Climate Change as Quality Education

Global Citizenship Education as a Pathway to Meaningful Change

Ricardo Roemhild and William Gaudelli

Abstract

Climate change has been the defining global issue of the past decades. Owing to its wide-ranging and often catastrophic consequences, it is arguably the cause of the 21st century, around which every other issue revolves. Climate change is not only a challenge as to sustainable development, but it is also a human rights issue, because its effects compromise the dignity of those driven out of their homes by rising sea levels or desertification. In short, it is what German education philosopher Klafki (1996) would classify as a key issue of our era. In this chapter, we argue that, as such, it must be included in what constitutes quality education, and that we need educational approaches that prepare future generations to address climate change as an issue of human rights and environmental injustice. This conceptual analysis is based on an understanding of Global Citizenship Education (GCED) as a foundation for necessary changes, and it advocates for particular steps in teacher education to support these changes.

Keywords

education for sustainable development – global citizenship education – human rights education – quality education

1 Climate Change: The Key Issue of Our Era

One would be hard-pressed to identify a global issue that has more significance and that poses a greater threat than does climate change.¹ Climate change is the monumental problem of the 21st century, around which arguably every issue revolves, given its wide-ranging and devastating consequences. Among the most obvious implications is the inundation, because of rising sea levels, of residential, industrial, and agricultural spaces across the globe. The calving

of Arctic and Antarctic ice shelves on the order of hundreds of thousands of square kilometers is now a regular feature of the daily news, each event underscoring the urgency surrounding this issue. Climate change looks even more daunting in light of the absence of a political order able to achieve a sustainable solution. The Paris Agreement of 2016 represents an important step in this direction, though it is not part of a sustained political framework through which to address problems of the commons of Earth. It is an important, albeit idiosyncratic, interposition into a situation of enduring and existential challenge.

The weight of climate change makes all the more surprising its relative absence in Sustainable Development Goal 4, Quality Education, of the UN's Sustainable Development Goals (SDGs). It is impossible to imagine in 2020 a quality education not including the epochal problem of our times (Klafki, 1996), and yet such is the current state of SDG 4.7, which makes no specific mention of climate change:

SDG 4.7: by 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development. (United Nations, 2018)

The goal leaves room for inclusion of mention of climate change, including the possibility of opening up its phrase "sustainable lifestyles" to include the notion that a carbon-focused economy is fundamentally unsustainable. But it is curious that phrases as pointed as "climate change" or "climate crisis" are omitted.

We argue herein that climate change and its attendant consequences, including inundation, wildfires, refugees, and loss of biodiversity, must be included in what constitutes a quality education for the next decades, because the phenomenon relates to every other sustainable development issue of our time. While the inclusion of the term "climate change" in SDG 4.7 would send a powerful signal, the act of explicitly mentioning it would alone not likely suffice to ignite meaningful change. What is needed in addition is widespread acknowledgement of the roles of global citizenship and human rights as implied in SDG 4.7, as well as consistency in education systems' following these underlying principles of education for sustainable development (ESD). In anticipation of the UN's next set of goals in 2030, we therefore offer some suggestions, focusing particularly on teacher education, about what is further

explicitly needed moving forward. We root this conceptual analysis in a robust understanding of global citizenship education (GCED) as a foundation and pedagogical framework for these necessary changes.

2 GCED as Future-Focused Education

Global citizenship education is an educational discourse (and related practices) that at its core aims to engage young people in learning about interdependencies that tie together injustice, ecological devastation, and human diversity, a discourse with a goal of promoting a more peaceful, harmonious, and just world (UNESCO, 2015). A broad range of practices falls within this framework, including efforts to engage students in the following: understanding the state of the world, particularly as it relates to interdependencies that bind the world together; understanding geopolitical forces that threaten the global order that has emerged in the 20th century; and learning about critiques and challenges to the injustices perpetrated by the same (see Davies, 2006; Gaudelli, 2016; Goren & Yemini, 2017).

GCED has a patina of newness, and yet antecedents exist that connect it to the Stoics of ancient Greece, particularly as to its focus on a cosmopolitan identity and its primary orientation to such values as flourishing (*eudaimonia*) and justice. As Whiting et al. (2018, p. 204) note:

While the notion of education for global citizenship is a seemingly recent idea, Hierocles' conceptualisation of the "circles of concern" shows that there has long been a strong Stoic conviction that we all belong to, and must participate in, a cosmopolitan society. This conviction is built upon the precept that equality among humans is natural and desirable. Such an espousal of cosmopolitan equality contrasts sharply with current dominant discourses of nationalism and neo-colonialism.

Modernity, an era marked by the creation of states and of educational systems for perpetuating their ends, might be viewed more as an interruption in the development of a cosmopolitan ethos in society than as its continuation (see Weber, 1976).

What lies ahead for education is a need to recognize the severe limitations and consequences of state-focused education and to recalibrate educational systems to incorporate a future focus that includes global awareness and mindfulness of the shared challenges that we face, global climate change first among them. A shift to renewable energy sources is imminent as the availability of

fossil fuels approaches its peak, or endpoint. Environmental pollution and health risks caused by smog or the threat of losing millions of jobs in a carbon-based economy without recalibration or replacement are just two consequences of a continued dependence on fossil fuels. The reality of this new condition begs for a new kind of education, one befitting the situation.

GCED is a vehicle for challenging the “normativity” (the acceptance as normal and desirable) of carbon-based economies in a state-based structure. GCED reframes the conversation as to what to do about an imminent shift from carbon-based economies, focusing less on how states will get their share of unsustainable carbon energy and more on how resources can be distributed proportionately and equitably while new, sustainable modes of energy production come online and replace carbon-based options. Thus, GCED has a focus on an aspirational future, one to be created, one in which global cooperation is normative, such that the shared challenge of climate change can be addressed, as can simultaneously also be addressed the historical inequities built in, and built upon, the existing state system.

Vanessa Andreotti (2014) illustrates GCED’s relationship to issues of equity when she differentiates *soft* and *critical* perspectives concerning global citizenship. The former is a more palliative, one-world-ism version; the latter, more hard-edged, broad-ranging, and analytic, putting front and center economic injustices and subsequent legacies of colonialism. The confluence of GCED and emancipatory education is a fairly recent development, though one that is especially pertinent, given the growing gap between global haves and have-nots, a trend exacerbated by recent trends in economic development. New, green energy technologies that are de-coupled from state and corporate monopoly have the potential to democratize sustainable energies in ways that can also jointly address inequities and climate change.

The demands of the youth organization Fridays for Future, which is the inspiration for the climate strikes that now occur in 7,500 cities regularly with 13 million people, include “climate justice and equity for everyone”. GCED, as an emerging theory and a practice, already includes all of the same commitments – to justice, equity, human rights, and climate change. What remains is to synthesize these efforts under its aegis.

GCED is an “affiliative” discourse (see below). It attracts those who recognize the limitations of state-only education, particularly in an era of rapid integration of global systems in every domain, including the political, social, economic, ideological, and cultural (Appadurai, 2013). Recognition of the interdependence among those systems is not, however, the sole rationale for GCED. Another rationale is the awareness that how people choose to act and what they choose to know shape the world collectively. GCED, then, places the

problematic conditions of the world and our capacity to know the world as the center point from which to organize learning and living.

GCED is also a prospective, as opposed to a retrospective, approach, meaning that it necessarily focuses on predictions, consequences, and how current actions may engender future conditions. This orientation toward the future situates GCED between a position of keen awareness of the problem-filled terrain of the now and of a tone of hope as to all that can be done to address contemporary problems, always with a focus on the good that can emerge.

UNESCO (2020) offers the following precis of the affiliative discourse and practice of GCED:

Global Citizenship Education (GCED) aims to empower learners of all ages to assume active roles, both locally and globally, in building more peaceful, tolerant, inclusive and secure societies. GCED is based on the three domains of learning – cognitive, socio-emotional and behavioural. Cognitive: knowledge and thinking skills necessary to better understand the world and its complexities. Socio-emotional: values, attitudes and social skills that enable learners to develop affectively, psychosocially, and physically and to enable them to live together with others respectfully and peacefully. Behavioural: conduct, performance, practical application and engagement. The key learning outcomes, key learner attributes, topics and learning objectives suggested in GCED are based on the three domains of learning mentioned above. They are interlinked and integrated into the learning process.

GCED's above widely accepted characterization has some important elements that are worth examining further. The first is that it has a *teleos*, or an intended "better state of affairs" presumed to result from its application. The *teleos*, including peace, tolerance, and secure and inclusive societies, is significant, because education generally does not have an end beyond itself. Learning algebra, for example, is an academic outcome that serves mainly to allow a student to progress academically, with no external, explicit value assigned to it. As a mechanism to sort students by merit – at least when it's best presented – algebra identifies those more and less capable of working within its parameters. But no end beyond learning algebra is anticipated. This approach contrasts significantly with GCED, which at all times anticipates an explicit, external, and social *teleos* to result from engaging in its form of education.

A second aspect of UNESCO's concept of GCED is the inclusion of three domains: thinking (cognitive), feeling (social/emotional) and doing (behavioral). UNESCO's formulation here represents an increasingly contemporary

view of education. Education in the 20th century was almost exclusively focused on cognition or cultivating the ability to think and addressing the subject matter about which to spend time thinking. This aspect of learning is inherent in education, of course, though it incorporates too limited a view of how people exist in the world. The other two dimensions, later additions in the development of educational theory, are aspects of feeling (or valuing and empathetically acknowledging the perspectives of others), and behavior (or choosing how one acts in the world). These domains are obviously present in all people and all situations, though historically they have been excised from explicit attention in education or treated merely as an afterthought. What is new in UNESCO's formulation is its call for an education that explicitly addresses these ends and sees them as a necessary constituent part of a more robust education program.

The measure of a quality, future-focused GCED that we propose involves a reorientation in standards so as to assess what is being learned in relation to the world it is being learned for and in relation to who the learners are. The "relation to the world" of GCED is rather obvious: that the world is more interconnected and interdependent now than it has ever been and that therefore the education of young people should not be tethered to imagined and reified political boundaries that are increasingly diminishing in importance (see Gaudelli & Roemhild, *in press*). And as to the learners themselves, the measure of quality that we suggest is to assess the degree to which the material of education aligns with a view of how people actually are in the world – thinking, feeling, and doing beings – as opposed to a view that posits people as pure cerebral rationality. Our specific focus, then, is how do we educate in, and about, a context that is necessarily bound up with one massive existential problem – climate change?

3 Addressing Environmental (In)Justices through GCED

The UN Sustainable Development Goals (United Nations, 2018) address Quality Education in Goal 4. The goal and its target areas are embedded in, and closely linked to, the other 16 Sustainable Development Goals (SDGs). For instance, Quality Education lines up with other social goals, such as Gender Equality (SDG 5) or Reduced Inequalities (SDG 10), not only in terms of what they aim to achieve, namely the development of women's role in the general improvement of social conditions, but also in terms of targeting equal access regardless of gender (SDG 4.2). Katia Vladimirova and David LeBlanc (2015) developed a comprehensive content analysis of 40 United Nations published

reports, seeking insights on ways that SDG 4 informs the other goals and how other goals shape SDG 4. They note that while there are many points of connectivity, few causal and actionable connections are articulated; so the goals appear to be independent. A closer look reveals some of the connections: goals such as those mentioned above address social injustices but are also linked to economic maldistribution and development, illustrating the socio-economic orientation of some SDGs.

As a key issue of our era (Klafki, 1960), climate change is impossible to ignore if we truly want to “ensure that learners acquire knowledge and skills needed to promote sustainable development” (United Nations, 2018). Of all the challenges in the way of sustainable development, climate change is the one issue around which all other issues revolve, including those mentioned in SDG 4.7,² as well as all other SDGs and the global issues they imply. For instance, the number of climate refugees and internally displaced people will soar in the first half of the 21st century: the World Bank estimates that as many as 148 million people will be displaced by 2050 (see Kanta et al., 2018). While some displacements will not result directly from inundations, climate change is part of the deeper, structural disruption that will lead to follow-on consequences, for example, wars over limited resources that will precipitate refugee crises. The climate crisis, therefore, sits at the center of contemporary and future human rights and environmental justice issues. Addressing climate change as a human rights issue can help students become aware of shared responsibilities and develop a sense of global interconnectedness. What is needed, then, for quality education in the 21st century is to address climate change and its consequences explicitly and by means of teaching approaches that do justice to the basics of education for human rights, such as GCED.

3.1 *Climate Change as a Human Rights Issue*

Crucially, climate change and its consequences are a human rights issue. Sachs (2008, p. 334) postulates, “When human beings do not have the basic capability to support themselves with dignity, their human rights are under threat”. Climate change “undercuts the rights to health, to food, to water, and for some small island nations, it may even affect the right to self-determination” (OHCHR, 2015). Levy and Patz (2015, p. 311) expand that list of potentially undercut rights, including the rights to freely determine one’s political status and to freely pursue economic, social, and cultural development, as well as the right to education itself. They also warn that the effects of climate change and associated human rights restrictions tend to hit primarily the low-income countries of the world, as well as poor people within high-income countries (Levy & Patz, 2015). This tendency creates and increases environmental and

social injustices by facilitating disproportionate distribution of resources. It is appropriate to speak of a climate crisis, a term that has increasingly been adapted in the discourse (see, for example, United Nations, 2019). GCED can play a vital role in addressing these injustices and can trigger societal change, because it has the potential to humanize, and demonstrate connectivity in, what otherwise might be viewed as an ecological concern.

While climate change undoubtedly is a human rights issue, whether to approach climate change from a human rights perspective is debatable from a legal point of view (see Aminzadeh, 2007; Limon, 2009; Knox, 2009; Caney, 2010). Two reasons militate against taking the legal path. First, as Bodansky (2010, pp. 520–521) explains, climate change does not necessarily violate human rights. Thus, the discussion is not so much about human rights as it is about “human right duties” that have relevance to climate change (see also Knox, 2009). Scholars generally distinguish three types of duties in this regard (Knox, 2009, pp. 179–180). The *duty to respect* is a negative duty not to engage in actions that adversely affect the enjoyment of human rights of others. In terms of climate action, this duty calls on all of us to take responsible action that does not exacerbate the effects of climate change. The *duty to protect* is a positive duty to prevent someone’s rights from being compromised in any way. It, too, calls on our shared responsibility as global citizens toward those who are threatened by rising sea levels, intensifying droughts, or longer and more devastating heat waves. The third duty is the *duty to fulfill or facilitate satisfaction of the human rights of others*.

Second, says Brodansky (2010, p. 253), “Attributing particular harm to climate change is difficult and tracing the causal connections between emitters and victims is even harder”. Posner (2007, p. 1934) says,

it would be impossible for a victim of global warming to show that one particular corporation or factory caused his injury. Any theory would need to allocate liability on the basis of market share or some other proxy for degree of responsibility, and although American courts sometimes do this, the difficulties of using such theories for global warming are considerable.

This lack of legal remedy makes it all the more important to address climate change in education and through approaches that aim at fostering a sense of shared responsibility, solidarity, and global interconnectedness in the first place. “A human rights perspective on living together”, Starkey (2015, p. 12) writes, “emphasizes that all must be included in the ‘us’”.

Human rights education (HRE) as put forth in the UN Declaration of Human Rights Education and Training (United Nations, 2011) encompasses three notions: teaching about, through and for, human rights. It is in the sense of teaching and learning *for* human rights that education needs to address climate change. Osler and Stokke (2020, p. 3) note:

HRE can contribute to a politics of hope. Educators and activists seek to inspire hope by increasing knowledge and awareness of human rights. Educators can also promote hope by equipping their students with the experiences, skills and attitudes to stand up for their rights and the rights of our fellow humanity. They can prepare them to be effective citizens, prepared to show solidarity with those whose rights are denied and to engage in struggles for justice. In this sense, HRE is not neutral but concerned with enabling citizens to adhere to a “principle [that] recognizes our responsibilities to others across difference, at local national and global scales” (Osler, 2016, p. 29).

In this sense, HRE helps learners develop a “broadly humanistic regard”, as Hahn (2020, p. 9) put it, “whereby individuals think and act in solidarity with all members of the human community”. Thus, she adds, “HRE can expose young people to universal standards and means for protecting and ensuring rights for all” (Hahn, 2020). A human-rights-based understanding of GCED thus constitutes a promising pathway to societal change. Although some may claim that HRE is anthropocentric in focus and thus could detract focus from climate change, we contend that “third order” rights, which include the right to a sustainable ecosystem, provide ample discursive context with which to move the conversation forward.

3.2 *The “Walk Within” and the “Journey Outside”: Climate Change as a Space for Global Learning*

Because climate change is a human rights issue and, as such, applies to more than just the obvious area of sustainable ecological development, it presents great opportunities for quality learning, especially about global citizenship and global cultures. We suggest that global citizenship education should be central to ESD, in agreement with Huckle and Wals (2015, p. 493; see also Sant et al., 2018, p. 161). Their concept of Global Education for Sustainability Citizenship is based on four dimensions that, collectively, promote a sense of interconnectedness and shared responsibility on the basis of – or at least highly compatible with – human rights education. The *scale dimension* (Sant et al., 2015, p. 494) focuses on how individual and collective actions have impact on

humans who live far away, and also on non-humans. This dimension relates to what Gaudelli (2016) refers to as “the walk within” and “the journey outside”. The “walk within” involves the individual self, body and mind. It is about developing an awareness and understanding of one’s own subjectivity and of how an individual person is situated in the world. The “journey outside” refers to the surroundings, in the shape of family, fellow citizens, and eventually the whole world. Learners trace aspects of their lives out in concentric circles to see how they are globally interconnected. Recognizing these different scales provides us with a deeper understanding of who we are in this world; it gives us a sense of belonging and shared responsibility in the global age. In this sense, GCED is compatible with – if not related to – the concept of cosmopolitan citizenship education as put forth by Osler and Starkey (2003, 2005). The second dimension of Huckle and Wals, the *ethics dimension*, involves moral development and a human rights perspective as discussed above. The *relational dimension* focuses on concepts such as sustainability and citizenship as values and interests, linking those to social movements, such as the Fridays For Future protests. Finally, the *political dimension* invites students to examine the structural causes of environmental issues and development, enabling them to consider reforms and radical approaches to change. Collectively, education based on these four dimensions promotes the idea that actions in the students’ life-worlds affect the lives of others both locally and globally. To truly understand the significance of this interrelationship, students need a global citizenship perspective, because it emphasizes connection and concomitant duties as well as responsibility to preserve other people’s human rights. If we do not recognize our role in the fulfillment of others’ human rights (not only) in terms of climate change, we fail society as a whole.

4 Moving Forward: Teacher Education and Curriculum Reform

As suggested in SDG 4.7, global citizenship is a key component of ESD. Global citizenship education, with its focus on global interconnectedness and shared responsibility, provides an alternative form of thinking, and may thus serve as a framework for radical transformation, from the smallest-scale aspects of education systems to the largest-scale. It deserves a more pivotal role in current education systems, which often still focus on seemingly independent local consequences of climate change and then on national approaches to mitigating only those local effects. What is needed, therefore, is a critical reconsideration of current practices in global education systems, especially with regard to teacher education.

The official indicator for the success of SDG 4.7 is the

extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment. (United Nations, 2018)

UNESCO's current progress report on ESD and GCED (UNESCO, 2018) says that these principles are reflected in 98% of the countries and that 81 out of 83 nations have implemented these central topics in their education policies and frameworks (p. 5).³ The document also reports, however, that "countries point to a less than sufficient level of support for teacher training on the Guiding Principles in the context of both pre-service and in-service programmes" (p. 9), with 10% of the countries not reflecting the principles at all, and 75% of nations worldwide only somewhat reflecting these topics in their teacher training programs (p. 9). Thus, the report summarizes, "Insufficient teacher training remains a stumbling block" (p. 1) in the realization of ESD.

Kwauk (2020, p. 15) makes the important point that we cannot blame teachers for a lack of transformative initiatives. She also draws attention to the fact that teacher education sits at a key position in the education system and can thus serve as a catalyst for systemic transformation (see Kwauk, 2020, p. 16, figure 2). Students in teacher education programs will function as multipliers in the endeavor to raise awareness and empower future generations to act and ignite sustainable change. Deepening their significance is the fact that graduating from secondary school does not automatically lead to tertiary education, where sustainability and climate change concerns are more prevalent. Teachers, educated in universities, will shape future generations (whether or not the students go to university) as they mentor and support learners through primary and secondary education.

The issue of insufficient teacher training is systemic, but two points of entry open the possibility of lasting change, both of which, according to Grund and Brock (2020), are sought by both educators and learners.

The first entry point involves the range of subjects in which ESD and GCED are addressed in teacher education. This list of subjects should comprise all subjects taught at school and should thereby reflect policies in place for primary and secondary education. Germany, for example, declared that ESD should be an integral part of every subject taught in secondary schools (KMK, 2016; Deutsche UNESCO-Kommission, 2017). The relevant German documents do not, however, specify any implications for teacher education.

Thus, at university level, ESD or GCED are typically only considered part of those subjects for which sustainability-related issues appear inherently appropriate, such as the sciences or geography. Subjects such as the arts, the humanities, and (world) languages should be added to the list, because ESD and GCED in fact cut across all themes of education. Expanding the list of subjects could be realized through universal guidelines on ESD, based in turn on the principles of GCED – as suggested by SDG 4.7.

The second entry point involves the implementation of a globally binding framework for ESD. The example of language education in Europe helps to illustrate this point. In Europe, plurilingualism, that is, the ability to speak two or more languages, is key to successful transnational collaboration. Thus, the Council of Europe (2001) introduced the Common European Framework of Reference for Languages, which sets uniform standards for language education across the continent – much like the US guidelines of the American Council on the Teaching of Foreign Languages. Language education programs in all countries follow these guidelines at every level, including primary, secondary, and tertiary education as well as (language) teacher education. Like successful communication, sustainable development is a goal that transcends national borders. Thus, a common framework for ESD rooted in the ideas of GCED – possibly designed by the United Nations – would represent a milestone achievement in terms of streamlining global efforts in education toward mitigating climate change and shaping a more sustainable future. In terms of teacher education, study programs across all subjects could incorporate modules that could help future educators develop approaches to teaching about climate change, approaches that recognize the importance of the cognitive, socio-emotional, and behavioral domains. Such approaches would necessarily be based on the principles of GCED.

Some countries have already implemented steps in the direction of broad guidelines. In their study on the administration of ESD in Germany, Singer-Brodowski et al. (2020, p. 2) document the tightly interlocking actions of various players under the National Action Plan. Based on the Sustainable Development Goals, this national plan defines specific learning objectives and measures, which make their way through the education system in teacher education and curriculum design, eventually manifesting as concrete learning scenarios in primary and secondary level classrooms. The country's ministers of education report that "at present, teacher education in Germany is in a transition phase which also presents opportunities" (KMK, 2016, p. 422). Promoting systemic change rather than "a multitude of isolated initiatives" (p. 422), the ministers call for target and performance agreements for teacher education, a mandate that represents a considerable improvement in national

coordination of educational efforts in a highly federalized system. Formulating national action plans could constitute a pathway toward change in other countries as well. In the United States, such modifications of curriculum would more likely take place at the level of the states, which are the primary drivers of education reform, and at the level of professional organizations, such as the American Association of Colleges of Teacher Education.

While the above approaches are promising, much remains to be done in the search for national solutions. Globally binding guidelines would allow for more efficient coordination by inducing countries to frame their national efforts within a global context. Under such circumstances, teacher education could develop its full potential as an important pathway to radical transformation.

5 In Conclusion

To conclude, climate change is the issue in sustainable development upon which every other issue is dependent: if we fail to tackle the global threat of climate change, all other efforts toward a more sustainable future are at risk. The consequences of climate change clearly constitute a human rights issue, in that they compromise inalienable human rights, most of those who are already the most vulnerable members of our societies in terms of socio-economic capital. With regard to education, GCED, as outlined in SDG 4.7, and ESD, call for a more consistent and serious recognition of climate change in every part of global education systems and integration of the topic into every aspect of those systems. As Bartosch and Grimm (2014, p. 13) observe, “education [and] a change of attitudes ... must precede any technological or scientific ‘fix’ of the crisis ahead”. Thus, acknowledging climate change as one of the key issues of the 21st century by including it in what constitutes quality education, and integrating the issue into teacher education are the first two steps toward meaningful, lasting change.

Notes

- 1 [Editors’ note: The authors hyphenated “climate-change” throughout this chapter. We editorially rejected that usage but retained this note, in which the authors explain why they prefer the hyphen.] In line with Mike Hulme (2017), we use the construction “climate-change” (hyphenated) throughout this chapter “to refer to the contemporary idea of human-caused global climatic change” (p. xii). It allows us to distinguish more clearly, as does Hulme, “the physical and discursive realities of anthropogenic changes in global climate from other expressions of change, for example, ‘climate change’; ‘changes in climate’; or ‘climatic change’”

- (p. xii), as well as the potentially misleading term “global warming”, all of which we find somewhat evasive.
- 2 For a discussion of how gender equality is linked to the climate crisis, see Atkinson and Bruce (2015).
 - 3 A closer look at what constitutes “sustainable development” in national curricula reveals a paradox. Data from the Global Education Monitoring Report (UNESCO, 2016) suggests that the term is self-serving in most of its occurrences in guideline documents, with “ecology” in second place for total mentions. Climate change as the phenomenon which – as has been argued above – can be regarded as the key challenge for sustainable development is only mentioned roughly half as many times in the same curricula.

References

- Aminzadeh, S. C. (2007). A moral imperative: The human rights implications of climate change. *Hastings International & Comparative Law Review*, 30(2), 231–265.
- Andreotti, V. (2014). Soft versus critical global citizenship education. In S. McCloskey (Ed.), *Development education in policy and practice* (pp. 21–31). Palgrave Macmillan.
- Appadurai, A. (2013). *The future as cultural fact: Essays on the global condition*. Verso.
- Atkinson, H. G., & Bruce, J. (2015). Adolescent girls, human rights and the expanding climate emergency. *Annals of Global Health*, 81(3), 323–330.
- Bartosch, R., & Grimm, S. (2014). Teaching environments: How “green” can – and should – a classroom be? In R. Bartosch & S. Grimm (Eds.), *Teaching environments: Ecocritical encounters* (pp. 13–21). Peter Lang Edition.
- Bodansky, D. (2010). International human rights and climate change. Introduction: Climate change and human rights: Unpacking the issues. *Georgia Journal of International and Comparative Law*, 38(3), 511–524.
- Caney, S. (2010). Climate change, human rights, and moral thresholds. In S. Gardiner, S. Caney, D. Jamieson, & H. Shue (Eds.), *Climate ethics: Essential readings* (pp. 163–177). Oxford University Press.
- Council of Europe. (2001). *Common European framework of reference for languages: Learning, teaching, assessment*. Cambridge University Press.
- Davies, L. (2006). Global citizenship: Abstraction or framework for action? *Educational Review*, 58(1), 5–25.
- Deutsche UNESCO-Kommission [German UNESCO Commission]. (2017). *Unpacking SDG 4. Fragen und Antworten zur Bildungsagenda 2030*.
- Gaudelli, W. (2016). *Global citizenship education: Everyday transcendence*. Routledge.
- Gaudelli, W., & Roemhild, R. (in press). Stop teaching them to think like nation states: A critical perspective on the status quo of cultural learning in German EFL classrooms. *Anglistik*.
- Goren, H., & Yemini, M. (2017). Global citizenship education redefined: A systematic review of empirical studies on global citizenship education. *International Journal of Educational Research*, 82, 170–183.

- Grund, J., & Brock, A. (2020). Education for sustainable development in Germany: Not just desired but also effective for transformative action. *Sustainability*, 12(7).
- Hahn, C. (2020). Human rights teaching: Snapshots from four countries. *Human Rights Education Review*, 3(1), 8–30.
- Huckle, J., & Wals, A. E. (2015). The UN decade of education for sustainable development: Business as usual in the end. *Environmental Education Research*, 21(3), 491–505.
- Hulme, M. (2017). *Weathered: Cultures of climate*. Sage.
- Kanta, K. R., de Sherbinin, A., Jones, B., Bergmann, J., Clement, V., Ober, K., ... Midgley, A. (2018). *Groundswell: Preparing for internal climate migration* (p. 2). World Bank. <https://openknowledge.worldbank.org/handle/10986/29461>
- Klafki, W. (1996). *Neue Studien zur Bildungstheorie und Didaktik. Zeitgemäße Allgemeinbildung und kritisch-konstruktive Didaktik* (4th ed.). Beltz.
- KMK [Kultusministerkonferenz]. (2016). *Curriculum framework: Education for sustainable development* (2nd ed.). Engagement Global GmbH.
- Knox, J. H. (2009). Linking human rights and climate change at the United Nations. *Harvard Environmental Law Review*, 33(2), 477–498.
- Kwauk, C. (2020). *Roadmaps to quality education in a time of climate change*. Brookings. <https://www.brookings.edu/research/roadblocks-to-quality-education-in-a-time-of-climate-change/>
- Levy, B. S., & Patz, J. A. (2015). Climate change, human rights, and social justice. *Annals of Global Health*, 81(3), 310–322.
- Limon, M. (2009). Human rights and climate change: Constructing a case for political action. *Harvard Environmental Law Review*, 33(429), 439–476.
- OHCHR [United Nations Human Rights Office of the Commissioner]. (2015). *Climate change is a human right*. <https://www.ohchr.org/EN/NewsEvents/Pages/ClimateChangeHumanRightsIssue.aspx>
- Osler, A. (2016). *Human rights and schooling: An ethical framework for teaching for social justice*. Teachers College Press.
- Osler, A., & Starkey, H. (2003). Learning for cosmopolitan citizenship: Theoretical debates and young people's experiences. *Educational Review*, 55(3), 243–254.
- Osler, A., & Starkey, H. (2005). *Changing citizenship: Democracy and inclusion in education*. McGraw-Hill Education.
- Osler, A., & Stokke, C. (2020). Human rights education, Covid-19 and the politics of hope. *Human Rights Education Review*, 3(1), 1–7.
- Posner, E. A. (2007). Climate change and international human rights litigation: A critical appraisal. *University of Pennsylvania Law Review*, 155(6), 1925–1945.
- Sachs, W. (2008). Climate change and human rights. *Development*, 51(3), 332–337.
- Sant, E., Davies, I., Pashby, K., & Shultz, L. (2018). *Global citizenship education: A critical introduction to key concepts and debates*. Bloomsbury.

- Singer-Brodowski, M., von Seggern, J., Duveneck, A., & Etzkorn, N. (2020). Moving (reflexively within) structures: The governance of education for sustainable development in Germany. *Sustainability*, 12(7).
- Starkey, H. (2015). *Learning to live together: Struggles for citizenship and human rights education*. UCL Institute of Education Press.
- UNESCO. (2014). *UNESCO roadmap for implementing the global action programme on education for sustainable development*.
- UNESCO. (2015). *Global citizenship education: Topics and learning objectives*. http://www.unesco.org/new/en/media-services/single-view/news/global_citizenship_education_topics_and_learning_objectives/#.VWE8X5NVikp
- UNESCO. (2016). *Global education monitoring report: Target 4.7 – Sustainable development and global citizenship*. <https://gem-report-2016.unesco.org/en/chapter/target-4-7-sustainable-development-and-global-citizenship/>
- UNESCO. (2018). *Progress on education for sustainable development and global citizenship education*. <https://unesdoc.unesco.org/ark:/48223/pf0000266176>
- UNESCO. (2020). *What is global citizenship education?* [https://en.unesco.org/themes/gced/definition#:~:text=Global%20Citizenship%20Education%20\(GCED\)%20aims,%2C%20socio%20Demotional%20and%20behavioural.](https://en.unesco.org/themes/gced/definition#:~:text=Global%20Citizenship%20Education%20(GCED)%20aims,%2C%20socio%20Demotional%20and%20behavioural.)
- United Nations. (2011). *United Nations declaration on human rights education and training*. <https://undocs.org/en/A/RES/66/137>
- United Nations. (2018). *Sustainable development goals: Knowledge platform*. <https://sustainabledevelopment.un.org/sdg4>
- United Nations. (2019). *The climate crisis: A race we can win*. https://www.un.org/sites/un2.un.org/files/un75_climate_crisis.pdf
- Vladimirova, K., & LeBlanc, D. (2015). *How well are the links between education and other sustainable development goals covered in UN flagship reports? A contribution to the study of the science-policy interface on education in the UN system*. United Nations. <https://sustainabledevelopment.un.org/content/documents/2111education%20and%20sdgs.pdf>
- Weber, E. (1976). *Peasants into Frenchmen: The modernization of rural France, 1870–1914*. Stanford University Press.
- Whiting, K., Konstantakos, L., Misiaszek, G., Simpson, E., & Carmona, L. (2018). Education for the sustainable global citizen: What can we learn from Stoic philosophy and Freirean environmental pedagogies? *Education Sciences*, 8(4).