

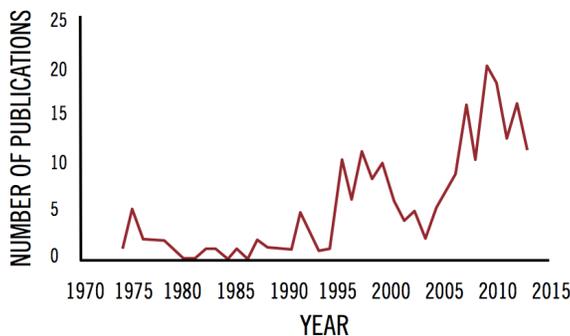
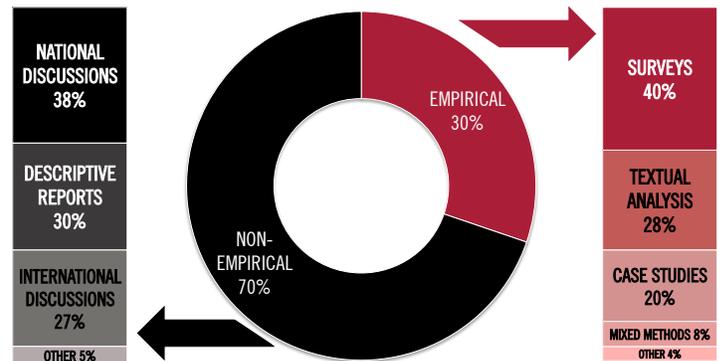
Environmental and Sustainability Education Policy Research in K-12 A Review of the Literature

For full results see: Aikens, K., McKenzie, M., & Vaughter, P. (2016). Environmental and Sustainability Education Policy Research: A Systematic Review of Methodological and Thematic Trends. *Environmental Education Research*, 22(3), 333-359. <http://dx.doi.org/10.1080/13504622.2015.1135418>.

This research brief summarizes a review conducted by the Sustainability and Education Policy Network (SEPN), which described the scope of policy research in sustainability education in the Kindergarten-Grade 12 system. SEPN's review describes sustainability education policy research conducted to date in detail and provides a platform for broadening policy studies in sustainability education. Recommendations for addressing gaps in the research literature are also provided.

Systematic Review: By The Numbers

- 215 peer-reviewed, English language research articles
- Published from 1974-2013
- 71 different countries
- Articles focused on K-12 education policy studies, self-defined as sustainability- or environment-related
- 150 (or 70%) non-empirical articles and 65 empirical articles
- Survey data was the focus of the majority of empirical articles, though textual analysis, case study, and mixed methods studies were also identified
- Most non-empirical articles focused on national-level discussions and most reports discussed national policy developments



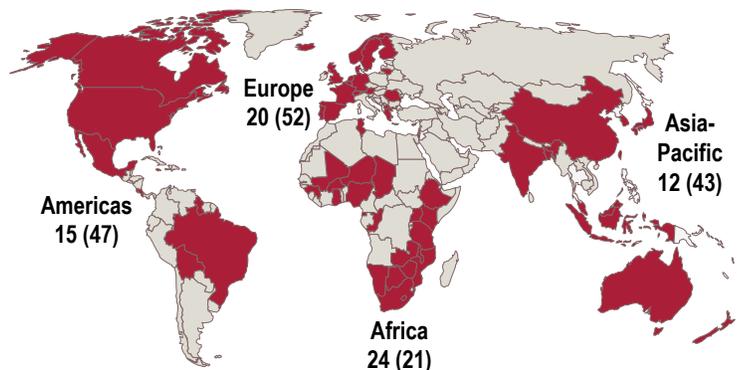
Temporal Trends Across Four Decades of Policy Research

Three distinct 'spikes' emerged in policy research output:

- Mid-1970s: the field of environmental education emerges
- Late-1990s: the 1992 United Nations Conference on Environment and Development
- Mid-2000s: the United Nations Decade of Education for Sustainable Development

Geographic Trends

The most frequently researched countries were the United States, United Kingdom, Australia, and China/Hong Kong; these countries were the focus of over half of all publications in the review. Fewer studies were from Africa, South and Central America, Eastern Europe, and most of North and West Asia.



Emergent Themes

SEPN analysed the publications through an inductive, iterative thematic coding process. The review identified four main themes:

Policy Drivers: Sustainability imperatives such as environmental or socio-cultural degradation, environmental disasters, and climate change were identified in the literature as key drivers of policy development. While uptake of a climate change focus in education policy research was found to be slow, climate change recently emerged as an increasing driver for sustainability education policy, with 50% of all reviewed articles published since 2010 referring to climate change as a driver of policy. A desire to align with international policy imperatives such as the Tbilisi and Rio Declarations also acted as an impetus for sustainability education policy development according to the articles reviewed. Further, international organizations, such as United Nations affiliates and the World Bank, were cited as spurring sustainability uptake in education policy.

Competing Paradigms: SEPN's review found a research focus on variations and tensions in the terminology and understandings of sustainability mobilized in education policy. Several authors noted that the openness to interpretation of Education for Sustainable Development (ESD) may result in ESD prioritizing economies and failing to challenge business as usual. The review also identified research discussing the tensions between conceptions of environment and nature, with some authors noting contradictory themes of human domination of nature and the promotion of harmonious interrelationships with nature.

Teaching and Learning Directives: Empirical articles in the review overwhelmingly focused on curriculum, teaching, and pedagogy in relation to policy. Many of the articles reviewed focused on state-level policies designed to infuse sustainability into curriculum as interdisciplinary competencies. However, the findings were generally pessimistic on the success of cross-curricular integration of sustainability. Conceptions of pedagogy, or how sustainability ought to be taught, emerged as a focus in the 1990s. The literature often described sustainability as being in tension with other policy priorities, such as a focus on testing and performance, as well as pressure to compete internationally via student achievement.

Marginalizations: Some research focused on which perspectives and knowledge are centered or marginalized in policy, and by what mechanisms. Grounds for marginalization discussed in the literature included a focus on cultural tensions; North-South divisions; and the privileging of policy makers and researchers over practitioners and cultural groups in decision-making, international meetings, and in the development of state-level policies and resources. Several authors noted that sustainability education can contribute to colonization, prioritizing western concepts over more holistic, situated, traditional forms of education.

Key Research Gaps and Directions for Moving Forward

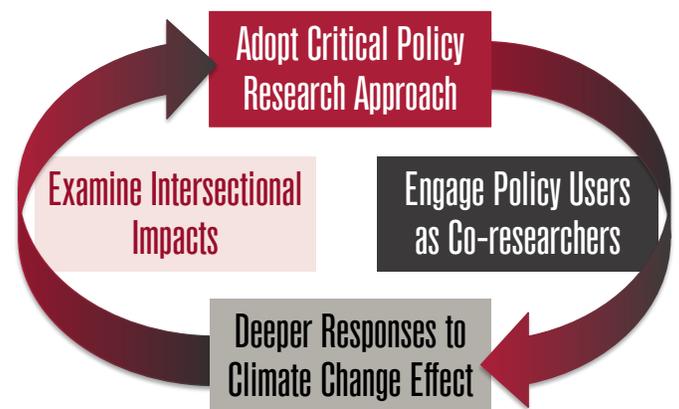
SEPN's review identified several gaps and reinforced calls for future empirical research to engage more with sustainability education policy.

Critical Policy Theory and Methodology: A general inattention to broader developments in critical policy research remains apparent in the field. While the research reviewed initially focused primarily on surveys, more recent research has included case studies and multiple-methods. The empirical research reviewed typically focused on textual analysis or policy enactment and neglected the systematic examination of policy development and interactions within various aspects of the policy process. SEPN's review proposed the adoption of a critical policy research approach, which understands policy processes as complex, with multiple actors influencing the identification, championing, and resisting of problems and solutions.

Engaging Research Users: Research that effectively influences policy outcomes often involves policymakers and practitioners from the outset. SEPN's review identified a need for greater consideration within the literature to how policy research can inform policy. Critical policy research in the field could engage more with research fields that are more oriented toward policy development and solutions with generative political action; this would entail a shift from university-driven projects to projects that include policy "users" as co-researchers, as well as providing opportunities for mutual learning and multi-directional knowledge flows among co-researchers.

Intersectionality: Analyses of interactions between categories of marginalization in relation to policy (e.g., environment, race, gender, class, other forms of oppression) were largely absent from the reviewed articles. SEPN's review discusses new ways of re-imagining policy research including incorporating intersectional, Indigenous, and materialist methodologies; land- and place-based frameworks; and extending conceptualizations of the policy cycle to include considerations of political strategy and outcomes.

Climate Change: SEPN found relatively low engagement with climate change among the reviewed articles. It appears sustainability education policy research is only just beginning to respond to climate change. Education systems will increasingly need to develop policies that address climate change adaptation and the emotional implications of loss of place for students and communities. The challenges of climate change will require education policy research to become more engaged, political, practical, and imaginative. 🌱



Key Terms and Definitions

Empirical Research: studies using quantitative and/or qualitative research methods.

Non-Empirical Research: all articles in which research methods were not defined by the authors, including discussions of national and international policy discourse and descriptive reports of regional and national projects/programmes with little to no analysis.

Policy: broadly conceptualised to extend beyond considerations of policy texts, to influences on policy development as well as on the enactment or practice of policy.

Sustainability Education: in this context, an umbrella term for environmental education, education for sustainable development (ESD), education for sustainability, and other forms of education concerned at least in part with land and environment.

PARTNER ORGANIZATIONS

Association for the Advancement of Sustainability in Higher Education
Canadian Centre for Policy Alternatives
David Suzuki Foundation
Learning for a Sustainable Future
Sierra Youth Coalition

CONTRIBUTING ORGANIZATIONS

Assembly of First Nations
Canadian Federation of Students
Global Youth Education Network
Métis National Council
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