# Advancing the Boundaries of Urban Environmental Education through the Food Justice Movement

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#### Abstract

As cities and urban areas increasingly become the locus for contemporary society, there is a growing necessity for environmental education to adapt to meet the challenges and needs of an urbanized world. A key part of this adaptation means acknowledging the nuanced legacy of environmental and social injustices involved in the growth and development of urban spaces. While there have been advances toward these ends, I argue that mainstream environmental education is lacking critical engagement with urban areas. The growing food justice movement has salient theoretical and practical spheres that have the potential to contribute to these urban margins in environmental education. This article explores these spheres and applies them to environmental education in an effort to push the boundaries of the field towards concepts and pedagogies that occupy complex socioecological relationships and issues of justice in ways mainstream environmental education has struggled to access, particularly in the urban context. First, I discuss philosophical and structural reasons why mainstream environmental education theory and practice have overlooked urban contexts and experiences. I then explore the development of the food justice movement, bringing to bear key characteristics that can contribute to environmental education. Finally, I discuss how food justice can help environmental education challenge and reposition itself to better meet the needs of an urban society.

#### Résumé

À mesure que les villes et les zones urbaines deviennent le centre de gravité de la société contemporaine, il est de plus en plus important d'adapter l'éducation environnementale aux défis et besoins d'un monde urbanisé. Un élément essentiel de cette adaptation suppose la reconnaissance des séquelles laissées par les injustices environnementales et sociales propres à la croissance et au développement des espaces urbains. Bien qu'on ait marqué des progrès à ces égards, j'avance que l'éducation environnementale classique est dépourvue d'un engagement crucial auprès des zones urbaines. Le mouvement de plus en plus marqué pour la justice alimentaire comporte des sphères théoriques et pratiques fondamentales susceptibles de contribuer à ces marges urbaines en éducation environnementale. L'article examine ces sphères et les applique à l'éducation environnementale en vue de repousser les frontières du domaine vers des concepts et des méthodes pédagogiques occupant des relations socioécologiques complexes et des questions de justice par des approches que l'éducation environnementale classique s'est employée à mettre en œuvre, surtout dans le contexte urbain. Je commence par aborder les raisons philosophiques et structurelles pour lesquelles la théorie et la pratique de l'éducation environnementale classique font fi des expériences et des contextes urbains. Je me penche ensuite sur l'évolution du mouvement pour la justice alimentaire, faisant intervenir les caractéristiques essentielles pouvant contribuer à l'éducation environnementale. J'examine enfin l'apport de la justice alimentaire au défi de l'éducation environnementale ainsi que l'adaptation dont elle a besoin pour répondre aux besoins d'une société urbaine.

*Keywords:* environmental education, food justice, margins, place-based education, urbanicity

# The Environmental Education-Urban Gap

Environmental education has long been critiqued from a variety of perspectives, with scholars citing its inconsistent ability to impart environmental knowledge or change environmental attitudes and behaviors (Hart & Nolan, 1999; Kollmuss & Agyeman, 2002; Li, 2006; Saylan & Blumstein, 2011). While these critiques pull from numerous literatures and provide a breadth of explanations for environmental education struggles, ranging from pedagogical methods to philosophical stances to assessment metrics, I argue they do not capture the full picture. Specifically, global society is undergoing an unprecedented shift in configuration towards a dominantly urbanized existence characterized by increasingly diverse and concentrated populations, a reality rarely acknowledged in mainstream environmental education literature and discourse (Butterworth & Fisher, 2000) or even in the broader education discourse (Gordon, 2003). This is not to say there is no environmental education discussion about urbanization, its characteristics, and its impact on environmental education. There are scholars and practitioners who do address this oversight (Bixler, 1994; Butterworth & Fisher, 2000; Cermak, 2012; Haluza-DeLay, 2001; Tidball & Krasny, 2010; Weintraub, 1995), but the dominant environmental education discourse can overshadow such work and often engages with the urban as a passive setting or descriptor, rather than an active component that shapes the environmental education experience. Unfortunately, this gap can leave urban learners and their experiences marginalized. In an effort to understand this apparent disjoint, I discuss three potential explanations: (a) environmental education maintains a strong historical association with wilderness, nature, and non-urban spaces (Li, 2006; Moffatt & Kohler, 2008; Weintraub, 1995), (b) environmental education is often implemented via classroom science education with lecture-based pedagogies (Buxton, 2010; Gruenewald, 2005; Hart, 2010; Kyburz-Graber, 1999; Littledyke, 2008), and (c) environmental education has lacked attention to issues of race, culture, politics, and economics (Andrzejewski, Baltodano, & Symcox, 2009; Cole, 2007; Haluza-DeLay, 2013).

The first explanation for the environmental education-urban gap is found in its historical development. Although the term "environmental education" did not

emerge until the 1960s (Palmer, 1998), many argue environmental education began much earlier in the 19th century with the Nature Study movements of the United States (Li, 2006; Stevenson, 2007; Weintraub, 1995) and the United Kingdom (Palmer, 1998; Stevenson, 2007). Both of these movements had similar foundations in European Romanticism and Victorian-era ideals of nature-as-truth and wilderness-as-pristine (Moffatt & Kohler, 2008; Palmer, 1998; Weintraub, 1995). Further, the development of Nature Study in the American context was partly a response to the perceived ills of industrialization and urbanization, and sought to combat these ills by integrating practical knowledge about natural resources into the public education system (Li, 2006; Weintraub, 1995). From these beginnings, mainstream environmental education became associated with the ideas of wilderness and nature, concepts that conventionally preclude the idea of humans as a part of nature and thus tend to ignore man-made and urban spaces (Gomez-Pompa & Kaus, 1992).

This dichotomy remains in many of the dominant environmental education discourses and practices today. However, the assumption that learning in, from, or about conventional wilderness is inherently positive can be detrimental, because it excludes the voices and experiences of those who (a) cannot access this type of pristine nature or (b) do not experience such spaces in a positive way (Bixler, 1994; Russell, 1999). Indeed, wilderness experiences can actually diminish the impact of an environmental education program by reinforcing the idea that nature is not a part of every learner's life experience (Haluza-DeLay, 2001). Moreover, it is increasingly difficult to distinguish between the ideas of "man-made" and "natural," and doing so can be harmful to understanding urban spaces. As Moffatt and Kohler (2008) point out:

In a global economy that supports over 6 billion humans, the entire concept of nature or 'wilderness' as a pristine exterior is a romantic and potentially dangerous fiction that denies reality. All healthy ecologies are now fully engaged—directly or indirectly—in serving the needs of humanity and are the focus of care and regulation. (p. 251)

Given the thorough integration of human and environmental systems in urban spaces, coupled with the massive growth of these spaces, environmental education can no longer casually consider the urban context. This observation does not preclude the importance of wilderness areas or their conservation, but requires an active consideration of the diversity of human-nature relationships and configurations. Fortunately, there is progress towards these ends via advances in the fields of environmental justice (Bullard, 2005; Gottlieb & Fisher, 1996; Haluza-DeLay, 2013), urban ecology (Barnett et al., 2006; Tidball & Krasny, 2010), place-based education (Buxton, 2010; Gruenewald, 2003), and landscape-based education (Brandt, 2013).

Another underlying reason for the environmental education-urban gap is environmental education's association with classroom science education, which prioritizes lecture-based pedagogy and standardized science curricula. Environmental education has been broadly institutionalized in the United States over the last 30 years via promotion in public school science education (Gruenewald, 2005), a trend evidenced by the growth of national public education standards for environmental issues and sustainability (Tenam-Zemach, 2010). Environmental education is also promoted as part of the Science, Technology, Engineering, and Math (STEM) movement (Johnson, 2012). While there are certainly content overlaps between science education and environmental education that can mutually benefit each other (Littledyke, 1996), the association arguably marginalizes environmental education "as a sub-field of science" (Gruenewald, 2005, p. 262), which weakens environmental education's ability to enact its pedagogical and content goals by limiting it to scientific ways of knowing (Cole, 2007; Gruenewald, 2005; Kyburz-Graber, 1999).

The conflation of environmental education and science education particularly impacts urban learners through content and pedagogical mismatches. There is substantial evidence that student perceptions of science are negative, especially for diverse urban learners who often see science as irrelevant to their lives or identities (Barnett et al., 2006; Basu & Barton, 2007; Jones, 1997; Littledyke, 2008). Moreover, science education largely relies on classroom lecture methods, banking models of learning, and objective fact-based content (Buxton, 2010; Cole, 2007; Kyrbuz-Graber, 1999), characteristics that are often at odds with the philosophies and pedagogies of environmental education (e.g., critical pedagogy, place-based education, experiential education) (Cole, 2007; Li, 2006; Orr, 2004; Stevenson, 2007; Weintraub, 1995). Further, as Hart (2010) observes, environmental education's co-opting of conventional classroom teaching models can actually serve to reinforce the marginalization of diverse learners, an issue especially important for urban communities (Barton, 1998). Stevenson (2007) ultimately describes this disjoint as a rhetoric-reality gap. This gap is widened by the epistemological differences between modern science and environmental education (Littledyke, 1996). Ultimately, environmental education requires explorations of social, cultural, and moral issues (Cole, 2007; Hart, 2010; Orr, 2004), which is more than what the epistemologies and pedagogies of conventional science education currently offer.

The third and final explanation for the environmental education-urban gap this paper will discuss is environmental education's lack of attention to nuanced racial, cultural, political, and economic issues. There is a growing literature that has critiqued environmental education for these oversights as well as provided frameworks for how to address them (Andrzejewski, Baltodano, & Symcox, 2009; Cole, 2007; Haluza-DeLay, 2013; Li, 2006; Weintraub, 1995). While there are many complex reasons for why mainstream environmental education has not more fully engaged with these issues (Haluza-DeLay, 2013), I suggest it is partly a consequence of the two previously described explanations—environmental education's association with non-urban contexts and with science education. When situated in these spaces, the moral and ethical stances inherent to environmental issues are left unexplored (Cole, 2007; Hart, 2010). Moreover, the conventional American public education system has perpetuated a hegemonic education that marginalizes and ignores the cultured experiences of minority groups (Barton, 1998). Such disparities are not surprising given that public schooling often serves to support dominant social paradigms, not critically assess or question them (Katz, 1976; Li, 2006). Thus, despite environmental education's desire to provide a holistic and critical ecological and social education, when environmental education is placed within this system, it suffers from the same difficulties.

The rise of place-based and critical pedagogies seeks to address these failings (Buxton, 2010; Haluza-DeLay, 2013), with a growing literature in the United States, United Kingdom, Canada, and Australia (Brandt, 2013; Cole, 2007; Gruenewald, 2003, 2005; Orr, 2004; Stevenson, 2008). Place-based education participates in negotiating and interpreting the contested nature of place, thereby providing a pedagogy that can transcend disciplinary constraints to encourage intersectional thinking about the social, cultural, racial, economic, and political facets of an environmental education for learners who do not associate with environmentalism or wilderness-based ideals (Gruenewald, 2005). However, it must be careful to avoid conceptualizations of "place" as static and bounded, which is where emerging scholarship on landscape-based education might be helpful (Brandt, 2013).

## Conceptualizing the Food Justice Movement

As with any other social movement, the food justice movement is a product of a complex history of social, political, and economic factors, the nuances of which cannot be adequately discussed in this format. It is nonetheless important to explore the basic trajectory of how food justice has emerged. Although there are numerous definitions, the following explanation of food justice will serve as the anchor for this discussion:

Food justice seeks to ensure that the benefits and risks of where, what and how food is grown, produced, transported, distributed, accessed and eaten are shared fairly. (Gottlieb & Joshi, 2010, p. 6)

In this section, I describe the development of the food justice paradigm at both international and domestic scales. I then use this discussion to delineate three key characteristics of the food justice movement—scale, focus, and justice—that are important for advancing environmental education.

The food justice movement is often conceptualized as part of the environmental justice movement (Gottlieb & Fisher, 1996), and while there are important conceptual and historical overlaps between the two, food justice arguably predates environmental justice and incorporates a different paradigm. Whereas the environmental justice movement came to prominence in the United States during the 1980s and 1990s (Bullard, 2005; Gottlieb & Fisher, 1996), the food justice movement has roots decades before (McEntee, 2008; Shaw, 2007). At the international level, food justice was first conceptualized as food security, or "people's ability to obtain food" (McEntee, 2008, p. 11), and was listed as a human right in the United Nations Declaration of Human Rights in 1948 (Shaw, 2007). However, during the 1970s and 1980s, it became clear that access to food was just as important as supply (McEntee, 2008; Shaw, 2007), resulting in more explicit discussions of justice. This shift was eventually reflected in the terminological change from food security to food justice (Wekerle, 2004). As Wekerle (2004) notes, using a justice framework provided practical and theoretical implications by engaging a wider variety of stakeholders and linking to the broader literatures of democracy, environmental justice, and social movements.

Another conceptual change occurred in the 1990s when thinking about food as a singular object gave way to considering the intersection of food and livelihoods more holistically (McEntee, 2008). There was a growing recognition of food's subjectivity—not all foods are of the same quality or cultural appropriateness (Adamson, 2011; McEntee, 2008). This realization expanded justice from issues of individual hunger to deeper structural and cultural considerations within communities (Gottlieb & Fisher, 1996). It also distinguished between food access and nutrition (Shaw, 2007). Community food security emerged to incorporate this more nuanced view of food, emphasizing the importance of social justice and democratic decision-making in fostering decentralized, local food systems, which the discourse argues are more capable of addressing the complexities of people and food (Gottlieb & Fisher, 1996; Levkoe, 2006; McEntee, 2008; Vallianatos, Gottlieb, & Haase, 2004).

While the earliest roots of the food justice movement are arguably tied to food security discussions at an international scale (Shaw, 2007), food justice also has roots at domestic levels via North American Indigenous people's fight for food sovereignty (Adamson, 2011; Alkon & Norgaard, 2009) and Latin American peasant-led agrarian reform (Holt-Gimenez, 2009). As an exemplar of the conceptualizations of food sovereignty within these movements, the International Indian Treaty Council's Declaration of Atitlan, an influential document on the topic, states, "Food sovereignty for indigenous peoples is a collective right based on rights to our lands, territories and natural resources, the practice of our cultures, languages and traditions, and is essential to our identity as Peoples" (Adamson, 2011, p. 215). In this way, food sovereignty is similar to food security, but strives for democratic control over food systems and cultural recognition therein (Holt-Gimenez, 2009), linking it to the community food security discourse (Levkoe, 2006).

While there are numerous complex and overlapping histories involved in the development of food justice, three key characteristics emerge throughout its iterations—attention to scale, a focus on one (though subjective and varied) object, and explicit discussions of justice. Food justice is, by many definitions, concerned with all scales of a food system and correcting injustices therein (Allen, 2010; Liu & Appollon, 2011; Sumner, 2011; Wekerle, 2004). In particular, food justice often operates at local scales while also responding to globalization and neoliberalism at global scales, critiquing the disparities they produce (Allen, 2010; Gottlieb & Fisher, 1996; Levkoe, 2006; Vallianatos, Gottlieb, & Haase, 2004; Wekerle, 2004). Allen (2010) broadly describes some of these disparities as alienation, loss of farm livelihoods, unequal distribution of resources, and concentration of land ownership. Kneen (1993) argues these types of disparities result from "distancing," or the "disempowering and deskilling of people from producing their own food and being able to eat well" (cited in Levkoe, 2006, p. 90). Thus, for many food justice advocates, situating the means of production and consumption at a local scale reduces the problems of "distancing" (Allen, 2010; Levkoe, 2006).

Another characteristic of food justice is its focus on the distribution of one specific good-food-and all the factors involved in the production and consumption of it, including ecological health, agricultural practices, pricing, distribution, and access. This singular, though multifaceted, emphasis lends food justice a tangible and relatable focus around which to rally a wider audience. By orienting itself around food specifically, food justice is arguably unique from other social movements because food is a fundamental requirement for life (Sumner, 2011). However, this feature does not guarantee everyone will want to, nor have the means to, participate in food justice movements. Injustices within the food system are primarily suffered by people of colour and those in poverty (Guthman, 2008; Liu & Apollon, 2011). Yet, food justice activism is largely pursued and promoted by those in ethnic and economic majority groups (Guthman, 2008). Moreover, alternative food systems, like the organic food movement in the United States, have been heavily critiqued as catering to predominantly wealthy and white niche markets, ignoring issues of privilege (Guthman, 2008). These social movements are arguably replications of colonial-type projects to "improve the other while eliding the historical developments that produced these material and cultural distinctions in the first place" (Guthman, 2008, p. 436).

What is most problematic in this case is that food justice activism, without careful attunement to issues of race, class, socioeconomics, gender, age, and location, as well as the interactions between these issues, runs the risk of promoting the same disparities it hopes to alleviate. These observations clearly run contrary to the stated philosophies of food justice, highlighting how the focus on food alone is not sufficient to address the complex issues involved in the production and consumption of food. With this in mind, Guthman (2008) recommends "that the focus of activism should shift away from the particular qualities of food and towards the injustices that underlie disparities in food access" (p. 443).

It is encouraging, then, that another key characteristic of the food justice movement is its explicit engagement with the concept of justice. As illustrated,

there are numerous conceptualizations of justice within the food justice moment, but Levkoe (2006) outlines three of the most common discourses: (a) food justice as a human right, (b) anti-poverty perspectives, and (c) community food security. Food justice as a human right is perhaps the most prevalent perspective and is featured in many international agreements, such as the United Nations Declaration of Human Rights (Allen, 2010; Levkoe, 2006; Shaw, 2007). In this frame, access to food is an essential attribute of a just society (Sumner, 2011). While conceptualizing food justice as a human rights issue has given it substantial weight at many scales, many argue it is not enough (Levkoe, 2006; Schlosberg, 2007). An individual human rights perspective often overlooks the structural, political, and economic reasons behind food injustices, creating an incomplete framework (Levkoe, 2006).

The anti-poverty food justice discourse seeks to address this gap by linking hunger to systemic conditions of poverty and illuminating the entrenched injustices that bring about food insecurity. However, Levkoe (2006) asserts this discourse is still insufficient because it commonly ignores the ecological and global components of food justice. Instead, he argues that the third emerging food justice discourse, of community food security, is the most promising (Levkoe, 2006). Within this discourse, food justice is approached from a multi-scale and multi-discourse perspective, incorporating human rights, anti-poverty, and ecological sustainability discussions (Gottlieb & Fisher, 1996; Levkoe, 2006). Further, justice is conceptualized at both an individual and collective scale (Levkoe, 2006), with the responsibility for securing food justice placed on both state and local actors. This form of justice aligns well with Schlosberg's (2007) framework of justice, which emphasizes (a) recognition as a prerequisite for justice and (b) collective rights as a crucial feature for environmental issues.

## Integrating Environmental Education and the Food Justice Movement

As previously explored, there are philosophical and structural gaps in environmental education that cause the field to overlook the urban experience, leaving urban learners at a disadvantage. However, the discussion of the food justice movement has illuminated key conceptual and practical characteristics that can provide recourse to this dilemma. There exists a synergy between environmental education theory and practice and the food justice movement that, if recognized and critically examined, has the potential to advance the urban margins of environmental education. In this section, I map the three key characteristics of food justice—scale, singular focus, and justice—onto the three underlying explanations of the environmental education-urban gap in an effort to contribute to such integration.

The first issue the food justice movement can address is mainstream environmental education's conventional concentration on non-urban, wilderness contexts as well as its conflation with science education. By making scale and subject explicit, food justice provides a more relatable, relevant, and culturally responsive focus. Food reflects individual and cultural preferences and identities and is an object everyone encounters in their day-to-day lives. This quality stands in contrast to science-based topics, which are often presented as non-contextual and objective. Food is also not necessarily tied to the idea of wilderness nor is it static, making it applicable to human-dominated landscapes in ways other conceptualizations of nature are not.

Others have recognized this overlap, as seen in the proliferation of research on urban agriculture and community gardens (Draper & Freedman, 2010; Levkoe, 2006; Tidball & Krasny, 2010; Vallianatos, Gottlieb, & Haase, 2004; Wekerle, 2004). Community gardens are a particularly salient example since they are often created to address disparities in local food systems as well as foster ecological sustainability (Draper & Freedman, 2010). In the North American Indigenous Peoples context, Adamson (2010) describes community gardens as important for food sovereignty—not only do they provide food, promote cultural traditions, and protect heritage crop diversity, they are also "powerful symbol(s) of political resilience" (p. 214) via the rejection of neoliberal market economies. Of course, community gardens in urban spaces are not inherently an integration of food justice and environmental education, as Guthman (2008) points out, but because of their common social and ecological ground, they represent at least a promising and tangible way for environmental education to engage with urbanicity.

Another way the food justice movement can help move the margins of environmental education is through a reorientation of its conflation with science education's lecture-based pedagogies and narrow epistemologies. First, the food justice movement is firmly rooted in explorations of place. It creates scalebridging networks (Wekerle, 2004) and challenges issues of globalization, neoliberal policies, and social and ecological injustices to promote critical reflections of place (Allen, 2008; Wekerle, 2004). Since environmental education scholars routinely point to place-based pedagogy as a solution to the many ails of environmental education (Andrzejewski, Baltodano, & Symcox, 2009; Brandt, 2013; Cole, 2007; Stevenson, 2008; Gruenewald, 2003), there is an important conceptual overlap between these fields. Further, placed-based pedagogies are difficult to enact in the current educational climate of high-stakes testing, standardization, and international competition that often forces schools to prioritize narrowly defined content and lecture-based models of instruction (Buxton, 2010; Gruenewald, 2005; Stevenson, 2008). Thus, the food justice movement also offers a practical solution for enacting place-based pedagogies in environmental education by largely taking place outside such constraints via farmers' markets, urban planning, rallies, and informal education programs (Wekerle, 2004).

Finally, the food justice movement can help expand environmental education's critical explorations of race, culture, economics, and politics. As discussed,

the food justice movement has a strong history of exploring issues of justice by challenging dominant systems and structures. Environmental education routinely expresses such explorations as part of its mandate (Hart, 2010), but there is little evidence of meaningfully problematizing sociocultural and racial issues (Haluza-DeLay, 2013). For one, the conceptualization of justice within environmental education is arguably under-theorized (Cole, 2007). Further, environmental education's association with wilderness, scientific ways of knowing, and constraining pedagogies excludes many cultured, racial, economic, and geographic experiences. Such oversight is a product of the vestiges of historical and structural injustices that continue to play out, perpetuating a social justice gap in environmental education. The discussion of justice by Levkoe (2006) and Schlosberg (2007) within the food justice and environmental justice discourses can help fill this gap. Ultimately, the food justice movement has focused on systemic disparities present in race, culture, economics, and politics since the very beginning of its development, lending it a rich discourse and momentum from which environmental education can greatly benefit.

## Conclusions

Saylan and Blumstein (2011) argue for a redefinition of environmental education to: "One that encompasses multidisciplinary teaching approaches. One that seeks to cultivate scientific and civic literacy. One that stimulates community engagement, fosters an understanding of moral systems, and reinforces appreciation of aesthetics" (p. 3). This call is all the more relevant in light of the disjoint between environmental education and the urban, an oversight that the field can no longer afford. This article has worked to demonstrate that a lack of attention to urban characteristics and issues has placed environmental education in danger of being, at best, irrelevant to and, at worst, ignorant of the lives and experiences of urban learners. The food justice movement has the potential to contribute to these margins by providing entry into the complexities of urban life in ways mainstream environmental education has often been unable to access due to its conventional focus on non-urban spaces, association with science education, and oversight of nuanced racial and sociocultural issues. While important work is being done to address these issues on many fronts (Barton, 1998; Brandt, 2013; Butterworth & Fisher, 2000; Cermak, 2012; Cole, 2007; Haluza-DeLay, 2013; Russell, 1999; Tidball & Krasny, 2010; Weintraub, 1995), the food justice movement's unique history and characteristics provide another promising avenue to explore that can help environmental education realize its vision in an urbanized world. The discussion provided in this article is just one step towards removing margins in environmental education, but hopefully it inspires additional scholarship to explore the promise this framework holds.

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#### References

- Adamson, J. (2011). Medicine food: Critical environmental justice studies, native North American literature, and the movement for food sovereignty. *Environmental Justice*, *4*(4), 213-219.
- Alkon, A. H., & Norgaard, K. M. (2009). Breaking the food chains: An investigation of food justice activism. *Sociological Inquiry*, 79(3), 289-305.
- Allen, P. (2008). Mining for justice in the food system: Perceptions, practices, and possibilities. *Agriculture and Human Values, 25*(2), 157-161.
- Allen, P. (2010). Realizing justice in local food systems. *Cambridge Journal of Regions, Economy and Society, 3*, 295-308.
- Andrzejewski, J., Baltodano, M.P., & Symcox, L. (Eds.). (2009). Social justice, peace, and environmental education: Transformative standards. New York: Routledge.
- Barnett, M., Lord, C., Strauss, E., Rosca, C., Langford, H., Chavez, D., & Deni, L. (2006). Using the urban environment to engage youths in urban ecology field studies. *Journal of Environmental Education*, 37(2), 3-11.
- Barton, A.C. (1998). Teaching science with homeless children: Pedagogy, representation, and identity. *Journal of Research in Science Teaching*, *35*(4), 379-394.
- Basu, S. J., & Barton, A. C. (2007). Developing a sustained interest in science among urban minority youth. *Journal of Research in Science Teaching*, 44(3), 466-489.
- Bixler, R. D. (1994). Observed fears and discomforts among urban students on field trips to wildland areas. *Journal of Environmental Education*, *26*(1), 24-33.
- Brandt, C. (2013). Landscapes as contexts for learning. In R. Stevenson, M. Brody, J. Dillon,
  & A. Wals (Eds.), *International handbook of research on environmental education* (pp. 275-283). New York: Routledge.
- Bullard, R.D. (Ed.). (2005). The quest for environmental justice: Human rights and the politics of pollution. San Francisco, CA: Sierra Club Books.
- Butterworth, I.M., & Fisher, A.T. (2000). Urban environmental education: A community psychology perspective. In G. Moore, J. Hunt, & L. Trevillion (Eds.), *Environment-behaviour*

research on the Pacific Rim: Proceedings of the 11th International Conference on People and Physical Environment Research (pp. 367-376). Sydney, Australia: University of Sydney.

- Buxton, C. A. (2010). Social problem solving through science: An approach to critical, placebased, science teaching and learning. *Equity and Excellence in Education*, 43(1), 120-135.
- Cermak, M. J. (2012). Teaching a hip-hop ecology. Contexts, 11(3), 76-79.
- Cole, A. G. (2007). Expanding the field: Revisiting environmental education principles through multidisciplinary frameworks. *Journal of Environmental Education*, *38*(2), 35-45.
- Draper, C., & Freedman, D. (2010). Review and analysis of the benefits, purposes, and motivations associated with community gardening in the United States. *Journal of Community Practice, 18*(4), 458-492.
- Gomez-Pompa, A., & Kaus, A. (1992). Taming the wilderness myth. BioScience, 42(4), 271-279.
- Gordon, E. W. (2003). Urban education. Teachers College Record, 105(2), 189-207.
- Gottlieb, R., & Fisher, A. (1996). "First feed the face": Environmental justice and community food security. *Antipode*, *28*(2), 193.
- Gottlieb, R., & Joshi, A. (2010). Food justice. Cambridge, MA: MIT Press.
- Gruenewald, D. A. (2003). The best of both worlds: A critical pedagogy of place. *Educational Researcher*, *32*(4), 3-12.
- Gruenewald, D. A. (2005). Accountability and collaboration: Institutional barriers and strategic pathways for place-based education. *Ethics, Place & Environment, 8*(3), 261-283.
- Guthman, J. (2008). Bringing good food to others: Investigating the subjects of alternative food practice. *Cultural Geographies*, *15*(4), 431-447.
- Haluza-DeLay, R. (2001). Nothing here to care about: Participant construction of nature following a 12-day wilderness program. *The Journal of Environmental Education*, *32*(4), 43-48.
- Haluza-DeLay, R. (2013). Educating for environmental justice. In R. Stevenson, M. Brody, J. Dillon, & A. Wals (Eds.), *International handbook of research on environmental education* (pp. 394-403). New York: Routledge.
- Hart, P. (2010). No longer a "little added frill": The transformative potential of environmental education for educational change. *Teacher Education Quarterly*, *37*(4), 155-177.
- Hart, P., & Nolan, K. (1999). A critical analysis of research in environmental education. *Studies in Science Education*, *34*(1), 1-69.
- Holt-Gimenez, E. (2009). From food crisis to food sovereignty: The challenge of social movements. *The Monthly Review*, *61*(3), 142-156.
- Johnson, C. C. (2012). Implementation of stem education policy: Challenges, progress, and lessons learned. *School Science and Mathematics*, *112*(1), 45-55.
- Jones, L. (1997). Opening doors with informal science: Exposure and access for our underserved students. *Science Education*, *81*(6), 663-677.
- Katz, M. B. (1976). The origins of public education: A reassessment. *History of Education Quarterly*, 16(4), 381-407.
- Kollmuss, A., & Agyeman, J. (2002). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, *8*(3), 239-260.
- Kyburz-Graber, R. (1999). Environmental education as critical education: How teachers and students handle the challenge. *Cambridge Journal of Education*, *29*(3), 415-432.
- Levkoe, C. Z. (2006). Learning democracy through food justice movements. *Agriculture and Human Values*, 23(1), 89-98.

- Li, H. L. (2006). Rethinking terrestrial pedagogy: Nature, cultures, and ethics. *Teachers College Record*, *108*(12), 2450-2473.
- Liu, Y. Y., & Appollon, D. (2011). *The color of food*. Report for the Applied Research Center. Retrieved from http://www.urbanhabitat.org/node/5998
- Littledyke, M. (1996). Science education for environmental awareness in a postmodern world. *Environmental Education Research*, 2(2), 197-214.
- Littledyke, M. (2008). Science education for environmental awareness: Approaches to integrating cognitive and affective domains. *Environmental Education Research*, *14*(1), 1-17.
- McEntee, J. (2008). Food deserts: Contexts and critiques of contemporary food access assessments (Working Paper Series No. 46.). Economic and Social Research Council. The Center for Business Relationships, Accountability, Sustainability and Society. Cardiff, Wales, UK. Retrieved from http://www.cardiff.ac.uk/research/sustainableplaces/brass/
- Moffatt, S. & Kohler, N. (2008). Conceptualizing the built environment as a social-ecological system. *Building Research & Information*, *36*(3), 248-268.
- Orr, D. (2004). *Nature in mind: On education, environment, and the human prospect.* Washington, D.C.: First Island Press.
- Palmer, J., (1998). Environmental education in the 21st century: Theory, practice, progress and promise. New York: Routledge.
- Russell, C. L. (1999). Problematizing nature experience in environmental education: The interrelationship of experience and story. *Journal of Experiential Education, 22*(3), 123-128.
- Saylan, C., & Blumstein, D. T. (2011). *The failure of environmental education (and how we can fix it)*. Berkeley, CA: University of California Press.
- Schlosberg, D. (2007). *Defining environmental justice: Theories, movements, and nature* London, England: Oxford University Press.
- Shaw, D. J. (2007). World food security: A history since 1945. New York: Palgrave Macmillan.
- Stevenson, R. B. (2007). Schooling and environmental education: Contradictions in purpose and practice. *Environmental Education Research*, *13*(2), 139-153.
- Stevenson, R. B. (2008). A critical pedagogy of place and the critical place(s) of pedagogy. *Environmental Education Research, 14*(3), 353-360.
- Sumner, J. (2011). Serving social justice: The role of the commons in sustainable food systems. *Studies in Social Justice*, *5*(1), 63-75.
- Tenam-Zemach, M. (2010). An analysis of the themes of environmental sustainability in the national, state, and local science content standards. *Curriculum and Teaching Dialogue, 12*(1/2), 121-135.
- Tidball, K. G., & Krasny, M. E. (2010). Urban environmental education from a social-ecological perspective: Conceptual framework for civic ecology education. *Cities and the Environment*, *3*(1), 11-20.
- Vallianatos, M, Gottlieb, R., & Haase, M. A. (2004). Farm-to-school: Strategies for urban health, combating sprawl, and establishing a community food systems approach. *Journal of Planning Education and Research*, *23*(4), 414-423.
- Weintraub, B. A. (1995). Defining a fulfilling and relevant environmental education. *Urban Education*, *30*(3), 337-366.
- Wekerle, G. R. (2004). Food justice movements: Policy, planning, and networks. *Journal of Planning Education and Research*, 23(4), 378-386.