some of the effects of climate change include increased flooding, severe storms, changes to the environment and wildlife populations, higher energy costs, as well as an increase in the concentration of greenhouse gases (GHGs) in the atmosphere, which has an impact on a number of climate parameters (The National Research Council, 2011). This is in line with Carleton and Hsiang (2016) who indicate that as a result of climate change, temperatures have risen, which will eventually result in a variety of negative effects, including an increase in mortality, financial harm, extreme changes in temperature and precipitation, a decrease in agricultural production, an increase in electricity use, and a decrease in labor productivity.

Numerous myths exist about climate change, with a general lack of public knowledge of the problems it poses as well as a lack of understanding of how to adapt to it. There also seems to be a lack of preparation or reluctance to act despite many aspects of global climate change having been discussed for a long time (Leiserowitz & Smith, 2010). The public must be informed about the activities necessary at all levels in order to deal with the complexity of climate change and its ramifications (Mochizuki & Bryan, 2015) as the final patterns and magnitudes of the impacts at the local, regional, and global levels depend on the direction, amount, and intensity of the climate changes (Chang & Pascua, 2016).

To enable prudent decisions to be taken at the home as well as at the general society level, education on the human and behavioral elements of climate change is necessary (Gardner & Stern, 2008). Young people need to safeguard their future and they must be motivated to deal with climate change and be sufficiently informed about the science behind it (Yli-Panula, Jeronen, Koskinen & Mäki, 2022). Initiatives that can help people make informed decisions and change their behavior should be put in place so that people can adapt their beliefs and conduct in response to the new environment (Gardner & Stern, 2008). The prevalent non-ecological worldview that dominates human behavior and ideas needs to be tested in light of how bad the situation is (Trott, 2022) and to develop environmental ethos, specific environmental challenges should be addressed at a young age. Education, especially which is gained in a systematic manner, is one of the essential avenues for dealing with and averting such global challenges (Anderson, 2012).

Schools are the settings where moral development of children can be encouraged through the teaching of values (Biesta & Tedder, 2007). It is a place where young people receive help as they interact with local community structures and values as they gain knowledge of and interaction with larger global structures. It has a big impact on how well people understand how climate change affects them, helps

21 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/pedagogical-strategies-to-enhance-climate-change-education-outcomes/329509](http://www.igi-global.com/chapter/pedagogical-strategies-to-enhance-climate-change-education-outcomes/329509)

## Related Content

---

### The Impact of Lean on Sustainability in the Textile Industry in Mauritius

Needesh Ramphul, Yuvraj Sunecher, Hemant Birandranath Chittoo, Lydie Amelotand Periag Aria Naick Chasmita (2025). *Expanding Operations Through Agile Principles and Sustainable Practices* (pp. 293-320).

[www.irma-international.org/chapter/the-impact-of-lean-on-sustainability-in-the-textile-industry-in-mauritius/367371](http://www.irma-international.org/chapter/the-impact-of-lean-on-sustainability-in-the-textile-industry-in-mauritius/367371)

### Is Gender a More Important Axis of Representation Than Race, Ethnicity or Class in Politics?

Abu Saleh Mohammad Sowad (2019). *International Journal of Social Ecology and Sustainable Development* (pp. 29-36).

[www.irma-international.org/article/is-gender-a-more-important-axis-of-representation-than-race-ethnicity-or-class-in-politics/221372](http://www.irma-international.org/article/is-gender-a-more-important-axis-of-representation-than-race-ethnicity-or-class-in-politics/221372)

### Improved Regional Entrepreneurial Ecosystems in Eastern Europe: A Romanian Policy Approach

Roxana Voicu-Dorobanuand Ctlin Ploae (2018). *Value Sharing for Sustainable and Inclusive Development* (pp. 290-308).

[www.irma-international.org/chapter/improved-regional-entrepreneurial-ecosystems-in-eastern-europe/192228](http://www.irma-international.org/chapter/improved-regional-entrepreneurial-ecosystems-in-eastern-europe/192228)

### An Adaptive AutoLearning System for Camera-Based Facial Recognition

Phuong Anh Nguyen, Tung Son Vu, Thuan Minh Buiand Ngoc Le Anh (2025). *Navigating Computing Challenges for a Sustainable World* (pp. 301-312).

[www.irma-international.org/chapter/an-adaptive-autolearning-system-for-camera-based-facial-recognition/380152](http://www.irma-international.org/chapter/an-adaptive-autolearning-system-for-camera-based-facial-recognition/380152)

### Decarbonization in the Manufacturing Industrial Sector Post-ASEAN Vision 2025

Rindra Yusianto, Marimin Marimin, Suprihatin Suprihatinand Kusnadi Kusnadi (2025). *Sustainable Advanced Manufacturing and Logistics in ASEAN* (pp. 33-60).

[www.irma-international.org/chapter/decarbonization-in-the-manufacturing-industrial-sector-post-asean-vision-2025/371285](http://www.irma-international.org/chapter/decarbonization-in-the-manufacturing-industrial-sector-post-asean-vision-2025/371285)