

Chapter 8

The Inner Development Goals: Changing Educational Systems to Meet the Challenge of Human-Generated Global Crises

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Abstract

We are facing a number of concurrent human-induced crises which, it might be claimed, are the result of entangled processes which flow between and through the issues of climate change, environmental degradation, political instability, global health problems and economic inequalities. These crises are now posing existential threats to ecosystems, habitats, lifeforms and humans. One reaction to these crises has been the instigation of the sustainable development goals (SDGs). Their influence can be argued to have met varied levels of impact and success, but in a complex, interconnected world, perhaps, it is too much to expect that they would, by themselves, act as a management tool which would solve all our ills as they focus on the large scale, not the individual. This leaves a gap for a framework which supports individual growth towards supporting sustainability. The inner development goals (IDGs, 2021) framework is a recent innovation, initially suggested by three Swedish organisations with the express intent of fostering capacities and perspectives at the individual level which will encourage populations to engage with the crises we face in more informed, motivated and practical ways. Through an engagement with the literature, this chapter considers the need for the IDGs in education as a process

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through which the SDGs can be engaged with at an individual level. This debate is both current and important as it suggests a way in which individual agency can be brought to bear on the global crises we all face.

Keywords: Inner development goals; sustainable development goals; global crises; education; development frameworks

8.1 Introduction

In the summer of 2023, a series of events occurred across the globe: extreme temperatures, wildfires, flooding and the loss of large areas of sea ice, which together add further evidence that the Earth is now exposed to multiple and intensifying crises linked to climate change. The climate crisis has escalated concurrently with a number of other crises, many driven by human activity. For example, the recent global pandemic, the origin of which is uncertain but most likely is the result of intensified interactions between humans and wild animals as the result of resource exploitation (Rulli et al., 2021). There are ongoing weaknesses in the global economy, the hangover of the financial crisis of 2008 (Campello et al., 2010) and the associated rise in economic protectionism and political populism (Ehrlich & Gahagan, 2023). And in addition, there is the continued loss of global biodiversity (Jauregui et al., 2022), and conflicts have further exacerbated international human migration (Erdelen & Richardson, 2020). All of these crises have several characteristics in common, chief among them is the central role played by humans in their emergence. These crises are characterised by extensive tangles of processes, making them both complex and hybrid in character in that human processes are often responsible for intensifying or eroding natural processes. Hence, we can no longer pretend that there are ‘firewalls’ between human activity and natural world systems, resulting in the ongoing work to declare a new geological epoch, the shift from the Holocene to the Anthropocene, the definition of which is primarily reliant on the appearance of evidence of human activity within the geological record (Lewis & Maslin, 2015).

If we are to continue to increase our understanding of these challenges, as well as learning how to mitigate them, we need to see education as having a pivotal role in developing a positive response. As explained below, 2015 brought the creation of the SDGs, a framework outlining the areas which we need to mitigate against as a process for tackling the multiple crises we face. With only modest impact to date, some argue that the SDGs, while a useful macro-level aide memoire, have achieved little in driving individual behaviour change. This concern for the need to develop individual agency and critical reaction to the crises the global population faces gives a guide to the required direction of travel. Development of the IDGs – a micro-scale framework developed by three Swedish organisations – which focuses on the skills and behaviours individuals will need to foster to support the realisation of macro-level sustainability changes.

In this chapter, we begin by outlining the nature of the systems we are part of and rely on and which are under increasing pressure, triggering the crises we

are currently experiencing. We then consider the nature of the issues relating to the SDGs and why they may not support practical change driven by individuals. Finally, we outline the nature of the IDGs and consider their potential importance in meeting the challenges posed by the crises we face, and the crucial role education has in bridging between the micro- and macro-scales to create a coherent process for action and mitigation. In doing so, we argue that IDGs should be at the core of the educational system, in both schools and universities, where they should underpin curriculum creation. While knowledge is important in curricula, it is of little practical use if it cannot be applied to real-world issues by individuals who are confident in working with others to answer hard, ethically complex questions, while also putting emerging ideas into action.

8.2 Humans, Systems and the Nature of Crises

Anthropogenic impact on the environment is not new; humans have altered natural global systems for millennia. Using a transdisciplinary approach sensitive to complex human–environment interactions, [Ellis et al. \(2013\)](#) consider the emergence of human impacts on the biosphere since the start of the Holocene epoch (approximately 10,000 years ago) and show that they have grown and intensified over time, from small, perhaps localised changes accelerating to ever more intense impacts at larger and larger scales,

The single most important lesson from assessing changes in land use across the Holocene is that changes in the productivity of land-use systems, and especially productivity per area of land, has likely been the main long-term driver of change in human impact on the terrestrial biosphere. ([Ellis et al., 2013](#), p. 8)

As scientists have begun to characterise the plethora of processes and the complexity of associated relationships involved in both human systems and their interaction with the biosphere, they have developed various ways of capturing and exploring this extensive, evolving tangle of processes. [Ellis \(2015\)](#) argues for the development of research which explores what he calls *anthroecological change*, which attempts to track how societies and cultures change and impact on each other and in turn how they interact with the biosphere to bring whole earth system changes. Consequently, studies by [Folke et al. \(2016\)](#) and [Donges et al. \(2021\)](#) exemplify the current development of models which work with the complexity of the interactions across the biotic, societal divide in an attempt to understand the nature of the crises which are now developing at a global level. [Donges et al. \(2021\)](#) model the biophysical subsystem and how it interacts with what they call the socio-metabolic subsystem, that which is at the human–environment interface, and in turn how both of these subsystems interact with the socio-cultural subsystem. This leads to a multi-focal model which begins to track how human and natural systems interact and how such interactions lead to changes in both. As such, we can begin to understand the acute, human-induced crises which face us, leading [Folkes et al. \(2016\)](#) to develop the concept of socio-ecological resilience,

Social-ecological resilience is the capacity to adapt or transform in the face of change in social-ecological systems, particularly unexpected change, in ways that continue to support human well-being (Chapin et al. 2010, Biggs et al. 2015). (Folkes et al., 2016, p. 42)

Folkes et al. (2016) go on to characterise socio-ecological systems as complex adaptive systems, systems which are open, which interact with other systems and the environment around them, have large numbers of elements which interact in non-linear ways and which are open to feedback loops, especially positive feedback loops which amplify processes or behaviours. Over time, these feedback loops allow the system to change and emerge into new behaviours, hence their characterisation as complex *adaptive* systems. Resilience is therefore the system's capacity to adapt or transform in response to unfamiliar, unexpected events and extreme shocks brought about by the interactions between elements within the system, its interaction with other systems and its wider environment, and the multitude of non-linear processes which interact within its space.

As well as developing an ever greater understanding of complexity and the processes which drive such systems, we also need to develop the traits, abilities and understanding of populations to aid people to work in ways that we have not worked before; an understanding of how human activity is entwined with natural processes, leading to complex interactions, requires us to think very differently, particularly in the parts of the world which have a European philosophical tradition. The required shift in thinking, if not always in action, has already begun to some degree, primarily through the development and adoption by most nations of the SDGs (UN, 2015) as a framework for understanding challenges and adapting to an uncertain future. This shift will be particularly important for the current generation and those to come as they will be responsible, through no fault of their own, for meeting the challenges of the current emerging crises in the future. As D'Angelo (2022, p. 1) states,

The world is changing rapidly. Globalization, technological innovation, mass displacement, and climate change are shaping the ways in which societies function, progress, or falter. Within this context, children and youth are some of the most affected. Their lives and their futures are on the line—requiring them to develop skills and capacities to cope with the challenges presented in their environments, and to build resilience to the shocks both now and in the future.

In building a sustainability-orientated response among young people, education must play a pivotal role. However, it is a difficult challenge to meet, as many children across the world do not have access to even the most basic schooling. This inequality is beyond the scope of this chapter, but it must be stressed that this is an important issue if populations across the world are to develop positive reactions to the multiple challenges we face. Here, we focus on considering the frameworks which sustainability education should rest on in those nations where universal free education exists.

8.3 The SDGs and Education for Sustainability: Creating a Positive Reaction to Global Crises?

This Agenda is a plan of action for people, planet and prosperity ... All countries and all stakeholders, acting in collaborative partnership, will implement this plan. We are resolved to free the human race from the tyranny of poverty and want and to heal and secure our planet. We are determined to take the bold and transformative steps which are urgently needed to shift the world onto a sustainable and resilient path. As we embark on this collective journey, we pledge that no one will be left behind. (United Nations (UN), 2015, cited in Desai et al. 2018, p. 1)

In 2015, 193 countries became signatories to the UN's 2030 Agenda for sustainable development with explicit aims to end poverty, ensure prosperity for all and to protect the planet. A concrete outcome of this agreement was the creation and adoption of the SDGs (see Fig. 8.1), 17 overarching goals (underwritten by 169 targets) which are the main vehicle for meeting the aims set by the agenda.

They extend from goals relating to the natural world and our interaction with it, for example *Goal 13: Climate Action*, *Goal 14: Life Below Water* and *Goal 15: Life on Land*, to those which focus predominantly on human systems, such as *Goal 1: No Poverty* or *Goal 4: Quality Education*. As such, the goals range across the human–nature continuum and should play a role in understanding and fostering socio-ecological resilience as outlined by Folke et al. (2016) above. The intention of the SDGs is to outline the processes through which human activity will become more sustainable, with fewer pressures on natural earth systems, with a desire to possibly even bolster their health and quality. The goals are intended to be used as overarching principles at country and authority levels, to allow politicians to understand the overall directions of change they have agreed to follow in ameliorating the present crisis position we find ourselves in. Some sectors have



Fig. 8.1. The SDGs. Source: UN (n.d.), used under Creative Commons Licence.

started to use the SDGs in a more specific and, sometimes perhaps, unhelpful way. For example, some organisations have started to measure development against them in quite specific ways, one instance being the higher education sector, for example, through the employment of sustainability directors, and asking academics to identify on their web pages which of the SDGs their research is linked to. [Pallant et al. \(2019\)](#) argue that education for sustainable development should act as a vehicle to allow universities to operationalise the SDGs. They focus on the work of the Environmental Science and Sustainability Department at Allegheny College in Meadville, Pennsylvania. A curriculum has been built here to encompass the SDGs, with all students in the department being required to complete five core modules, each of which is infused with elements of the SDGs, as well as basic environment-based skills modules and an optional module focusing on one of five core concepts in the SDGs, namely ‘people, prosperity, planet, peace or partnerships’ ([Pallant et al., 2019](#), p. 72). The intention here is clear, to inform a strand of education relating to sustainability and the environment, thus making students aware of these issues. In considering the use of the SDGs in the university sector, [Steele and Rickards \(2021, p. 3\)](#) reflect that,

As the SDG agenda makes clear, universities are a key tool for implementing the SDGs.

Hence, they believe universities should change the way in which they run so that they not only teach about the SDGs but also that they begin to adopt ways of being and thinking that are informed by them.

Thus, the role of education can be argued to be pivotal in developing widescale sustainable responses if populations are to understand the challenges we face. In order to create any meaningful shift in the teaching of sustainability, the interplay between general education, sustainability education (learning about what sustainability is), education for sustainable development (learning about how to ensure a sustainable future), principles in curricula making and action needs to be considered. Unfortunately, much of the education sector remains siloed in its approach to sustainability education, with it often being an add on, a project-based task without knowledge development and a standalone focus without the secure interdisciplinary/transdisciplinary curriculum links which will foster a holistic and critical perspective. Through the lens of sustainability approaches, some schools and universities attempt to adopt the SDGs and try to demonstrate where they are teaching about or addressing them; however, as this was never how they were intended for use, this form of adoption is problematic, as it becomes little more than a label, a signifier that a particular element of a curriculum aligns with a given SDG; at most, the goals become an ‘accountancy tool’ for deciding on the content to be covered in a programme. Hence, it is difficult to adopt the SDGs within educational settings in anything other than a token fashion, unless there is large-scale buy-in from senior leaders.

In considering how to bring together the SDGs and a more developed sustainability offer in general, it is important to consider the context of learners across educational sectors together with their associated vulnerabilities and inequalities. In this case, it is worth noting that one concern regarding the SDGs is that they are Western centric. This means that they do not fully incorporate the voices and

views from the Global South, leading to the potential for exacerbating power imbalances which in time may not reflect learners' backgrounds. To make the teaching of sustainability relevant, it might therefore be argued that changes need to be developed in curricula and programmes which enable learners to see themselves as part of the solution, empowering them to understand and enact change (for a positive example of this, see [Nhamo & Mjimba, 2020](#)). But this form of curriculum development is orientated in a different direction to the SDGs, which naturally play a restricted role in highlighting possible content.

One criticism of the SDGs is that they focus on symptoms rather than root causes of unsustainability like overconsumption, injustice and globalisation and avoid challenging the status quo. In order to bring about the transformations needed to address the global crises we are facing, one of the imperatives is ensuring learners understand cause and mitigation fully if they are to effect change. While it is not solely the role of educators to mitigate these shortcomings, there nevertheless needs to be reflection on the approaches used to frame teaching of sustainability whether in primary school or university.

If educators are aware of both the potential utility and limitation of the SDGs and embrace the complexities of engaging with them given their generalist nature, then there is scope for a meaningful education around sustainability to develop. They can be characterised as providing a macro-scale framework that highlights awareness and key themes for discussion within education around sustainability.

Hence, the SDGs, embedded within a sustainability curriculum in both universities and schools, can offer a coherent way of building understanding about the various crises which human populations now face. By understanding the nature of the processes involved, and indeed how they relate to each other as a complex whole, students can begin to develop their understanding including how crises might be averted in the future. However, as outlined above, the SDGs were designed to offer a framework for governments to work towards through national and supranational responses to global crises. This means that there is far less focus on the agency of the individual in how they respond to these goals. There is also the issue that many of the SDGs and the processes on which they are based rely on humans with a mindset focused on making sacrifices to support and encourage environmental sustainability. In contrast, [Weintrobe \(2021\)](#) argues that in general people abide by a psychological mindset of exceptionalism, falsely believing that they are entitled to have whatever they want and that they can rearrange reality to allow themselves to ignore moral and practical limits, in essence because they see themselves in idealised terms. This mindset is the result of the same neoliberal system which has underpinned many of the crises we face as a species, as she states,

currently it is neoliberal Exceptionalism that is driving mental deregulation and the climate crisis. ([Weintrobe, 2021](#), p. 2)

Thus, we need a framework which directly challenges mindsets and which begins to alter the way individuals perceive the challenges which face them and society as a starting point for developing much-needed skills and traits which will aid in meeting current and future environmental and social challenges. [Bendell \(2022, p. 17\)](#) argues 'it is time for replacing Sustainable Development as the overarching

framework for international cooperation with alternative frameworks that are better suited for our new era of increasing crises and disasters', hence the need for a new focus on individual agency to support and augment the macro-scale.

But what should an alternative approach look like? If we go back to the work of Folkes et al. (2016) in the introduction, they identify the idea of a socio-ecological system and from this socio-ecological resilience. As outlined in the introduction, this is based on a realisation, similar to the more amorphous work of post-humanism, that human systems are not divorced from nature but are part of it. Social, economic and cultural systems are all embedded and intimately linked to natural systems. Such a realisation that this is the nature of reality has only emerged in many quarters recently, leading to a slowly dawning acceptance that the planet is in a dire state, and dreams of escaping emerging environmental disaster by leaving the planet for new colonies are really only a pipedream (Latour, 2018). First, it has become ever clearer that the nature of systems is primarily characterised by the multitude of processes which flow and tangle through them. For example, ecosystems regulate, grow and emerge through a multitude of ongoing processes such as photosynthesis, predation, decay and on longer time-scale evolution. Second, these processes are complex, as they are non-linear in character, and are open to both negative and positive feedback loops, multitudes of processual interactions and flows, leading to emergence and resulting in new processes, relationships and species. Thus, we are attempting to understand and engage with processually complex adaptive environments and trying to work out how to manage them in sustainable ways. This is a multiscale (both temporal and spatial) problem, and yet many of our economic, political and educational systems are still ensconced in linear, short-term thinking. We need to develop ways of fusing the micro-scale and the macro-scale in interesting synergies to help individuals understand and engage with these processually complex contexts.

Hence, any reaction to the crises we face needs to consider how it will develop at all of these scales, from the personal to the global. The SDGs give a macro-scale framework, which if used critically might offer the potential for a processually complex understanding of the challenges we face at a micro-scale. But what of the personal level? Here, the wider population needs to understand the nature of the processually complex issues we are facing and at the same time develop the skills and traits which will allow them to work with complex societal issues (IDGs, 2021). Hence, there needs to be a confidence in working within ambiguous contexts, to demonstrate flexibility and creativity and to understand how personal traits and belief systems can impact on the ability to act critically and positively in the world to bring positive and sustainable change. This individual scale of activity is the scale to which the IDGs relate and hence they offer us a way of helping individuals begin to foster the capacities and mindsets they need to meet the crises we face.

8.4 The IDGs – An Agentic Supplement?

The IDGs were initially founded in 2020 by Swedish organisations: the Ekskåret Foundation, The New Division and the 29k Foundation. The work which led to the IDGs grew from initial reflections across these organisations that while we understand many of the large-scale causes of the processes driving the crises we

face, material successes in relation to the SDGs have been disappointing. It is identified that this disappointing shift in human activity in the face of mounting processes is the result of a lack of focus on our inner abilities, capacities and skills which are the starting points for tackling these major, global challenges. Hence, if we are to successfully move in a direction which will realise the aims of the SDGs, we first need to foster a set of inner characteristics to enable positive engagement with external, macro-level, aims and goals.

The initial phase of IDG development involved crowdsourcing ideas from practitioners and academics close to sustainability and environmental issues from across the world, working to identify and characterise the qualities and skills central to fostering individuals' ability to engage with and enact positive changes. Initial workshops inviting experts in the field of development were held in 2020, followed by large-scale surveys in 2021, which identified and then ranked items to act as the basis for the final IDG framework (see IDGs, 2021). The result of this process was the framework itself. It is split into five categories of skills and qualities which are argued to be the basis for individuals' ability to engage with the larger developmental issues set out in the SDGs (Table 8.1).

Table 8.1. The Elements of the IDGs.

Being – relationship to self	<ul style="list-style-type: none"> • <i>Inner compass</i> • <i>Integrity and authenticity</i> • <i>Openness and learning mindset</i> • <i>Self-awareness</i> • <i>Presence</i>
Thinking – cognitive skills	<ul style="list-style-type: none"> • <i>Critical thinking</i> • <i>Complexity awareness</i> • <i>Perspective skills</i> • <i>Sense-making</i> • <i>Long-term orientation and visioning</i>
Relating – caring for others and the world	<ul style="list-style-type: none"> • <i>Appreciation</i> • <i>Connectedness</i> • <i>Humility</i> • <i>Empathy and compassion</i>
Collaborating – social skills	<ul style="list-style-type: none"> • <i>Communication skills</i> • <i>Co-creation skills</i> • <i>Inclusive mindset and intercultural competence</i> • <i>Trust</i> • <i>Mobilisation skills</i>
Acting – driving change	<ul style="list-style-type: none"> • <i>Courage</i> • <i>Creativity</i> • <i>Optimism</i> • <i>Perseverance</i>

Source: Based on IDGs (2021).

The IDG framework thus begins with a consideration of the self, the ways in which we understand and develop our relationships with our own thoughts, feelings and bodies in a way that helps us to act positively when faced with contexts of complexity and ambiguity to create a level of personal resilience through positive reflection and engagement. Next comes the development of our cognitive skills, learning to evaluate information and understanding the world as an interconnected whole, central to enabling us to make wise decisions. Hence, we need to develop skills such as critical perspectives where the focus is on proactively seeking out and understanding contrasting views to generate open mindedness and synthesise alternative insights. At a simple level, this might simply be the understanding that other views to our own exist, while more mature perspective skills allow us to accept that our own views are partial, and therefore incomplete, leading to a more open dialogue with other ideas and an openness to change or the generation of more complex understandings and perspectives. And this leads to a long-term orientation and visioning; where issues are understood as complex and large scale, they cannot be solved quickly. It therefore becomes important that we can think strategically and can understand how current thinking and activity feeds into the long-term horizon for which we are aiming.

But we also need to think beyond ourselves. Here, our ability to relate and care for others becomes crucial with elements such as connectedness, our ability to understand and foster the multitude of connections we have with the greater whole, from our communities and societies to the wider world, both social and natural. It is this sense of connectedness which gives us reasons for caring and being motivated to foster change for the greater whole and offers an ethical motivation to play a role in making the world more sustainable. In our relationships, we also need to demonstrate humility, the ability not to be focused on how we look in a situation but to allow the needs of the situation to dictate how we act. It is related to the idea of not being concerned about our self-image, and hence not feeling the need to project a particular image, but rather focusing on the issue or situation we are dealing with in the most effective way we can and links to empathy and compassion. This is the capacity we have to understand the emotions, views and needs of others and hence how we can relate to them and the wider world in an understanding and positive way, while retaining a sense of self.

The first four of the dimensions in the IDG framework focus on how we relate to ourselves and to others. The fifth then considers how we need to act in bringing change; if we are to make a positive contribution to change in the world, we need to be able to communicate and work with others, often with different views, values and skills to us. This is in sharp contrast to much of the populist politics of the current period and includes co-creation skills, the skills to build and foster collaborative relationships with diverse individuals and groups to co-create in an atmosphere of psychological safety. These together foster spaces for genuine dialogue and collaboration where all feel they have a voice and a stake in the process. This, in turn, leads to the need for an inclusive mindset and intercultural competence, a commitment and ability to seek out and involve a diverse spectrum of individuals who might be interested in the issue of concern, thus ensuring a spectrum of views are expressed and taken account of in decision-making. The ultimate goal is to develop

mobilisation skills, by inspiring other people, who sometimes have different views and motivations, to become actively involved in change.

The position advocated by the IDGs has its own criticisms, however. They may be seen as self-indulgent and distracting from tackling concrete problems, as well as being superficial. There is a danger that they are seen as some form of positive psychological intervention which makes individuals feel as if they are doing something worthwhile, while making no or little difference to the world beyond. In addition, the IDGs and SDGs have fundamentally different philosophies and approaches to sustainability, with contrasts regarding inner/outer focus and values. The IDGs are values driven, and therefore, there is a cultural question around implementation in any educational setting as different worldviews might stress different sets of skills and competences. For example, in some communitarian cultures, values might stress the good of the group and expect individuals to foster values and competencies which focus on this collective worldview, as opposed to the generally European individualistic tone of the IDGs as they presently exist.

There is also the ongoing debate about the applicability of what are seen as generalised skills within an educational context of domain-specific disciplines. For some, skills are seen as neither being non-transferable nor generalisable; they only have value and strength within a specific disciplinary context. Here, the argument is that there is no such thing as a thinking skill which can be generically taught and learned and then used in different contexts, as thinking is tethered to knowledge within a given discipline. However, we argue here that such narrow associations might be argued for but are unproven. Instead, we see some skills as having a distance decay effect where those learned in one context will have utility in similar, if different, contexts. Hence, if skills are learned within a physics context, then they will be similar in other scientific contexts and hence still have utility. Some of the other aspects of the framework are more generalisable still as they rely on how we engage with, listen to and involve others. Hence, they have a great potential to be embedded within educational contexts as a medium for fostering personal capacities and skills.

The IDGs framework therefore centres on helping individuals develop a coherent set of skills and competences as a way of facilitating action to engage with and mitigate the crises we face in the 21st century. As such they offer a process which underpins the transitions in mindsets and actions required if individuals are to critically and practically engage with the SDGs.

The importance of education is in providing a meso-scale context for the meeting of the IDGs and the SDGs (Fig. 8.2). The focus of the IDGs aligns well with

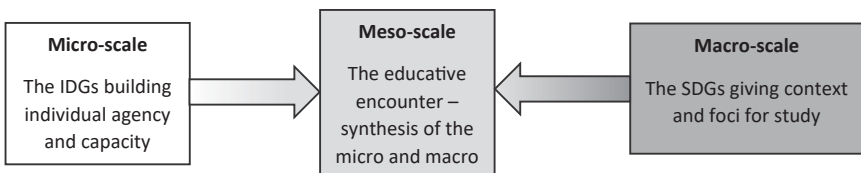


Fig. 8.2. The Role of Education in Bringing Together the Micro-Scale (IDGs) and the Macro-Scale (SDGs). *Source:* Author’s own work.

the purpose of education in that they enable learners to explicitly explore the impact of current crises in relation to their own lives, encouraging consideration of their emotions, processes through which they can engage with the issues and demands for actions that they perceive as crucial for developing a more proactive engagement with sustainability. Hence, the IDGs aid the internal changes needed before external change can occur and foster mindsets to engage actively with the macro-scale through the medium of educational activity. This can lead to advocacy for grassroots education and contemplative practices which can serve to mitigate increasing anxieties and a sense of helplessness.

Where sustainability issues are being discussed, the IDGs can add another dimension to the learning experience by making them explicit in discussions about how sustainability can be made to work at different scales. They can also be included in those contexts where ethics are considered and in discussions about well-being and teamwork as aspects of creating positive resilience. In addition, because they are mainly cross-cutting skills and competences, they can be treated as cross-curricula foci, for example, when considering how to work with others and how to handle complex information. Taking the example from above which focused on the Environmental Science and Sustainability Department at Allegheny College in Meadville, Pennsylvania. [Pallant et al. \(2019, p. 71\)](#) highlight that,

[Sterling \(2010\)](#) who states that an educational focus on critical thinking, capacity building, and resiliency in the face of future uncertainty, threat, and surprise creates individuals who can best respond to the needs of sustainable development efforts.

Hence, in developing their curriculum model, they clearly understand the need to not only look at the content and foci of the SDGs but also to ensure that the educative encounter at the meso-scale pulls in and works with individual agency and capacity.

[Paul \(2020\)](#) discusses the development of environmentally focused ‘hackathons’ what they call ‘Earth Hacks’, time-limited events which attempt to develop solutions to real-world problems. The intention of this approach to learning is outlined as following the following philosophy,

We believe that hackathons can be a powerful tool to advance the Sustainable Development Goals (SDGs) and hope to be able to create a global community of student leaders dedicated to breaking down barriers in tech and applying their skills to solving environmental problems. ([Paul, 2020, p. 131](#))

A hackathon here is an event where students with different skill sets and disciplinary backgrounds come together to produce an innovative solution to a given problem. This format of problem-solving, as the name suggests, originated in software development but has now begun to expand out into other areas including healthcare ([D’Ignazio et al., 2016](#), cited by [Paul, 2020](#)) civic issues. Most hackathons finish at the end of the event, but in the case of Earth, Hacks support

continues beyond the end of the event to help innovative ideas begin to be realised. Paul describes rich opportunities for individuals to engage with environmental problems in interdisciplinary contexts, so that the focus is on taking creative ideas and turning them into action. This is another example of how education could act as a mesoscale opportunity to explicitly explore individual beliefs, competences and to help in skills development, not only during the hackathon event but over the longer term, hence aiding the development of change action. In this way, hackathons appear to offer huge potential of working towards the SDGs, through individual inner development and collaboration.

8.5 Final Reflections

There is now little doubt that the Earth is being adversely affected by a series of crises which have been triggered and amplified by human activity. These crises are responsible for negative impacts on socio-ecological systems. This is not surprising as scientific evidence has led us to understand the intimate links between the various systems and subsystems which constitute life on the planet. But the major challenge this emerging ‘multi-faceted-complex-crisis’ creates is how humans are able to react in ways that will lead to positive futures, not only for us but for the health and sustainability of the rest of the biosphere.

The most important reaction that has thus far been developed in an attempt to create a more positive global future is the introduction of the SDGs, an overarching framework intended to direct world leaders in policy generation and development. This is a process to alleviate the impacts of the worst crises facing the planet and in so doing to increase the chance of creating sustainable communities and strengthened natural systems. It is little surprise, therefore, that the SDGs have become a focal point for a wide spectrum of activities and initiatives, including those in education. But their use here needs to be treated with care as the goals were never developed with such detailed uses in mind. There is a clear danger that students will begin to see the goals as remote from both their experiences and their ability to play a positive, meaningful role. In addition, direct interaction with the SDGs ignores the work of those such as [Weintrobe \(2021\)](#) in that they assume that students are already psychologically and emotionally convinced of the need for radical change when in fact they might not be. This means that to make critical and meaningful use of the SDGs in educational settings, there needs to be a view of education as the meso-scale encounter which bridges the personal to the global. It is here that the IDGs can have a major positive impact, helping students gain skills and competences which builds agency, and which open up new ways of being and thinking in relation to the crises which will now define their generation’s time on the planet. The framework is not a ‘silver bullet’, it will not solve the multi-faceted-complex-crisis which young people now face, but it does offer a sound set of individual principles on which they can build and which will play a partial role in heightening the chance that the SDGs will be seen as relevant and attainable.

If we want to change the course of the current climate disaster and lessen and reverse the impacts of the crises faced by our planet, then we need to help the next

generation to take action in positive and meaningful ways. Macro-scale destinations are useful to identify; they give us points on the horizon for which we can aim, but in making that journey, it is the character, determination and energy of those who are to make the journey that are of paramount importance, as Pearce (2011) reflects,

If you want to change the world, first change yourself, then tell others how you did it. Never demand that people change. Inspire them to change using your own change as an example instead.

This might be a positive call to help understand how the IDGs can play a role in helping individuals and communities build the resilience and action they need to create a more positive future.

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